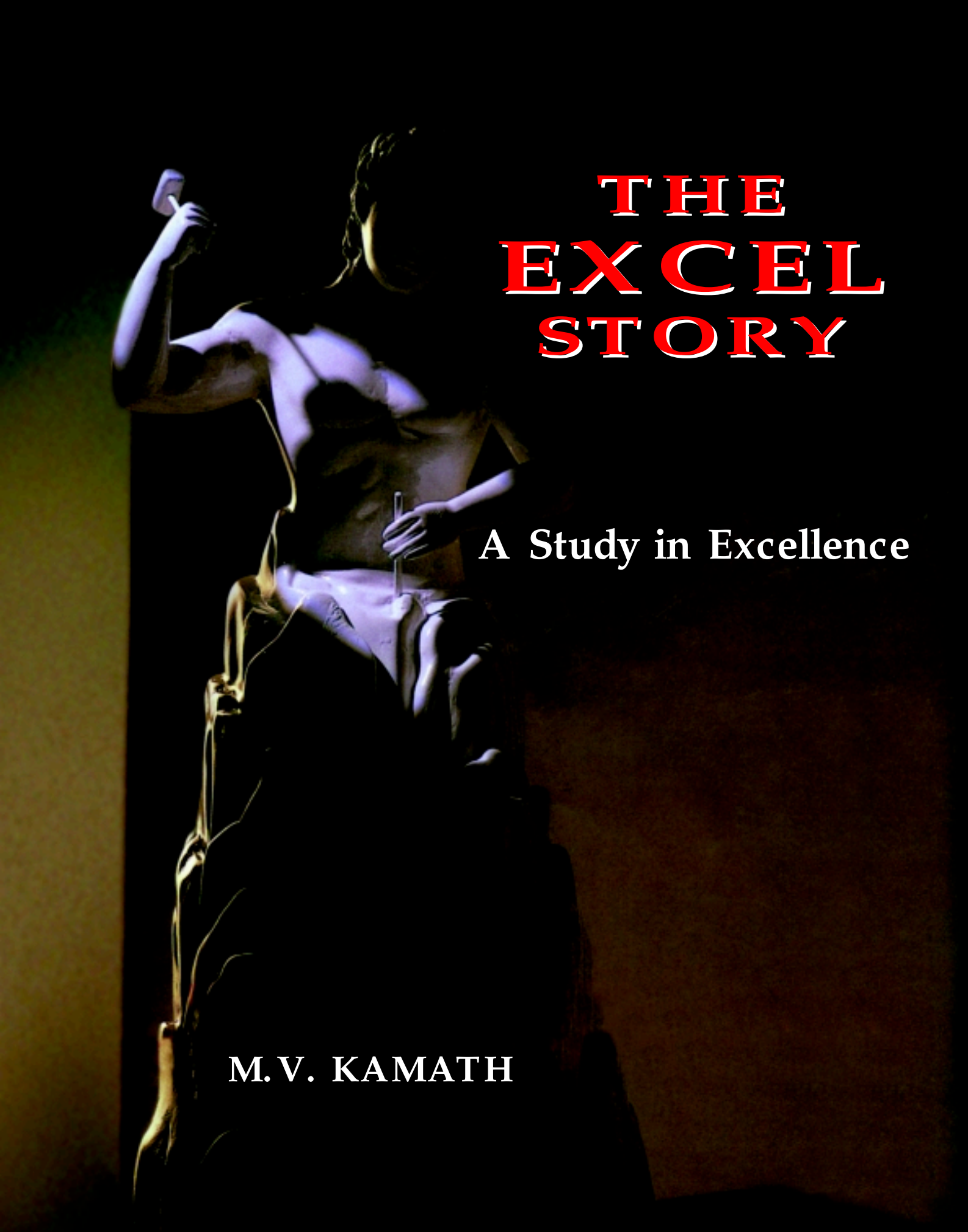
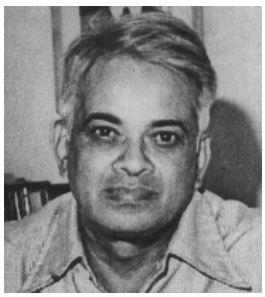


THE EXCEL STORY

A Study in Excellence

M.V. KAMATH



The Author

Mr. M.V. Kamath has had a long career as a reporter, foreign correspondent and editor, having served in Bombay, Delhi, Bonn, Paris, Geneva, United Nations (New York) and Washington D.C. During different times he has been editor of *Free Press Bulletin, Free Press Journal, United Asia* (Contributing editor), *Sunday Times of India* and *The Illustrated Weekly of India.*

Mr. Kamath has authored over 40 books on a wide range of subjects, including history, politics, journalism and fiction. He has chronicled the history of three banks: The Canara Bank, The Corporation Bank and The Saraswat Urban Cooperative Bank. Among the personalities he has written biographies of are: Henry Kissinger, T. A. Pai, B. G. Kher, Ramakrishna Bajaj, G. V. Mavlankar, Lala Charat Ram, Ahalya Bai Holkar and Sai Baba of Shirdi. He has just completed the history of the Bombay Port Trust.

His books on journalism are prescribed text books in many Institutes of Mass Communication. His book on *The Philosophy* of *Death and Dying* has been translated into Gujarati, Marathi and Korean and his book on Sai Baba into Spanish and Hindi.

In 1953 he was elected President of the Bombay Union of Journalists. He is a founder-member of the Foreign Correspondents' Association, Washington DC, a trustee of the Dr T. M. A. Pai Foundation and a member of the Executive Committee of the Manipal Academy of Higher Education (MAHE) which is a Deemed University and of the Heras Society.

He is the recepient of several awards such as the Karnataka Rajya Prashasthi for Journalism, The Tilak-Moharray Journalism Award and the Vidyadhiraj Award as well as the 'Samaj Bhushan' title conferred by the Udupi Mathadhipathis.

He currently writes for over a dozen newspapers and periodicals.

THE EXCEL STORY

A Study in Excellence

The many moods of a splendid wilderness, the Great Rann of Kachchh.

THE EXCEL STORY

A Study in Excellence

M. V. KAMATH

EXCEL INSTITUTE OF TECHNOLOGY, ENVIRONMENT & MANAGEMENT
MUMBAI

THE EXCEL STORY
A Study in Excellence

Published by
Excel Institute of Technology, Environment & Management, Mumbai

Assistant Editor
Kalindi Randeri

Chief : Textual Research
D. J. Unakar

Pictorial Research
Gaynor Pais
K. B. Vohra

Designed by
Shrikant Mistry

ISBN 901266

Printed in India at

Vakil & Sons Limited
Hague Building, 9 Sprott Road,
Ballard Estate
Mumbai 400 001

Acknowledgements

The publishers and the author gratefully acknowledge the inspiration and support derived from the scores of individuals, as well as the authors and publishers of the documents wherefrom textual matter and pictures for this book were drawn and reproduced – often verbatim – to make the contents meaningful and authentic. In this context, the following would deserve particular mention : District Gazetteer of India for Kutch (1971); T. S. Randhawa's : Kachchh – The Last Frontier (1998); Mangala B. Purandhare's Ph.D. Thesis "Bombay's Community & Urbanisation – A Case Study of Bhatia Community (A History)", University of Mumbai (1997); Sharada Dwivedi & Rahul Mehrotra : BOMBAY – The Cities Within (1995); Suresh Dalal's Interview of Govindji Shroff in Navaneet-Samarpan (May 1987) (Gujarati); Business Baron (Oct. 31, 1998); Business India (17-30 April 2000); Business World (10-23 Feb. 1993); Capital Market (7-20 Feb. 2000); Chemical Business (March 1999); Humanscape (July 1995 and Jan. 2000); SAKET Industrial Digest (Dec. 1999); Technocrat (June 1994); The Week – Special Anniversary Number (31 Dec. 1995).

Whereas Kantisen C. Shroff extensively narrated the history of the Shroff Family, and of Excel enterprise as it evolved over a span of almost 60 years, G. Narayana dwelt on the values and philosophy and the management practices followed in Excel that made it a truly responsible corporate citizen. Ashwin C. Shroff and Dipesh K. Shroff vividly described their induction and grooming in Excel. Dr. N. H. Atthreya by virtue of his long association with Excel laid the bridge between its past and the present. Likewise, a number of Excel Parivaar members who participated in the development of Excel through successive stages provided inputs and insight which made up for the compilation of this book in its present form.

Dr. (Ms.) Kalindi Randeri extended excellent support by collating the relevant material based on interviews and voluminous literature put together by D. J. Unakar who coordinated the production of the book and also took upon himself the arduous job of reading the proofs. Ms. Gaynor Pais meticulously sifted through the Shroff Family albums and the pictorial archives of the company and from its various site offices, where she was ably assisted by K. B. Vohra. Shankaran Warrier and P. L. Paul set the manuscript into word-processing form. Lastly, Bipin Jha assisted Unakar in formating the text and the tabular matters, proof-reading and compiling the Index to the book.

At Vakil & Sons Ltd. V. N. Paranjpe, Saifee Electricwala, Shrikant Mistry, Dilip Bandiwadekar, Suhas Nayak, Satish Nagwekar, Sudhakar Tawade and Ms. Hemangi B. Parab contributed individually and collectively to bring out the publication in its elegant shape and form.

DEDICATED

TO

'MA' — THE NURTURER OF VALUES IN EXCEL

C. C. SHROFF — THE CREATOR OF EXCEL

G. C. SHROFF — THE ARCHITECT OF EXCEL

AND

ALL EXCEL PARIVAAR MEMBERS

WHO MADE IT EXCELLENT

Foreword

SAHAVIRYAM ***: The Joys of Togetherness***

What I have been noting is that though our *Upanishads* and from that time onwards many have talked about *Sahaviryam,* and even Kamath speaks of *Sahaviryam,* this experience of *Sahaviryam,* it seems, is not very well documented. And so knowingly or unknowingly finally some individuals crop in. And people talk variously about it this way and that way but without getting to the right meaning or essence of the word. So I was searching as to how to explain it.

This morning when I got up, I again thought about it and came to think that *Sahaviryam* is the joys of togetherness. I said that is okay, but have I experienced this joy of togetherness? So I started scribbling a few things about the joys of togetherness. And this is how it went.

The most important and the lasting thing our parents taught us was the joys of togetherness – be it eating, playing, learning or working. Only together we can attain the best.

It is more than 70 years that I am going on experiencing these joys. This togetherness is not just with humans either. It is with plants, trees, and animals. In my sitting place at Jogeshwari, just across is a busy traffic road. I still have oxygen-rich, dust and noise-free environment, because my colleagues – the plants and microbes – enjoy eating away these pollutants and giving us clean air.

In these 70 years and more I have been continuously learning to do more and more important and responsible jobs – across the country, and it has always worked through this togetherness.

I believe that in this fast-moving, ever-demanding world of today, when we hear of ever-rising stress-related diseases, ever-mounting pollution, ever-increasing damages to the natural resources of our world, for which the mankind will have to find the answers, the first answer seems to be learning the joys of togetherness, the way we have been learning.

We will neither have to open new institutes nor wait for a new younger generation to solve these problems of the Mother Earth. It is now itself that we can and we will have to do it.

In Excel, our style of working is quite different. Whenever we take on an issue or a problem, our people from diverse organisational functions and levels sit together to ponder and evaluate various approaches towards the possible solutions. We do not indulge in what the modern management practices styles as 'brain-storming' exercise since, as the term 'storm' connotes, in our case no idea or thought is swept away or brushed aside, howsoever trivial or irrelevant it might appear initially; we rather keep it in reserve for a while. For, the approach in our exercise is like solving a jigsaw puzzle. So we try to minutely examine every bit as information or idea, study it threadbare and try to piece them together the way it would lead us to the feasible solution.

This has been the style consistently followed by us – be it in planning and implementation of our industrial projects, like the Phosphorus and Endosulfan projects in Bhavnagar which engaged our collective as well as individual attention for six months, or the Bromine project in the deserts of Kutch that kept our people occupied for a number of years, or even the participative watershed programmes in our rural development activities. This indeed calls for high order of patience, perseverance and the stamina – physical, mental, inspirational and spiritual. And this comes from the unstinted support extended in ample measure by Excel's management. In the end when the results are achieved, all participants equally share the joys of togetherness; the outcome every time reiterates our faith in *Sahaviryam.*

What stands out to differentiate our style is that the team-mates engaged in any assignment work in a spirit of contributive relationship and as inspirational components, rather than in competitive modes. For, each one is fully aware that whereas competition aims at individual success, the collective and collaborative approach brings success that goes far beyond – from 'ME' to 'US' – where all succeed through and through, and all emerge the winners. That raises us all together from Success to Significance. And there lie the joys of togetherness. Divine spirit of *Sahaviryam* thus gets carried forward, from one individual to another, from one situation to another, and from place to place. That is the essence of Excel's story.

Shri Kamath in his own excellent style is telling this story, to share this simple solution to otherwise mounting problems of stress and strife, ever-widening gaps between persons and persons.

These are the experiences of fullness of life, of ever-increasing, meaningful wealth generation, building a healthier, happier, ever-growing society.

KANTISEN C. SHROFF
21 July 2000

Author's Note

Excel Industries and the Shroffs have always fascinated me right from the start. At one stage, not long after I graduated with a B.Sc. in Chemistry in 1941, a friend had asked me to apply for a job at Excel. But I was more interested in analytical work than in manufacture of chemicals. I sought and got a job as a dye chemist at the then E.D. Sassos's Turkey Red Dye Works in Mahim. Later I worked as a pharmaceutical chemist and in all served five years in the chemical field before finally opting for my real love: journalism.

Years later my friend Dr. N. H. Atthreya provided me fresh insights into the Excel philosophy and I remember writing about the hydroponics experiment that the Shroffs were conducting on their terrace garden. Always I associated Excel with excellence and innovativeness.

The reader will therefore appreciate my unalloyed joy when the same Dr. Atthreya who had long been a consultant to Excel wondered whether I would be interested in doing a book on it and, naturally, the Shroff family. Dr. Atthreya did not have to work hard at persuading me. I accepted the request with great pleasure and deemed it an honour to be asked.

As a Chemistry student who had not lost touch with the subject completely, I was fascinated with C. C. Shroff's daring to attempt the impossible in the manufacture of hazardous chemicals. C. C. Shroff was a pioneer and it must have taken extraordinary courage for him to enter into a field where many feared to tread.

C. C. not only dared but succeeded beyond his dreams in putting the Indian chemical industry on a high pedestal. The Germans once scoffed at him. But those who scoffed at him remained to praise the entrepreneur.

It couldn't have been easy for C. C. to take on the international chemical industry, and even conceding that the times were in his favour – there was a world war on when he began his career and import of chemicals from abroad had become difficult if not impossible – it must still have taken him a lot of guts to step into the dark unknown.

In retrospect I see that he had the solid backing of a remarkable woman – his saintly mother – who gave him all the moral support necessary in his notable venture. C. C. passed away at a comparatively young age, but his leadership mantle couldn't have been donned by more worthy successors – his own two brothers, Govindjibhai and Kantisen.

Together they had taken Excel to still greater heights than had been dreamt of by C. C. establishing a track record that is the envy of newcomers to the field. What is most remarkable – and praiseworthy – is Excel's total commitment to quality and I hope this book brings this out clearly and unambiguously.

May the publication of this work act as a guide to another generation of Indians to move forward in yet other virgin fields for the greater glory of their motherland. This book is not only a record of brave entrepreneurship, but a salute to excellence.

In conclusion, I wish to record my deep gratitude to Dr. Kalindi Randeri who so ably assisted me in the collection of relevant material, making trips to Hyderabad, Baroda and Kutch in pursuit of first hand information on the Shroffs.

My thanks are also due to Kantisen Shroff, Excel's Chairman G. Narayana, members of the Shroff family, Dr. N. H. Atthreya, Devenbhai Unakar and Gaynor Pais for liberally giving me of their time and attention.

M. V. KAMATH
10 December 2000

Shanti Patha

Hari Om

Saha naavavathu
Saha nau bhunakhthu
Saha veeryam karavaavahai
Tejasvi naavadheethamasthu
Ma vidhvishaavahai

Om

Shanti shanti shanti

***

May the Lord together protect us
May He together nourish us,
May we through cooperation
Be able to manifest our talent
May our studies together
Reflect brilliance
May mutual jealousy
Never cause our separation
May there be for ever
Peace Peace Peace.

***

Contents

Shri Chatrabhuj K. Shroff

PROLOGUE — *Yes, It is Kutch*

The Indian Airlines plane leaving Mumbai at 12:30 p.m. halted briefly at Jamnagar and in another quarter of an hour landed with a gentle thud at the military airport at Bhuj.

"Welcome to Bhuj" intoned the pretty Air Hostess dressed in a light blue chequered sari as the plane taxied grumpily down the air-strip and turned sharply towards a couple of nondescript buildings that appeared to house the airport offices.

Over the microphone the Air Hostess gently advised the passengers to remain seated till the plane came to a complete halt and not to open the overhead lockers.

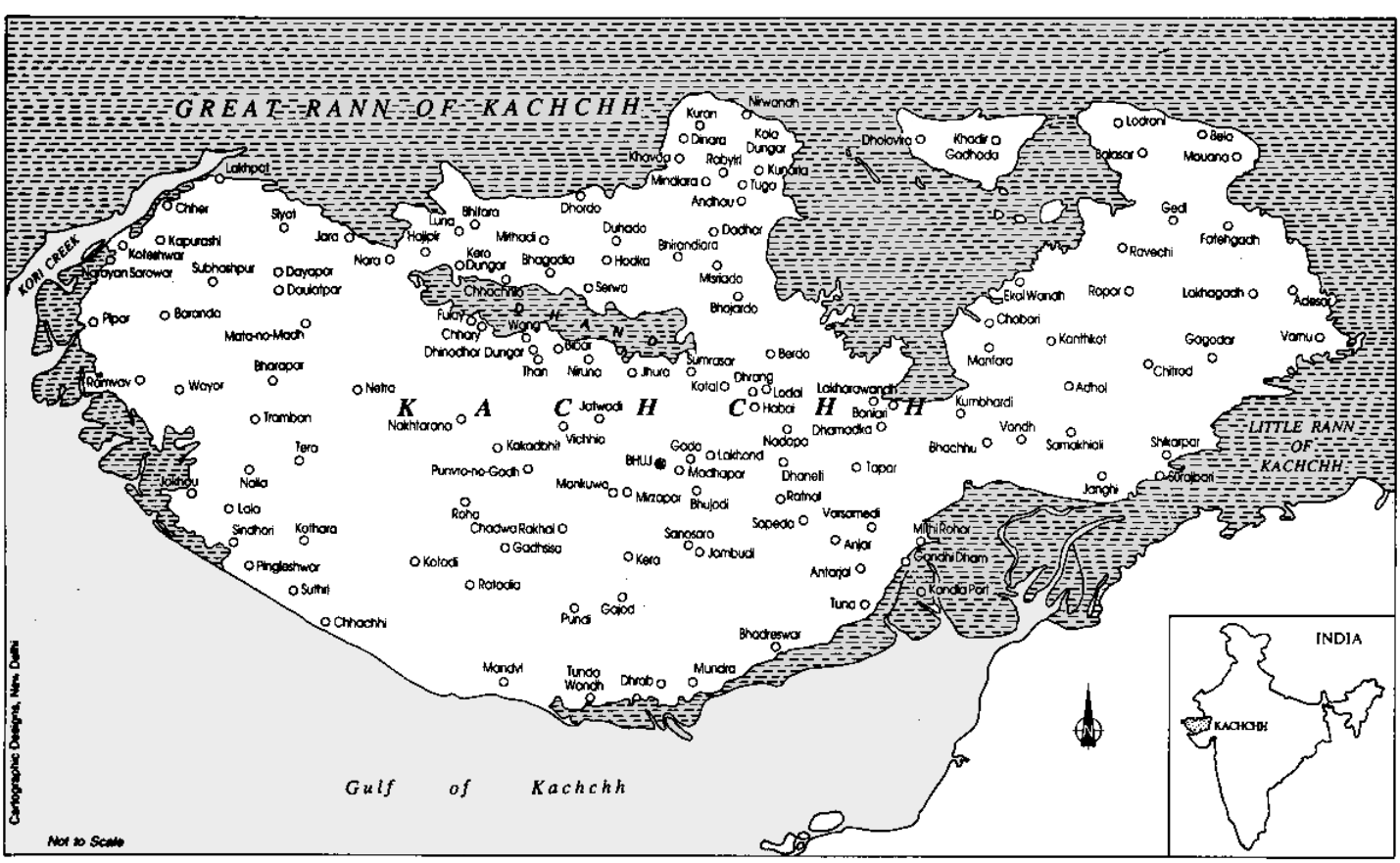
For the information of the passengers the outside temperature, said the Air Hostess, is 39 degrees Centigrade. Thirty nine degrees?

"Ah well, this *is* Kutch" said a passenger in a knowing voice, as the Air Hostess opened the door of the plane and hot breeze gushed inside the air-conditioned plane with the force of a minor tornado.

Yes, it was Kutch. Cutch. Kach. Kachchh. Spelled differently by different writers but still the same arid Kutch, the largest district in Gujarat and the second largest district in all of India. There was no denying it. During the summer, the temperature could go up to 46 degrees, leaving outsiders with no experience of the land gasping for a glass of cooling water, to drink.

Situated in north-west Gujarat right adjacent to the Sind province of Pakistan Kutch accounts for 23.27 per cent of the total area of the State but is the fifth smallest district insofar as population is concerned. In Kutch, it is claimed, animals outnumber human beings five to one.

Covering the vast area of 45,612 sq. kms., Kutch stretches roughly from 22°-44′ to 24°-41′ north latitudes and from 68°-09′ to 71°-54′ east longitudes. It is bounded on the north and north-west by Pakistan, on the north-east by the State of Rajasthan, on the south-east by Surendranagar district, on the east by Banaskantha and Mehsana districts, on the south by the Gulf of Kutch and Rajkot district and on the west and south-west by the Arabian Sea. Bhuj is the headquarters of the district.



Hot, Kutch may be. It cools considerably during winter. Arid it certainly is round the year. But poor it is not. Before independence Kutch consisted of the former native state of Kutch and ten enclaves of the former native state of Morvi. In 1950 it became a Part 'C' State administered by the Government of India through the Chief Commissioner.

In November 1956 the States were re-organised and Kutch district became a part of the bigger bilingual Bombay State which was subsequently bifurcated on 1 May 1960 to form the States of Gujarat and Maharashtra. As a result Kutch district became a part of the State of Gujarat.

To know Kutch one has to travel by bus or car through the rocky and barren land streaked by ranges of hills and isolated peaks and cut by dry river beds – of which by one count there are ninety three – that gushed with water when the rains came. But unbelievably Kutch also has large tracts of rich pasture lands in the south where cattle graze and where milk is to be had for the asking.

The Rann of Kutch is a vast salt desert spread incredibly over an area of about 32,881 sq. kms., the sheer majesty of which was captured in a picture taken in the stillness of the dusk, even as the moon arose, by a former district officer T. S. Randhawa. A British Officer in the twenties, one Lt. Burnes in his Memoirs wrote of Kutch as "a space without a counterpart in the globe".

The Rann certainly is a land apart. Believed to be a dry bed and an arm of the sea, after the annual floods, the area progressively dries up and the entire expanse is then covered with a thick layer of salt mixed with fine sand and clay that shimmers during daytime and gives a saintly glow of white at night.

Flamingoes descend in their thousands to breed on islands in the Great Rann, in a cycle of once in a decade and they are a sight for the Gods. In the Little Rann in the south and the south-east can be found the wild ass of Kutch. It is an animal not to be found anywhere else. The Kutchi camel easily takes to marshlands and the slushy areas of the Rann. On the edge of the Great Rann stands the sentinel mountain Kala Dungar and not far away is the grand volcano Dhinodhar which folklore links with the formation of the salty wasteland.

Ceaseless mirage then rule the dazzling whiteness of the Rann and no life moves there except stray deer or wild asses or a chance camel caravan.

According to the District Gazetteer of India, soils in Kutch may be divided into four types, namely alluvial, sandy, swampy and black clay or loamy. The soil of Vagad area is more fertile compared to other parts of the district. On the whole, the capacity of the top soil to retain moisture is very poor. Drought conditions being chronic that often drove people

Migratory pelicans and flamingoes at the Dhand. In a cycle of once in a decade, when conditions are favourable, flamingoes descend in thousands to breed on islands in the Great Rann.

away in large numbers, the growth of vegetation can well be imagined. What grows freely though is the thorny bush that, as Kantisen Shroff would say with a straight face did not need man's permission to multiply. One could see them on both sides of the well-maintained roads in rich abandon.

One would imagine that with so little apparent vegetation to thrive on, animal life would be comparably scarce. That is just not the case. Even if we would not take into account the herds of cattle that are common in every village, the thousands of flamingoes that migrate to the Great Rann for breeding purposes from place as far away as Spain, France, Iran, Iraq and Africa and Asiatic Wild Ass (*equus hemionus khur*) fawn-coloured and fast, the district is home to the blackbuck, blue bull, wild boars, chinkara, wolf and desert cat. Quite a variety.

In part this has been no doubt made possible by the several lakes and *kunds* (ponds) that scatter throughout the district such as the Hamirsar Lake, Desalsar Lake, Pragsar Lake, Narayan Sarovar, Chachara Kund, Kashigar Kund, Bhimguda (spring) and Dudhia Vav (step well). In addition, a perennial stream locally named Ghur is situated at a distance of about 2 kms from Gadhada in Bhachau taluka.

The main food crops are bajri, jowar, wheat and pulses and the non-foodgrain crops are cotton, castor and groundnut. The irrigated crops are mainly bajri, wheat and jowar whereas other crops are mainly dependent on the monsoon. The major source of irrigation in the district is the ubiquitous well followed by canals. Actually, there are a large number of minor irrigation schemes which provide a total gross command area of 16,520 hectares. In addition, there are ten medium irrigation schemes, namely Gajansar, Nara, Suvi, Rudramata, Kalia, Nirona, Sanandro, Kankavati, Gajod and Kaswati. So while the district may be described as arid, the peoples' efforts to sustain themselves can only be said to be remarkable. This has been so in the past and it is so even to this day with all manner of efforts being undertaken by responsible citizenry to harvest water.

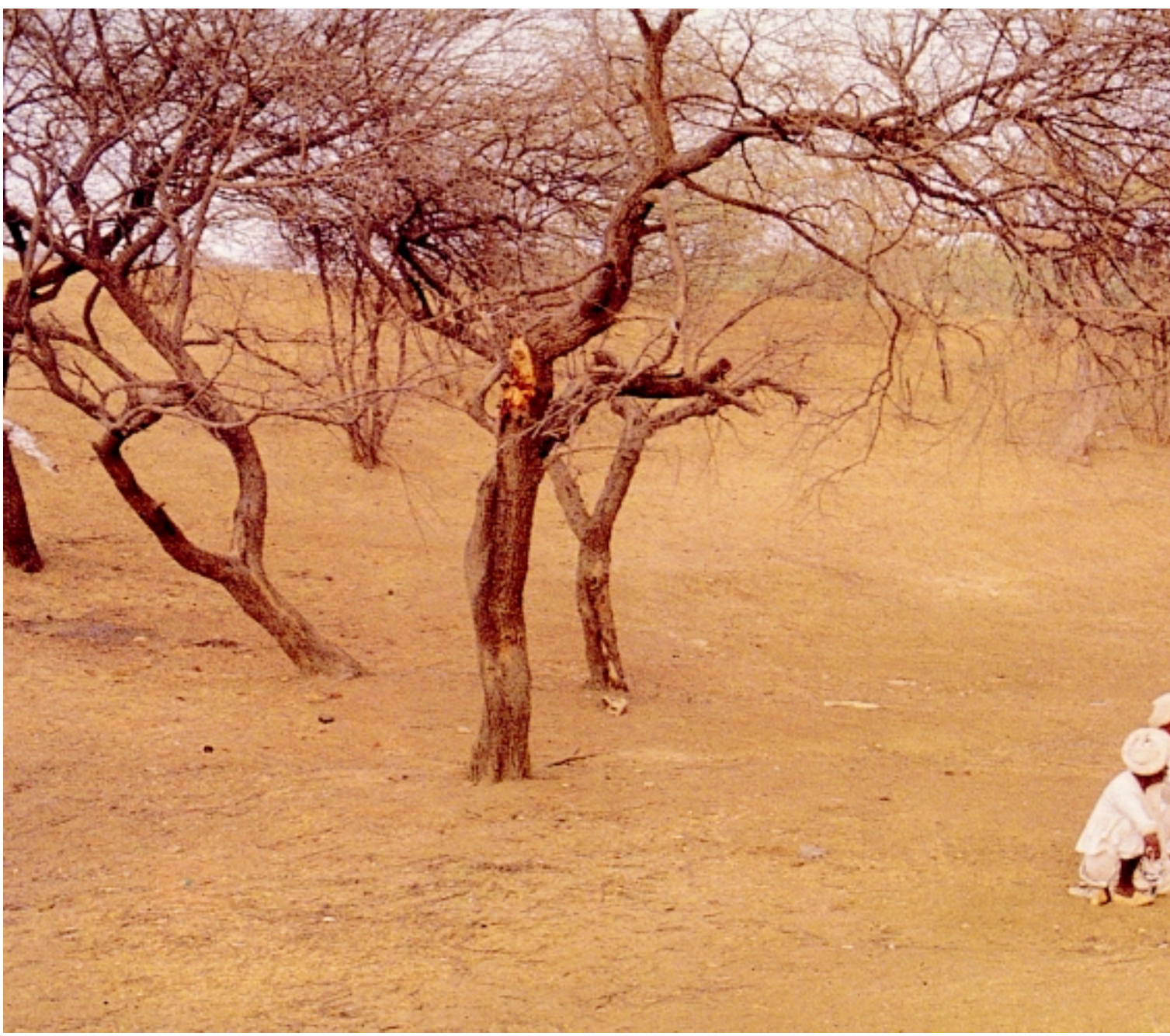
In many ways, then, Kutch is a remarkable district. It has a hoary history. Once upon a time it must have been very much a part of the Harappan civilization. It comes as no surprise, therefore, to know that in Dholavira, a small village on a small 'island' known as Khadir, in the Great Rann, archeologists have unearthed a city belonging to the Harappan Period. One has to only meet Dr. Pulin Vasa, an amateur archeologist and has a fine collection of earthenware belonging to that period to have a glimpse of a great past when Kutch was a lively centre of arts and culture. Dholavira is, as can be imagined, close to Pakistan and to visit it one needs a permit from the District Collector.

People and Places

Most of the inhabitants of Kutch are the descendants of immigrants who came to the district from other parts of the sub-continent during the last millennium. The first arrivals were probably groups of camel herders followed by buffalo herders. Legends state that these people fled from their original homelands to avoid conflict with local rulers, but it seems more likely that drought or the need for additional grazing ground forced them to migrate. Over the centuries these herders settled and became pastoralists – that is, they took to farming even while remaining primarily dependent on their herds. Less frequently they gave up herding and devoted themselves exclusively to cultivating the land. The last immigrants arrived in Kutch only a few centuries ago and most of these late-comers were farmers from Saurashtra and northern Gujarat looking for more cultivable land.

Today what one sees in Kutch is a remarkable collection of ethnic specimens *in-situ*, an anthropologist's delight. Writes T. S. Randhawa, who once served in the district as Collector:

"Amongst my favourites are the Rabaris. Honest and hard-working, isolated in their quaint hamlets, only now are they getting organised under a nascent leadership which leaves much to be desired. Even in the worst times of drought, rarely did a Rabari stretch his



A group of Rabari pastoralists in a scrub jungle.

hand out for State help. On tours to their settlements, it used to be after considerable prodding that they mentioned their hardships to me."

By way of illustrating how indifferent the Rabaris are to seeking State assistance, Randhawa has this to say:

"A trip to Bhuj for the paper-work was an unattractive task for them and would take some weeks. In a case of restoring grazing rights I had to climb up to the Rabari village of Sanosara twice to remind and request the sarpanch to come down to Bhuj where the records were and officers also available."

Fancy an officer going to the people to remind them of their rights and not the other way round!

But then Randhawa speaks of other tribes wholly different from the Rabaris. Thus:

"Living in their reed huts on the Lakhpat coast are the Fakirani Jath, equally graceful under their traditional chief. However, the Dhanetah and Garasia Jaths are irrepressible. In a scarcity year they build up a steady clamour for government doles for their cattle and after a flood they will request compensation for animals which are claimed to have been washed away

"Then there is the vast group of Ahir cowherds, now dominating the transport business. The potters, weavers and artisans are there and other interesting friends.

Top: The Harrappan site near Dholavira in Kutch.

Middle: One of the many seals (one inch square in size) found in the excavations.

Above: Oldest Kshatrapa inscription (89 A.D.) from the Saka era, in Brahmi script, found in Kutch at Andhau.

Right: A thirteenth century image of Vishnu, from Bhadreshwar.

"The first love of the Patels of Kutch is land and they have a great ability to extract water from the deepest recesses of the earth's bosom. Then there are remote *sthans*, shrines and *dargahs* with their devoted keepers and priests as well as other operators in ochre. An indescribable love for their land makes other people cling to desolate villages with hardly any economic activity, where even the water has to be piped from a hundred kilometers away by the administration.

"There are philanthropists as well as sharks. Add to this a motley officialdom, a few in Kutch by choice and some by dispatched this far away district as a measure of chastisement. This is Kutch – with a complete range of humanity – the

good, the bad and the ugly. On the whole a remarkable land".

Whether they are Rabaris or Ahirs or Fakirani Jaths or ought else, what seems obvious is that these people live much as their ancestors did, most still following the same occupations, traditions and culture as their immigrant forebears, though Randhawa says that there are "also Rabaris, still dressed in traditional attire from turban to toe, but modern enough to own and operate large fleets of trucks!"

But generally speaking, a boy would follow his father's profession, marry and perpetuate the family through his sons. From the time of her birth a daughter is accepted as a gift from the Gods. Writes Umesh Jadia, another acknowledgeable source:

"She (the daughter) is valued as an extra set of hands that will help with taking care of the household; but since she will eventually marry and leave, she is considered far less valuable than a son. Every girl must marry and shoulder the responsibility for her family's physical and spiritual welfare. Sewing, cooking, housekeeping and child care are her lot; and in addition, she is expected to attend to correct forms of religious observance."

Neither Randhawa nor Jadia mention the many castes and sub-castes including brahmins and scheduled castes who are part and parcel of the Kutch demographic scene, not the least the Bhatias who surely must be considered to have brought great honour and distinction to Kutch.

The district at present comprises of 9 talukas with an equal number of Community Development Blocks. It has 10 towns and 994 villages of various sizes. Of the latter Jadia writes:

"Types of settlements in Kutch range from urban centres to simple herders' camps. The majority of people, however, live in villages of various sizes, all known as 'Gam' in the local dialect. Many of these widely scattered settlements are connected to the main thoroughfares only by footpaths and wagon tracks. The smallest 'Gam' inhabited by several families of farmers and herders of a single sub-caste contains only a few houses, a small provisions' shop and sometimes a

A potter in rural Kutch.

The ruins of the Sun Temple at Kotai, Lakho Phulani's city, on the edge of the Banni.

post box or a bus stop. The small two or three room houses of mud brick or foundstone surround open spaces. And in these courtyards most of these village life goes on – children play, women wash, spin and sew and, when the day's labour is done, the men gather there to smoke and chat." An idyllic situation! The larger towns like Bhuj and Mandvi have all the necessary facilities by way of goods and services and most of the amenities of modern life like schools, hospitals, telephones, restaurants, shops, post offices and even a museum.

In 1855 Mandvi was described as a large town with 8,000 to 9,000 houses. In 1861 its population was estimated at 40,000. Today it has a much vaster population and a well-developed port. It was always famous as a centre for ship-building. As early as in 1780 a ship built at Mandvi had sailed upto England.

Mandvi (or market) has centuries of history like most of the Kutch district. It was from Mandvi that ships sailed to distant places in Africa and Arabia. Around 1780, it is claimed, Mandvi could boast of some 400 vessels, chiefly the properties of rich Mandvi merchants.

The town itself is surrounded by a well-built wall, now, alas, in a dilapidated condition, about 26 ft. high and three to four feet broad, that could withstand shelling whether from land or sea. The 'fort' is strengthened by twenty five bastions, the largest of them at the south-west, serving as a light-house. Outside, on the north runs the Rukmavati river.

As for Bhuj, the district town, it nestles against the back-drop of the Bhujia Fort on the hill in the east. Built in 1548 and chosen by Rao Khengarji I as his capital, in shape it is an irregular polygon and is surrounded by a stone-wall thirty-five feet high and four feet thick with towers at irregular intervals. Look eastward and one would notice a protective wall creeping up for some kilometers, strongly reminding one of the Great Wall of China, no less! Bhujia Hill rises to height of 160 metres at one end and has a hill fort which has often served in the turbulent past as an outwork defence. Bhuj is most probably the classical *Tej* and is certainly the *Suleiman Nagar* of the Muslim writers.

Bhuj is a walled town, even if the walls now have crumbled. And it has – or sadly had – five gates: the Mahadev, the Waniawad, the Bhid, the Sarpat and the Patwadi.

And then there is Kandla, the largest port in the whole of Gujarat and not just in Kutch and one of the twelve major ports of India.

What is so special and endearing about Kutch are its famous temples and historic palaces but even more than these

The Mandvi harbour where country crafts are still constructed and sail to nearby international ports.

The Royal Cenotaphs, Chhattris, at Hamirsar lake in the centre of Bhuj.

remnants of antiquity are the arts and crafts of Kutch.

Of the palaces one thinks of the Aina Mahal Palace, an 18th century creation of the extravagant and ambitious Rao Lakhpatji (1741-60) who seized the throne from his father, situated in Bhuj and the Rao Pragmalji Palace next door to it, designed by a British engineer and which has a vast Durbar Hall with verandahs and corner towers and *zenanas*, all opulently decorated. Then there is the Sharad Baug Palace which has now been turned into a museum.

Of temples there are many, some of them resplendent, like the Swaminarayan Temple in Bhuj and the temple to Ashapura Mata, the family deity of the Rao of Kutch situated in a dell near Madh village, about 80 kms north-west of Bhuj which is said to have been built in the beginning of the 14th century by two Karad Vanias. Destroyed by the earthquakes of 1819, it was rebuilt in 1823 and is 58 ft. long, 32 ft. broad and 52 ft. high. But the most striking feature of the temple is a large sized brass bell weighing about 400 kgs. said to have been installed by Mir Gulamshah Kalora of Sind. A legend has it that when his army attacked the temple in 1762, his soldiers became blind by the curse of the Goddess. Gulamshah thereupon took a vow that if their vision was restored, he would install a huge bell in the temple. The soldiers regained their eyesight and Gulamshah kept his word!

Then there is Punvareshwar Temple, about 3 kms. from Bhuj built in 878 AD by Punvara who, after a quarrel with his father and brothers, decided to build a city after his own name. Legend has it that after the city was constructed, Punvara had the hands of his chief architect cut off, so that he might not build another similar city for anyone else.

Punvara was thereupon cursed by the archietect's wife as she turned *sati*. She is supposed to have said "O Punvara, your life will be ruined just like ours. You will kill many in battle but you will die without children, and one day your palaces and forts will be demolished and the people will curse you".

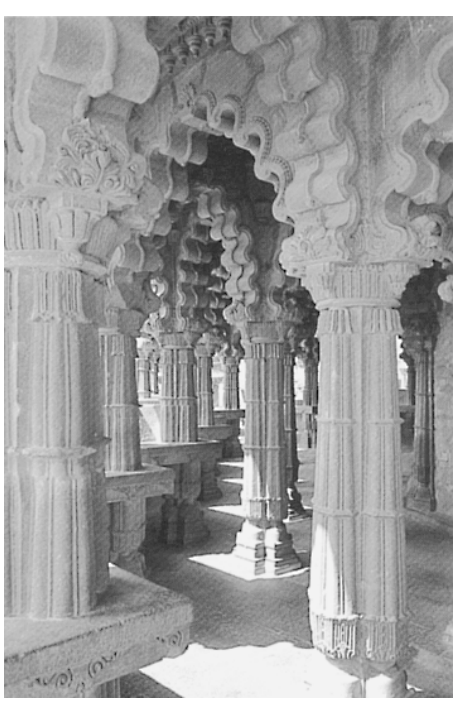
Her words came true.

And then there is Ravechi Mata Temple said to have been built by none other than the Pandavas themselves, was destroyed and re-built. In the present shrine with five other images by her side, is a large *svayambhu* or self-born idol of Ravechi Mata and opposite to it Nakland or the horse incarnation standing on three legs on a pillar. On one side of the shrine is kept the *akhandjyoti dipika* – eternal flame. Beside the main temple is a shrine of Bhairav. Goddess Ravechi is highly venerated by the people of Vagad.

Arts and Crafts

In the matter of arts and crafts, Kutch is in a class by itself. Can it be, as Randhawa suggests that "life in the desert has shaped the crafts of the area and the atark landscape of Kutch serves better to intensify the colours."

There is no doubt that using simple materials, the craftsmen – and craftswomen – create objects of great



Detail from Pragmalji's Chhattri.

beauty, filling their lives with a colourful vitality. It is obvious that thanks to the remoteness of the land, the crafts may have remained free from influences of the industrial age. What the craftsmen are, they are. True to themselves. Original. Unchanged.

Their speciality is block-printing, batik, tie-and-dye, leather footwear, earthen pots, silver jewellery and embroidery. Embroidery is for all purposes a family tradition and activity. One has to see the women at work – at a later stage the work of Shrujan in re-activating the embroidery tradition will be described – to admire their dexterity, their sense of beauty and their assuredness in mastering a design.

The embroidery work is extremely intricate – determinedly so – with a infinite variety of motifs and stitches. It is amazing to note what a small needle and colourful hanks of artificial silk or nylon or cotton can achieve. Women of practically all tribal communities wear richly embroidered garments as a matter of daily routine. Different tribes have different approaches, each for all practical purposes having its own school of embroidery to the point that local people can easily identify by the pattern woven and worn by a woman to which community or group or even village, she belongs!

Their embroidery reflects their life-styles and beliefs. The finest embroidery is done by women of the nomadic and semi-nomadic tribes who spend their free hours squatting on the floor and plying their needle in great concentration.

Writes Randhawa : "Their embroidery is a reflection of their life-style of shifting horizons: camels, peacocks, parrots, flowers, shrubs, trees and women churning milk. Each pattern tells its own story. The cut of the women's dresses, the colours, motif and style of embroidery on the garments are all related to the age of the wearer, group affiliation, marital status and, very subtly, even the village or camp – a complete identification of the wearer!"

Thus it is said that "amongst the Rabaris of Kutch the three main sections are distinguished by the embroidery on their *odhnis* (veils which are draped over the head and shoulders). The Wagadia Rabaris embroider only the borders while Kachela Rabari girls prefer bold medallion designs in the centre, though sometimes the pattern may be repeated at the corners. The Dhebaria Rabari usually leave their *odhnis* unadorned, except for a little bit of red tie-and-dye pattern on the black background of the material."

"Similarly, the yokes on the gowns of nomadic Dhanetah Jath women of Kutch are embroidered according to the status of the wearer – teenagers mainly wearing the *khacha kanu* design of flower motifs, the marriage chunri aptly has the design of blossoming buds. The *phuladi* pattern of circular motifs representing open blossoms is worn by young mothers, and widows wear patterns without mirrors." How very apt and how very revealing.

But there are other crafts besides embroidery for which Kutch folk are justly famous like patchwork, woodwork, leather work, batik, tie-and-dye, block printing, copper engraving, rug-and-shawl weaving, kharal weaving, pottery and metal work.

The crafts are a great mix. So, happily, are the people: just to mention them, they are: Patels, Jadejas, Rajputs, Bhatias, Kayasths, Lohanas, Gosains, Gadhvis, Kapdis, Jains, Brahmans, Jogis, Banias, Bairagis, Sanghars, Bhanushalis, Bhadalas, Syeds, Shaikhs, Pathans, Khojas, Memons, Miyanas, Sammas, Kharwas and Toris and intermingling with them are the service groups and craftsmen such as the Wankars (weavers), Khatris (block printers), Kumbhars (potters), Sonis (gold and silversmiths), Suthars (carpenters), Kamangars (painters), Vanjas (silk and mashru weavers), Chudgars (bracelet makers), Salats (stone-workers), Ods (labourers), Meghwals (leather workers), Kansaras (coppersmiths), Lohars (blacksmiths), and Wadas (lacquer workers) not to speak of the Bhats and Charans (bards and genealogists).

Whoever can suggest that Kutch is a dull place?

But here we will deal with the Bhatias, for the simple reason that the Shroffs who built Excel hail from this community.

The Bhatias : Their Origins

Bhatias as a community are to be found in Kutch, Kathiawar, and Bombay City but before independence in Sind as well. Numbers of them are located in Punjab, Rajputana and Uttar Pradesh (the former United Provinces). Depending on their location they are variously known as Yadavs, Kshatriya Yaduvanshis, Krishnavanshis, Vrishnivanshis, Chandravamshis and Thakkars.

The term 'Yadav' means a descendant of Yadu, from whom the Bhatias claim descent. Bhatias claim to be Bhati Rajputs of the Yadav stock who, under the name of Bhattis or Bhatias were the ruling tribe in Jaisalmer in north Rajputana. According to General Cunningham, Bhatia comes from the word 'Bhat' meaning warrior. Another interpretation is that the word comes from Bhupat, an ancient ruler.

Bhatias were originally to be found in the northwest but with successive Muslim invasions found it necessary to migrate down south into the desert and Sind. They then moved further down to Kutch and Kathiawar after the establishment of Jadeja power. (*circa* 1350 A.D.)

The mother tongue of the Bhatias in Kutch and Bombay is Kutchi. In Halar and part of Kathiawar they speak Halai which closely resembles Kutchi. In olden times the names of male members of the community ended in *sing*, or *raj* or *mal*, indicative of their kshatriya origin, as for example: Lalsing, Ramsing, Hansraj, Jethmal. The ending *sing* or *sey* which is a corruption of *sinha* (lion) still survives in such modern names as Thakersey, Tersey, Nansey.

In Kutch, according to the custom of the Thakarais (petty chiefs), the names are to end in *ji* and in Bombay such names as Bhanji, Bhimji, Kanji, Mulji, Pragji are well known.

Later, it is said, when the authority of the Vaishnav Maharajas became all powerful, names ending in *das* came into vogue, such as Lakhmidas, Vallabhdas, Narayandas and Madhavdas.

According to K. S. Singh's *India's Communities*, in Gujarat, the Bhatias have six endogamous groups, namely, the Kutchi Bhatia, Sindhi Bhatia, Punjabi Bhatia, Naugam Bhatia and Vizpuri Bhatia. The Kanthi Bhatia largely live in Jamnagar and surrounding areas in the Saurashtra region. Kutchi is their mother

tongue but they are bilingual as they also speak Gujarati and use the Gujarati script.

The exogamous divisions of the Bhatias are known as *nukhs* and very nearly correspond to clan titles. They are 84 in number. According to some authorities, these *nukhs* belong to seven *gotras* but still others maintain that these *gotras* were engrafted upon them by brahmin priests, for if they had these *gotras*, it would not have been necessary to form eighty four *nukhs* which are exogamous.

As in most such cases of migration, no historical proofs are available to suggest when the Bhatias first settled in Kutch and Kathiawar, though some dates are mentioned. There has been a continuous back and forth movement of Bhatias from Kutch to Kathiawar and from Kathiawar to Kutch, but once having settled in these areas the Bhatias adopted the traditions and life-style suitable to their new surroundings.

In Kutch the Bhatias took up agriculture as their main occupation. But those who did not have the land took to commerce. Those who took to commerce travelled by sea sailing all the way up the Persian Gulf when necessary. Their presence was felt in Arab lands as well. But it was only when the British began trading in Bombay that the Bhatias found it worthwhile to migrate to this city, as many Parsis did. The migration to Bombay was accelerated by the great drought of 1890.

Since Bhatias belong to the Yadu dynasty, they are Vaishnavas. In the 16th century the originator of the *Shuddhaadwaita* principles, Mahaprabhu Shrimad Vallabhacharya propagated his *pushtimargeya seva* which received acceptance by the Bhatias. Shri Krishna was accepted as the deity to be worshipped. And Nathdwara has become a major pilgrimage centre for them. It is said about the Bhatias in Bombay there are two types: those who came to the city practically empty-handed following the Great Drought of the nineteenth century but subsequently, as a result of hard and unremitting work, became millionaires and those who were born and brought up in the city and climbed the ladder of success, with admirable steadfastness.

But the point about the Bhatias is that, by and large, they are hard-workers and do-gooders. Their contribution to the magnificence of the city is evident in many ways, not the least in health care.

Some of the Bhatia family names in Bombay evoke both respect and admiration. To name a few:

Khataus: About 150 years ago, a 11-year old lad, Khatau Makanji came to Bombay to serve his maternal uncle. He started working for him in a cotton company and not long afterwards, thanks to his great drive and unremitting zeal, he became a partner in Jivraj Baloo & Co. Around 1863 he made his entry into the textile industry. Khatau Makanji Spg. & Wvg. Co. Ltd. was set up in 1874. And thereafter the Khataus expanded interests to form in due course Indo-Chem Pvt. Ltd., Varun Shipping Co., Khatau Junker Ltd., Cable Corporation of India, and so on. Many of the firms are thriving to this day.

Damodar Thackersey: Born in 1847 – a good decade prior to the Sepoy Rebellion of 1857, Thackersey came to Bombay in 1874 with his father Thackersey Mulji. By 1879 they had set up the Hindustan Spinning and Weaving Mills. The contribution of the Thackerseys in the field of education has been invaluable.

Mathuradas Gokuldas: People in Bombay, especially race-goers remember Mathuradas Gokuldas as a remarkable person. Born in 1870, at one time he owned a dozen mills in the city and his annual income was assessed at around Rs. 40 lakh. He ran an extremely profitable stud farm of race horses and one of them, *Middletone* reportedly won 167 races. Such was his craze for race horses, it is said, that even the window of his bungalow off French Bridge had figures of horses etched on them.

Sumati Morarji: Mathuradas's daughter Sumati Morarji made a name for herself as a successful industrialist and ship-owner. Born in 1909 and named Jamana, she never went to school but had tutors come home to teach her. The training she received in all departments of studies was topclass. She was married at a young age and was soon entrusted with her father-in-law's shipping business with which she was associated till the end of her life.

Maniben Kara: Maniben Kara's name is associated with social work and it was she who was responsible for the establishment of Bombay Improvement Trust. She was also an active trade union worker and was prominent in Bombay politics.

Shantikumar Kapadia: One of the respected leaders of the Bhatia community, Shantikumar Kapadia is chairman of the Shreeji Cooperative Bank and also practices as a Solicitor. He is associated with many Institutions, Trusts, Mandals etc.

Pradeep Madhavji: Pradeep Madhavji is presently chairman of Thomas Cook (India) Ltd. and is attached to many organisations related to travel and tourism and has been also chairman of Indian Merchants Chamber.

And then there are other names that have made their mark in different fields of activity like Jaisinh Sampat, joint director of Navneet Publications, Mulraj Rajda who by now has acted in over 125 Gujarati films, Harish Bhimani who though a Chemical Engineer, has made his mark as a communications expert, Keyoor Bhatia of whom it is said that he distributes over 70 per cent of the ice cream sold in Bombay, and Meenakshi Ravjiani who has made a name for organising *Dandiya Raas* programmes.

According to folklore, the very first person to arrive in Bombay was Manji Bhanji whose descendants came to be known as "Paastaas". After him came Shethshri Jivraj Baloo who was the leading light of the commercial world in Bombay between 1770 and 1843. Yet another distinguished name of the 18th and early 19th century was Tejpal and it was in Tejpal Hall that the Indian National Congress held its first session.

Another distinguished name among the Bhatias of Bombay is Mulji Jetha after whom is named a textile market in the city. Indeed, the names of distinguished Bhatias in Bombay is legion. Few communities have done more in the field of charity than the Bhatias who have never been lacking in giving to charitable organisations down the decades.

And among the shining lights of this community are the Shroffs who have made a great name in the manufacture of chemicals and stand out as pioneers in the field. What follows is their story.

'Ma' – Gokiben Chatrabhuj Shroff
The mother who nurtured strong values with love.

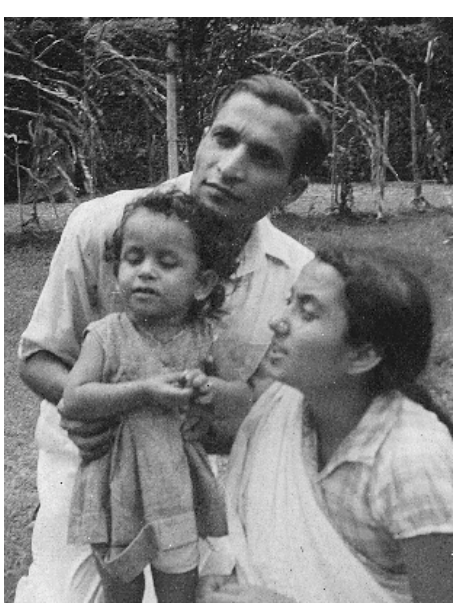
1

The Beginning & Stirrings

If the Chemistry is right, everything else will follow!

Excel Industries Ltd. is one of India's leading manufacturers and exporters of Agro-chemicals and Industrial chemicals. Over 45 countries across the globe including the United States, the United Kingdom, Germany, Japan, France, Italy, Australia, Singapore, Argentina, Chile, Mexico, Iran and Israel avail of its products. The company has set up an office in Antwerp, Belgium to get closer to its customers in Europe, Africa and America. In 1994, it became the first Indian agro-chemical company to be certified ISO 9002. In the financial year 1998-99 its sales turnover exceeded US$.90 million, over 20 percent of which was accounted for by exports.

And it all began in a kitchen laboratory in Bombay way back in the early thirties with a young chemist just out of college trying to figure out the formulation of various chemical products.



Champraj Shroff and wife Snehlata with their little daughter Renuka.

The genesis of eight manufacturing plants set up by Excel Industries Ltd. which are strategically spread across the country in Mumbai, Maharashtra, Gujarat, Andhra Pradesh and Silvassa can be traced to that apology for a laboratory and an intrepid young man Champrajbhai Shroff.

Long after Excel Industries became an industrial leader and company to be reckoned with among manufacturers of chemicals, Champrajbhai was to make a simple statement expounding his working philosophy. As he put it: "Life is like a game of football. The goal is right in front; there is a wide playground open to you, but your way is blocked by eleven tough guys. They are not your enemies. Nor even your opponents. They are your competitors. It is their business to stop you. Yours is to reach the goal. The tougher the competition, the harder the game, the greater the fun."

"And the victory!"

Champrajbhai played the game by the rules. He played it well. And he won. And in the process he could not have had more fun.

Champrajbhai was only 59 years old when he passed away on 3 January 1968. By then he had become a legend.

Sitting in his office at Excel Headquarters in Jogeshwari, a suburb of Mumbai, Champraj's youngest brother Kantisen Shroff was reminiscing about the past and how Excel Industries Ltd. came about.

Significantly, the office is located not in the main building but in a buffalo shed-turned office next door where history was first made and Champrajbhai had processed his first chemicals.

The make-do machinery, of course, had long ago been dismantled and removed. The old pillars still stand, a reminder of days gone by. The floor has been paved. After all, the chairman of the company has his desk there.

Poised to pose! Young Nandini and Kantisen Shroff.

A skeleton staff also sits in the shed-turned office which is a place of honour. No walls separate one staff member from another. The boss is easily approachable and the transparency in human relations is there for all to see. The office is not enclosed by walls either. During summer cool breezes make fans almost redundant. Surrounding trees and tall vegetation keep most of the rain water out during the monsoon and in emergencies plastic covers come in handy. It is not that Kantisen dislikes comforts. But he is not the one to forget Excel's roots. Working out from the shed-turned office is a reminder to him every day of Excel's beginnings, humble as they were and its sustained struggle in the years that followed. Not for Kantisen the rewards of hypocrisy. He has a healthy respect for the joys of life. Remember, he tells sceptics what the *Upanishads* say: what follows *Isa vasyam idham sarvam* is *thena thyakthena*

A young lad with a quiet determination writ all over his face
Champraj Chatrabhuj Shroff.

bhunjita, meaning enjoy life without attachment. And Kantisen is quite comfortable where he sits. That evening Kantisen spoke briefly about his grandfather K. K. Shroff who had come to Bombay prior to the First World War and how the times then helped his business to grow and expand. Then came the crash of the late twenties which affected the family business gravely.

He spoke of his father, Chatrabhuj Shroff and his loving mother Gokibai who were both to play such an important part in the shaping of their children's character, aims and goals. Chatrabhuj from all accounts was a remarkable man with a great taste for science and technology. Among his many distinguished friends was T. K. Gajjar, famous scientist. Those were days when the Maharaja of Baroda, Sayajirao wanted to set up an industry in his capital. The idea was to set up a pharmaceutical factory. Pharmaceuticals, of course, needed alcohol and in consequence a distillery was set up as a starter. But the then ruling power in Delhi, the British, wanted no competition from Indian industries and the distillery soon got into the red. At a Board meeting, a wise man thought he had an answer for the losses the company was sustaining. "What if tinctures will not sell? Surely alcohol will, as a drink?" Before he could proceed any further, Chatrabhuj intervened. "I am sorry" he told his shocked colleagues, "this is not for me. I cannot any more remain a member of this team. My aim is to develop a generation that will not go for short term profits". And he resigned on the spot.

Chatrabhuj had six children. The eldest was Devidas, the second Champrajbhai. Next came Govindjibhai who was to play an important role in Excel Industries Ltd. in the years ahead. Then came Anandjibhai who was to join the Ramakrishna Mission and died an early death. He was followed by the daughter, Nandini who was to make her mark as a doctor in Hyderabad running what was named as the C. C. Shroff Memorial Hospital that stood for excellence. Last came Kantisen, the baby of the family.

Kantisen has the happiest memories of his childhood. Pushing his chair back and looking as relaxed a man as anyone in his seventies could, he was to tell his interviewer: "The most important thing we got from our parents was love and the joy of being together".

And this is what he said:

"He trained us to work together. What prevailed in the house was the spirit of *sahaviryam karavavahai* – the spirit of co-operation. Whenever anything had to be done, my elder brothers and I would be participants.

In industry we often talk about 'multi-functional' as if it is something that one has newly discovered. We learnt what multi-functional meant right from our younger days from our father.

Even as a 4-year old, I had enough functions to fulfil. Everyone had his job cut out for him, whether it was playing *kabadi*, or cricket or just flying a kite!

In the first place kites were not bought in the market. We had to make our own! And that automatically taught us self-reliance.

For photography we had the bathroom converted into a dark room and we used the low-cost Kodak camera most effectively. We made the prints ourselves.

The point was enjoying doing things on our own instead of paying for service.

Whether it was soap, perfume, snow-powder, hair oil, whatever, everything was made at home and we revelled in it.

Unhappily, both Gandhiji and our sadhus never got things right about enjoyment and they were ever talking about *tyaga* – sacrifice, when they should have been encouraging how to live life joyously without, at the same time, being attached to it.

The second thing we were taught was again how to do our duty without desiring the fruits thereof. You remember the saying in the *Gita*: *karmanaivadhikarsthe ma phaleshu kadaachana* – don't you? My father would say: 'Go ahead and have fun flying your kite, but don't expect anyone to pay you for it! The fruits of work will come on their own and you do not have to hanker for them!'

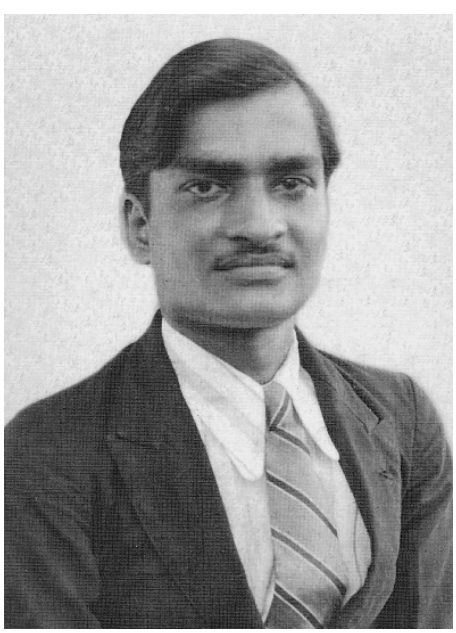
There was yet another thing that our father taught us, children and that was never to be negative. You know we belonged to the '*murdaabad*' age when people going out in processions would shout *murdaabad* this and *murdaabad* that.

My father would say: 'What are you going to get from shouting *murdaabad?* The thing to do is to learn to be better than the British. The great might of the British is in their industry achieved through chemistry. If you can demonstrate how to run a better industry in India than what the Britishers have done, you have then automatically achieved your aim!'

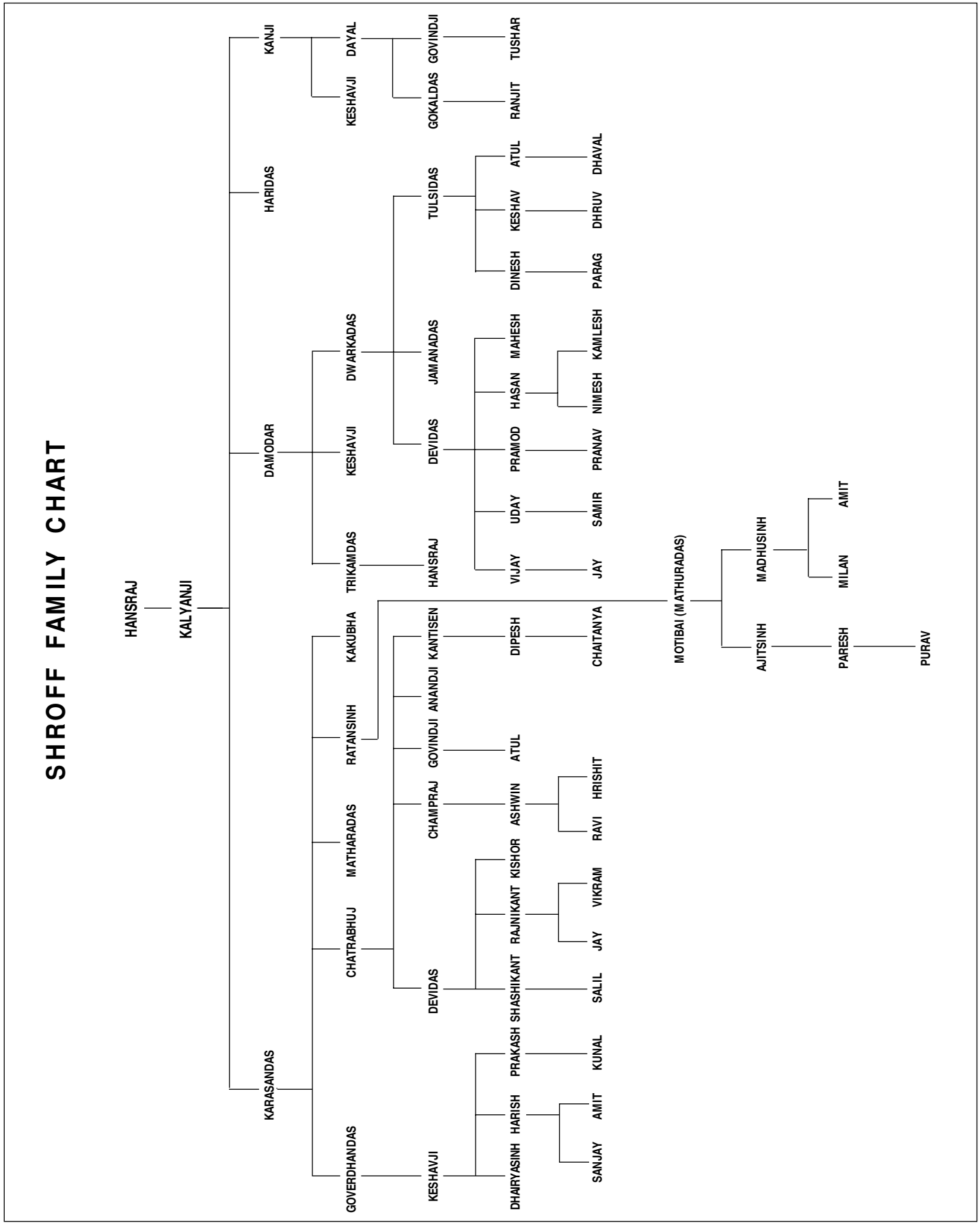
That was our father!"

In the family the lads were always taught to think in terms of team work. The "I" seldom occurred in conversation. It was invariably "we". There is a story current in the family of the time when Kantisen was just four years old. The family had then hired a cook to help the lady of the house in feeding a growing brood. But the cook turned out to be less than useless. The boys from the eldest downwards decided that his services should be terminated. A delegation was taken to the head of the house demanding the cook's dismissal. But would that not increase the burden on the mother was the solicitous issue raised. To that Kantisen, all of four, is reported to have said; "Don't worry, *we'll* manage!" to loud laughter from all around.

The situation was thereupon saved by Champraj who reportedly said: "Sure, Kanti's help will be there. He can set the table!"



The handsome young man,
Devidas Chatrabhuj Shroff – the first-born of Chatrabhuj and Gokiben.


SHROFF FAMILY CHART
HANSRAJ
KALYANJI
KARASANDAS
GOVERDHANDAS
KESHAVJI
DHAIRYASINH
HARISH
SANJAY
AMIT
PRAKASH
KUNAL
SHASHIKANT
SALIL
RAJNIKANT
JAY
KISHOR
VIKRAM
CHATRABHUJ
MATHARADAS
DEVIDAS
CHAMPRAJ
ASHWIN
RAVI
HRISHIT
GOVINDJI
ATUL
RATANSINH
ANANDJI
KANTISEN
KAKUBHA
DIPESH
CHAITANYA
DAMODAR
TRIKAMDAS
HANSRAJ
VIJAY
UDAY
SAMIR
JAY
KESHAVJI
DWARKADAS
JAMANADAS
HASAN
MAHESH
KAMLESH
NIMESH
PRAMOD
PRANAV
DEVIDAS
TULSIDAS
DINESH
KESHAV
ATUL
PARAG
DHRUV
DHAVAL
HARIDAS
KANJI
KESHAVJI
DAYAL
GOKALDAS
GOVINDJI
RANJIT
TUSHAR
MOTIBAI (MATHURADAS)
AJITSINH
MADHUSINH
PARESH
MILAN
AMIT
PURAV

And, family members still aver, there has never been a time when Kantisen was unavailable to set the table!

More than the father, Chatrabhuj, it is said, it was the mother, Gokiben who had the most profound influence on her children. Her devotion to her children and to her duty – or what she perceived as her duty – was never to be excelled. She was love incarnate.

There were three virtues on which she laid heavy stress: Unfailing service, implicit self-respect and a healthy sense of thrift that her children imbibed and were to practice throughout their lives. Kantisen once spoke of his mother feelingly in an interview to a reporter.

"There was my sadhu-brother, Anand whose personal motto was service above self. He died young; he was hardly 35 when he passed away. He was staying with us during his last days. He left a great gap in our lives. But mother had her own way to conquer grief. Her words were, 'I will continue Anand's work". And continue she did. Uncomplainingly. Beautifully. As only a mother can.

"And you want to know how? As I said, we were all staying right here, close to this factory and there was a time when there would be work round the clock. By 3 a.m. the workers would be ready for a bracing cup of tea. But we had no canteen facilities. So who has to brew the tea? Mother took on the job. She would be up before 3 a.m. and the tea would arrive promptly in the work area in no time to the delight and embarrassment of the workers. They sure appreciated the tea but they were uncomfortable with the thought that mother had to give up her sleep to provide them *their* tea! For them mother was god!"

There were other ways in which she would serve the workers. If she heard anyone cough there would be firm summons and the man had to present himself before her to be administered medicine and some sound advice! If she noticed a man wearing a torn shirt he would be told to leave that with her. The shirt would be repaired, washed, cleaned and ironed – and returned. It was her way of showing that she cared!"

Of course, the workers got their wages on time. But what they got was something more precious: motherly love.

Gokiben wanted her children to grow fearless and never to be afraid to tell the truth. The children grew up that way. There is a story told about Champrajbhai when he was at school, the Elphinstone High School, one of the Bombay's best in those days.

The earliest evidence of Excel's canteen! The home of Gokiben who lovingly served her children and employees alike.

One day visibly angry Vice-Principal, one Mr. Deewanji, stalked into the classroom determined to punish the whole class for the mischief of a handful.

Champraj thought that this was very unfair. Why should the entire class be penalised for the fault of a few? And he said to a surprised Vice-Principal who, however, got the point and stalked out of the classroom as in he had stalked, much to the delight of his classmates.

Then there was the time when, as a student at Elphinstone College he was to encounter an English professor who, in an uncontrolled rage was full of abuses. Champrajbhai was the one to stand up and gently tell the shocked professor that this was no way to treat his students! It worked.

And Gokiben loved her son all the more for his fearlessness.

To the end she was to be a mother not only to her sons but to everyone who served Excel Industries in whatever capacity. They were all *her* children. To everyone she was 'Ma'.

Nothing illustrates this better than the time when she was invited to join a pilgrimage to Jagannathpuri, a desire that she had frequently expressed in the past. But when the invitation actually came she realised that she was wanted in the Excel kitchen which had then just been opened.

Her reply to the invitation was to the point. "My pilgrimage lies in feeding all my sons here at Excel. Is that not enough devotion to God? Who shall look after them if I leave?"

And she continued to stay put – and serve. There never was any cause for regret or heart-burning.

For Ma, service of man was services of God.

And importantly, that was a lesson that all her sons took to their hearts. In Excel all staffers were held in equal respect.

Gokiben was born in Mandvi, a Vaishnav by birth. But she was never dogmatic about her religion nor did she practice it rigidly.

When her youngest son Kantisen married a Jain girl she was accepted in the Shroff household with just as much love as might have been bestowed on a fellow Vaishnavite.

One of the persons she cared for was a harijan (dalit) girl. Whenever she happened to come by the Gokiben household, Gokiben's sisters, all staunch Vaishnavites would call out, saying: "Goki, your sister has come!"

For Gokiben God was everywhere, in each living being, human or animal. She was a true *karmayogi* and her main aim in life was to make her children happy. She did not socialise much and was never known to have visited relatives or friends. While she was not religious in the accepted sense of the term, she was spiritual. She would be up at four in the morning to do her *japa* and pray. While working, she would often recite the *Gita* which, obviously, she knew by-heart. She was an expert at running her household. The family income was limited but she is never known to have ever borrowed money from anyone. She could stretch a rupee to its utmost limit.

And she was an expert at saving on fuel. If something was cooking, she would place one vessel filled with water on the vessel below. She would make fuel balls out of coal dust and cow dung! Even when her sons became affluent, she would never travel first class nor did she ask for a car when the family could afford one. Proud of her five sons – she would call them her *'panch Pandavas'* after the *Mahabharata* figures, she let them have their ways in choosing their marriage partners. When her only daughter, Nandini wanted to go for higher studies when community expected her to get married, it was Gokiben who stood firmly by her daughter.

In the undivided family atmosphere she was the one who did the maximum work expecting no one to share it with her. She had no use for rituals, did not believe in horoscope and astrology, believed in *Vallabhsampradaya* but not in following religious practices blindly.

Wastage bothered her. In the factory premises she would recycle cotton waste. The prevailing joke at that time was that Sita might have thrown away her ornaments but Gokiben would not allow even cotton waste to be discarded!

Her broad-mindedness was proverbial. A muslim neighbour was looked after as a daughter. Gokiben cared for small people. She would tell the children: "Never remain idle!" She herself would work practically round the clock, never complaining. She had a habit of keeping currency notes inside books. In times of need she would pick up the book nearest at hand, but if she could not find any money in it, she wouldn't mind, claiming that perhaps it was God's wish that she shouldn't spend at that moment!

Malam Sinh's Hall of Mirrors at Aina Mahal, Bhuj.

Gokiben passed away in 1968, aged 84, deeply mourned by one and all.

Champrajbhai was born in Kutch in his ancestral home on 23 February 1909. The delivery was at home, there was no hospital around and in any event it was out of time with the mores of those times to accept hospital services.

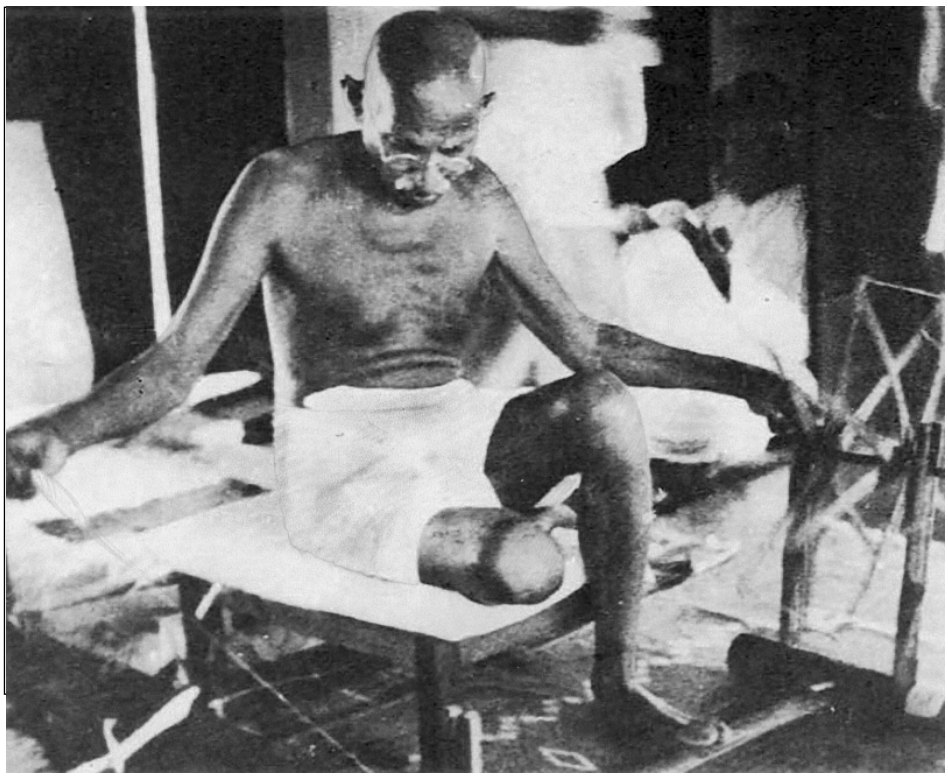
The second child to be born in the family, the news was received with great joy among the elders.

Kutch, at the turn of the century was a placid enough state where nothing much really happened. True, Rao Pragmalji (1860-1875) had utilised the tranquilty that prevailed in the state for improving its management and administration. He had framed codes for the guidance of his officers in matters of civil and criminal justice and undertook public utility works. It was he, who in 1865 had started building the fabulous Italianate palace next to Rao Lakha's Aina Mahal, with a clock tower a hundred and fifty feet tall. Pragmalji had also improved Mandvi harbour, sanctioned the digging of tanks including the famous Pragsar in the Chadwa Hill Range and built a new hospital and jail. Pragmalji was held in high esteem by Queen Victoria then at the height of her imperial glory and had been conferred the distinction of Knight Grand Commander of the Star of India (K.G.S.I). But he was to die young, at the tender age of 37, after a brief fifteen-year rule.

When Champrajbhai was born Pragmalji had already been succeeded by Rao Khengarji III (1875-1942). The ruler then was a ripe 44 years old.

Rao Khengarji III was to grow up as one of the most remembered rulers of Kutch. He was responsible for strengthening the administration and create regular administrative divisions. Trade and industry was encouraged. Particular interest was shown in forestry and the educational system was expanded.

By the time Champrajbhai grew up he could attend a regular school and was acknowledged as one of the brightest alumni when he completed Standard VII. It was then that it was decided that he should leave for Bombay where he was admitted to the Elphinstone High School. Here he did very well, receiving the highest marks in Sanskrit in the matriculation examination. Never one to stay idle even for a moment he was adept at swimming, riding, painting and wood-carving, not to mention rifle-shooting and even scouting. By the time he was admitted to Elphinstone College, then basking as one of the best colleges in Bombay if not in India, he had taken the study of magic and was soon to be quite adept at it! His model was, – who else? – Houdini!



Gandhiji's call for Swadeshi greatly influenced Champrajbhai – and his brothers, in their formative years – to think of the country above self.

By then he had also won a reputation to be tough and in full command over his life. Nothing daunted him. There is a story told of how when he was still just entering his teens, and was travelling in Kutch he was met by a relative riding a spirited horse who offered the young lad a free ride. Champraj accepted it without the slightest hesitation. Riding a horse he knew well, but he had never ridden such a horse before and this, he must have thought, was as good an opportunity as any, to ride one.

Champraj mounted it and before he could utter a word, the steed was off like a hurricane, leaving his friends gasping for breath, worried what would happen to him.

Off the horse flew towards the horizon in a trail of dust and there, behind stood his close relatives and friends, hoping for the best.

Minutes passed. What next they saw was something unbelievable. As they stood blinking, Champraj was seen returning like a rider to the manner born, looking for all the world like an accomplished *sawar*. How did he do it was the question on everybody's lips. "Oh" was Champraj's nonchalant reply, "It took some time to figure out, but once that was done, it was quite simple, really!"

That was to be Champraj's philosophy all his life. He would accept any challenge that came his way – and sometimes he went out of his way to meet them – but always he would emerge triumphant. He could well have said : "It took some time to figure out, but once that was done, it was quite simple really!"

By the time Champraj joined college, the fight for independence was in full flow. Gandhiji had returned to India from his long South African sojourn and was in command of the Indian National Congress. The times, they

A Freedom Movement procession at Sandhurst Road, Bombay.

were a-changing. By late 1909, the year Champraj was born, Gandhi's rebellion against his own original views, against English education as available in India and against Indians' striving after it, was complete. Speaking of the importance of India's "vernaculars" he was exhorting Indians to spend more time on them instead of wasting it on English, and so increase their self-respect. In her work *Gandhi: Prisoner of Hope*, Judith M. Brown quoted the Mahatma saying: "India's uplift is …. bound up with this. I had been under the sway of Macaulay's ideas on Indian education. Others, too, are. I have now been disillusioned, I wish that others should be." In *Hind Swaraj* he devoted a whole chapter on education, arguing that the English system of education had enslaved India and enabled English-speaking Indians to exploit the common people. As Gandhi saw it, character-building, not the acquisition of a foreign language or irrelevant knowledge, was the need for India's millions. How much this contributed to Champraj's own aversion to a foreign degree in later years can only be imagined.

Swaraj was very much in the air. There was also much talk of Swadeshi. It had all begun with the partition of Bengal on orders of the then Viceroy, Lord Curzon, in 1905. It had caused great anger and distress among Bengalis. And there was a great political upsurge in the province. Boycott of British goods became the order of the day. Swadeshi *mandals* sprang up everywhere and one of them was led by the great Bengali patroit, Chittaranjan Das who declared:

"The chief reason for which the Swadeshi movement is desirable is that it provides the first step towards the path of self-reliance of the Bengali nation. The histories of the world have proved that no nation can help another. As every person has to work out his future through his personal exaction, so is the case with a nation. It has to depend on its own strength for achieving freedom".

And the historian Shankar Prasad Basu said: "The Swadeshi Movement (1905-1911) though initiated by the people of Bengal in protest against the partition of the province, soon extended its area of activities, influencing, to a great extent, the growth of Indian nationalism and the freedom struggle".

And he added: "The Swadeshi Movement was largely a Youth Movement …. It gave to the nation an articulated philosophy of nationalism, a national anthem, a national war cry, and the blazing ideal of *Poorna Swaraj*. It also stimulated the creative impulse which fostered the fine arts, literature and science and also economic researches and educational reforms, thus leading to a total national awakening on all fronts".

The call for Swadeshi greatly influenced Champrajbhai during his formative years for, his father had instilled the Swadeshi spirit in all his children. But by the time he was in college, Gandhi himself was aggressively championing the Swadeshi cause and one of the best known pictures of the Mahatma is the one where he is plying the *charkha*. It would have been a miracle if Champraj had not been stricken by the Swadeshi bug. He was too sensitive a young man not to wish to set up a Swadeshi industry to beat the British at their own game.

As Kantisen was to say years later: "The twenties and thirties were the formative period for the country. The struggle for India's independence was grooming us to think of the country above self. One of the brothers joined the Ramakrishna Mission. The sister decided to become a doctor to serve the people".

Incidentally, the four years that Champraj spent in college were also the peak years of Gandhiji's popularity and strength. According to Judith Brown, "late 1928 to 1934 forms a unity in Gandhi's life because during these years he saw himself and was accepted by others, both British and Indian, as Congress's major leader and spokesman – whether he was actively organising a resumption of civil disobedience, was attending a Round Table Conference in London, or was in gaol, for even in the gaol he was active and dominant in political decisions . . . These were years when Indian politics were dominated by civil disobedience, either active or imminent".

It is impossible to think that Champraj was not influenced by the political scene around him. It is well to remember that the famous Bardoli satyagraha – that won Vallabhbhai Patel the title of 'Sardar' from an elated Gandhi – lasted from February to August 1928, years of Champraj's own coming of age. Bardoli, like Champaran in 1917 had showed how powerful satyagraha could be if it was conducted on a small and tightly disciplined scale, on a restricted issue. That lesson, too, could not have been lost on Champraj.

He graduated from Elphinstone College in 1930 with high marks when the whole world was caught in the theories of a recession following the Wall Street Crash of 1929. Money was not easy to find. But national feelings were running high. Could that have been the reason for his spurning an offer of a scholarship to

prosecute further studies in London? The Principal of Elphinstone College, then, was Dr. Wheeler who had high regard for one of his brightest students. When the results were announced, Champraj had a summons from his Principal that could not be ignored. What could have been the reason for his being summoned at short notice, he wondered. But when he presented himself at the Principal's office he was quickly to learn why. Dr. Wheeler received him kindly and offered him a chair, "Congratulations" he said to a slightly bewildered Champraj, "I see you have done very well indeed!" Champraj mumbled: "Thank you, Sir, you's most kind". "Shroff" Dr. Wheeler then proceeded, "now that you have done so well, what plans do you have for your future." But before Champraj could utter another word, Dr. Wheeler continued: "You know Shroff, I have a suggestion for you. Think it over. I would like you to go to London for higher studies. Get your Masters. A scholarship can be arranged!"

A scholarship? Any other student would have jumped at the offer. A British degree was not something to snigger at in those days when most students would have given their right arms to get a chance to study abroad, especially on a scholarship. But Champraj was made of different stuff.

The offer was enticing. And it took a few seconds for Champraj to digest what it entailed. But on this as on several other issues, his mind was clear. To an utterly bewildered Principal he said with the utmost respect: "Sir, I thank you for your generosity in thinking about me. But I must decline your offer with all gratitude." And even as Dr. Wheeler kept saying: "What? What?. . ." Champraj said with a finality that must have won him his Principal's admiration: "Sir, India's problems have to be solved in India. And that's what I propose to work on. Now that my formal education is over, I am going to enrol myself in the college of life!"

Dr. Wheeler could only wish him well.

Even as a student, Champraj loved to play around with chemicals in his mother's kitchen. It must have been the most ill-equipped lab in the world. It was in the kitchen that Champraj experimented with making face creams, pain balms and similar or allied products. While developing camphor, in the absence of glass vessel, Champraj made do with a pickle jar! Glass stirrers were then not available in the market so Champraj used a wooden rod with a plastic coating which turned out to be as good a substitute as any! Champraj was especially good at improvisation. His theory was that if European scientists could make major advances with the minimum of equipment in the 19th century, why couldn't he make do with what he had or could afford in the 20th?

One of his favourite sayings was: "If something can be – or has been – done elsewhere, in the world, surely it can be done in India as well!" Yet another was "Either I will find a way or make one of my own."

His two-room apartment in Princess Street in Bombay was the place where he conducted some of his remarkable experiments, with some of the most primitive equipment. When Champraj started work in the 1930s very few knew refining silver by the electrolytic process. In the first place it was little known. In the second place it was a costly process. Champraj first studied the process carefully, as he always did when he embarked on a new product. Then he successfully developed a small "refinery" in his kitchen using D. C. of a car battery as a source of electricity and nitric acid as electrolyte! And the job was done.

In the course of his short life Champraj (he was not long afterwards to come to be known by his initials C. C.) developed over 100 chemical processes, none of which he bothered to patent. Any friend of his was welcome to try them on their own. And, many did, to which C. C. would say: "There is so much work to be done yet. Let us look forward to that!"

By early 1930s the world recession had begun; trade and commerce were experiencing great hardships. Jobs were difficult to get. The first job that C. C. could manage to get was that of an analytical chemist in a city laboratory. It was the finest laboratory in Bombay then. For C. C. it was not just a job but a training phase, and from morning till late evenings he went on learning and gaining knowledge. He had never the time to get bored with the routine. But restless that he was, wanting to explore new avenues, he switched on to Swastik Oil Mills. For an innovative chemist such as C. C. this job, too, provided few challenges. Then came a happy break. He joined Eastern Chemicals, one of the top heavy chemicals manufacturing units in Bombay, if not in India. His starting salary as a fresh chemist straight out of college was Rs. 25 then considered adequate! At that time Motilal

Princess Street in Bombay, served as the first home for the Shroffs.

Nehru, father of Jawaharlal Nehru was reputed to be earning Rs. 2,000 a month by fees equivalent at current rates to about Rs. 1 lakh. But money then, as in the years to follow, never was a major consideration for C. C. The challenge of a difficult job was.

In the seven years since he graduated C. C. had gathered sufficient experience to be named Chief Chemist at Eastern Chemicals. Here challenge awaited him like a bride. He believed in working hands-on. He was always right there with the workers and attending to every problem during a long working day. His work habits, his sense of easy camaraderie and his spontaneous respect for every co-worker from the highest to the humblest won him the admiration and affection of one and all. C. C. was available to anyone who wanted his professional advice. It was an attitude that had been drilled into his mind by his mother.

Work at Eastern Chemicals was very demanding. The Second World War had started within two years of his joining it and overnight there seemed to be an endless demand for various chemicals. At Eastern Chemicals he had gained expertise in the manufacture of explosives. The Government of India understandably wanted his services but Eastern Chemicals were most unwilling to relieve him. With a war on the Government could *demand* C. C.'s services and just as the situation seemed to reach an impasse C. C. solved the problem in his own way. He resigned from his job to set up his own venture.

But even this was not acceptable to his employers. Ultimately he arrived at a compromise with them. Over a period of six months, he told them, he would train another chemist to take over from him. This was agreed to. It was during this period that C. C. put in a 14 to 16 hour workday starting from 4 in the morning till late at night. Ever since those early days in Eastern Chemicals it was evident that to C. C. work was worship.

But even as C. C. was working for Eastern Chemicals, he had managed to get from his Bohra friends on a reasonable rent a large room in Andheri, a Bombay suburb where he would work on his experiments. C. C. was later to shift to the buffalo shed in Jogeshwari when Excel was first set on its feet. He had two helpers, Vajubhai and a watchman Zafar Khan who between them played every conceivable role assigned to them. And did those roles vary! Vajubhai was everything: purchaser, manager, supervisor, watchdog, even marketing officer! And he loved it.

C. C. maintained a terrific routine. By the time he joined Eastern Chemicals he had shifted from Princess Street to an apartment in Matunga which was closer to his work site. During those hectic days C. C. would leave home at Matunga at 4 in the morning to reach the Jogeshwari site where Vajubhai would be waiting for him. He would get on to the job in hand till 6:30 a.m. Then he would rush to the factory to clock in at 8:30 a.m. Only Sunday was Excel Day when he could give his full attention to whatever Vajubhai was on line in Jogeshwari.

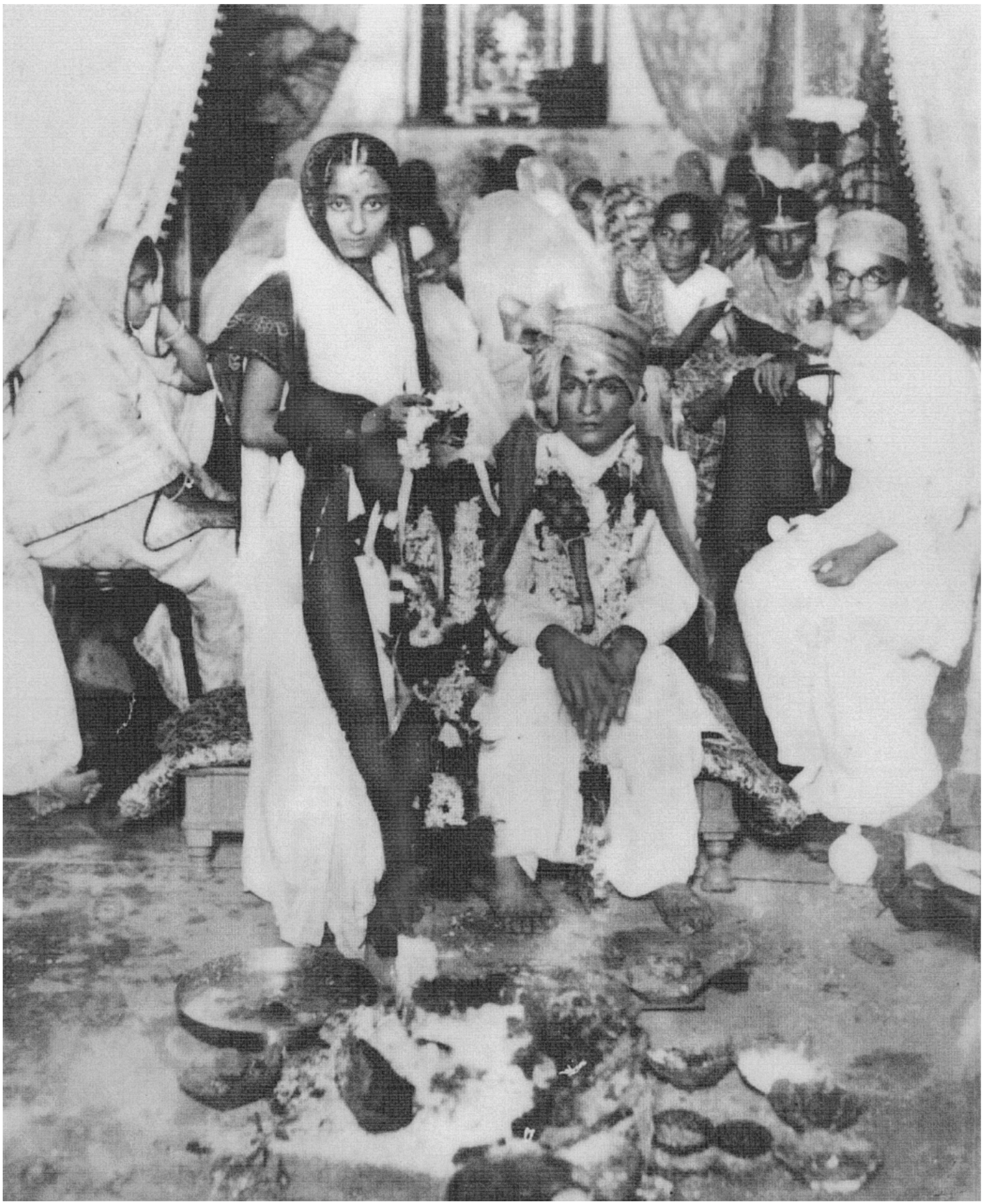
The early forties were a time of shortages and indigenously made products, chemicals or otherwise, were in great demand. There were industrialists in Bombay willing to set up factories and employ C. C. on his own terms but as an employee. C. C. wanted to be his own boss. As Kantisen was to say many years later: "We had our dreams but they were of a different nature. Yes, we wanted to set up an industry ourselves but the aim was not to get-rich-quick but to create new society."

But where was the cash to come from? C. C. was convinced by 1940 that a small factory for the manufacture of chemicals was entirely feasible and could be cost-effective. There was no need to go looking for financiers. But even to set up a small factory he needed some cash. And it came first from the family. C. C.'s wife Snehlata pledged some of her jewellery to raise Rs. 1,500. The Bohra friends, convinced that C. C. could turn out to be a gold mine pitched in with Rs. 8,500. And with that sum of Rs. 10,000 Excel was born in November 1941.

Somewhere up in the night skies a star must have chuckled and laughingly fallen to earth in the sure knowledge that the new factory with a capital of Rs. 10,000 would, in the years ahead, blossom into a mega-factory worth millions. In Bombay's suburb Jogeshwari, in a tumble down buffalo shed, a star was born.

Before the Shroffs got into the chemical industry sector, there wasn't much of such an industry in India to boast of. It isn't that India had no chemical industry in the past. After all rulers in India had necessarily to manufacture arms and equipment, howsoever primitive, such as shields and spears and much later guns and bullets, canon and cannon balls. Metallurgy was known in India from ancient times.

One of the first employees and Excel family member, Vajubhai and his wife Kunjalataben.



The wedding ceremony of Champraj and Snehlata, with his brother Govindji as proud witness to this occasion.

The buffalo-sheds at Jogeshwari that served Excel well as an office-cum-abode in the early years of establishment. Romping around in their favourite playground are the Shroff children – Ashwin and Atul on the bike and Chetu on the bonnet of the car.

The cosmetics and perfumery industries had also flourished in India during the Mughal Period especially. Processes used in the preparation of scents, though based on traditional methods had been systematised and appear to have been backed by the knowledge of physico-chemical principles. Soap is believed to have been introduced in India by the Muslims to replace the alkaline lyes produced from the ashes of vegetable matter and different varieties of berries.

Sarjikakashara (natron), common salt, sesame oil and goat's suet were the main ingredients used in the manufacture of crude soap. The utilisation of mineral acids in chemical operations is also believed to have originated during the regime of Akbar.

The lixiviation of village refuse provided supplies of impure salt-petre required for the preparation of alum. The alum produced was mainly sent to Gujarat for use in dyeing.

An analysis by J. Stevenson gives the composition of sulphate of iron used at the time for dyeing operations in Bihar as follows:

Iron sulphate	39 per cent
Iron oxide	36 per cent
Magnesia	23 per cent.

It is commonly conceded that the honour of establishing the first regular chemical factory in India goes to British citizen, David Waldie. Born in Linlithgow in West Lothian on 27 February 1813, Waldie became acquainted with impure chloroform, then called chloric ether, in 1833. Waldie proceeded to purify the chloroform and succeeded. Chloroform was first used as an anaesthetic in November 1847.

Waldie came to India in 1853 to take up a post with Malcolm & Co in Calcutta. Four years later in 1857 – the year of the Sepoy Mutiny – Waldie set up a small factory of his own to manufacture chloroform. But that was not paying. So finally in 1878 he formed the Cossepore Chemical Works in Bengal. There he worked until his death in 1889.

According to Dr. G. P. Kane, the commencement of an organic chemical industry may be considered to have been started around 1835 when Carew & Co. set up a large distillery at Rosa, near

Shahjahanpur in U.P. for the production of potable liquors. A similar distillery had been started in south India by Parry & Co. at Nellikuppam in 1848.

Then again it is claimed that the recovery of quinine on a factory scale was started at Naduvattam in Tamil Nadu and at Mungoo in Bengal by 1871 and a modern paint factory was set up in 1902 in Howrah by the Shalimar Paint, Colour and Varnish Co. Ltd.

The setting up of a cordite factory in the Defence Sector at Aravankadu in Tamil Nadu in 1904 is considered as the first step in the building up of an organic chemical industry.

In 1909 the distillation of coal tar and a coke oven battery was started by Simon Carves to be followed by another plant at Giridih by the East India Railway.

A pioneering effort was made to usher in a pharmaceutical industry by Sir P. C. Ray in Calcutta in 1900 and in 1903 by Prof. T. K. Gajjar, A. N. Kotibhaskar and B. D. Amin, first in Bombay and then at Baroda, in Alembic Chemicals, that emerged successfully later on in the field of antibiotics.

The factory at Parel in Bombay set up by the trio manufactured toilet preparations and medicinals based on alcohol. A bigger factory was then set up in Baroda in 1905 which was to grow into the Alembic Chemical Works in 1907 with Prof. Gajjar as the Consulting Technical Director and Messrs Kotibhaskar and Amin as Managing Agents.

There were pioneers in the inorganic field as well. Kapilram Vakil appeared on the scene during the First World War, when the textile industry in India was unable to obtain magnesium chloride from Germany that was used for maintaining the humidity of the sizing departments of the mills. Under Kapilram's guidance magnesium chloride was recovered as a by-product at first from his own Okha Salt Works and later by the Pioneer Magnesia Ltd. at Kharaghoda. It was a feather in their cap, when, after the war, for a short period, fused magnesium chloride was exported to Hamburg in Germany.

However, Kapilram Vakil is known more for organising the production of soda ash from solar salt, and the accompanying limestone. The first soda ash unit was set up in the twenties by Shri Shakti Alkali Works at Dhrangadhra. The second unit planned for Tata Chemicals at Mithapur, near Okha was set up during the Second World War.

"If something can be – or has been – done elsewhere, in the world, surely it can be done in India as well!" This was one of the favourite sayings of C. C. Shroff. He dared to venture into a field where many feared to tread. C. C. was clearly a man with a mission.

The other pioneer is Dharamsi Morarji Chemicals at Ambernath that commenced operations in 1921. It started with a small chamber process Sulfuric Acid plant for making nitric and hydrochloric acids, epsom salts and copper sulphate. The company then produced super phosphate, ferric alum as well as iron-free alum.

During the Second World War they built a contact process acid plant and also specialised in the production of such plants for customers. The company also produced chloro-sulfonic acid, sulfuric acid, triple super-phosphate, borax, boric acid and sodium tripolyphosphate in association with sister companies.

The Indian chemical industry in the twenties and thirties, in the circumstances was of not such consequence. Local production of chemicals was insignificant. There were no spectacular developments in the industry nor was the pattern of growth very satisfactory and yet the industry had grown sufficiently to demand tariff protection in 1929. The Tariff Board presided over by Padamaji P. Ginwala examined the claim for protection advanced on behalf of the manufacturers of sulfuric acid, hydrochloric acid, nitric acid, magnesium sulphate, zinc chloride, copper sulphate, sodium sulphite and Glauber's salt.

In 1935 there were in India in all 23 large chemical factories with a total labour population of 4,183. Out of this, 23 units were located in what was then known as British India and only one, employing about 281 persons, was located at Baroda, then a Princely State.

On the other hand, by 1939, the number of major chemical works had risen to 38 with labour force of 7,968. British India claimed 31 units with 4,713 workers on the payroll while seven factories employing some 3,253 persons were situated in the Princely States. Most chemicals were imported from abroad as the following figures indicate:

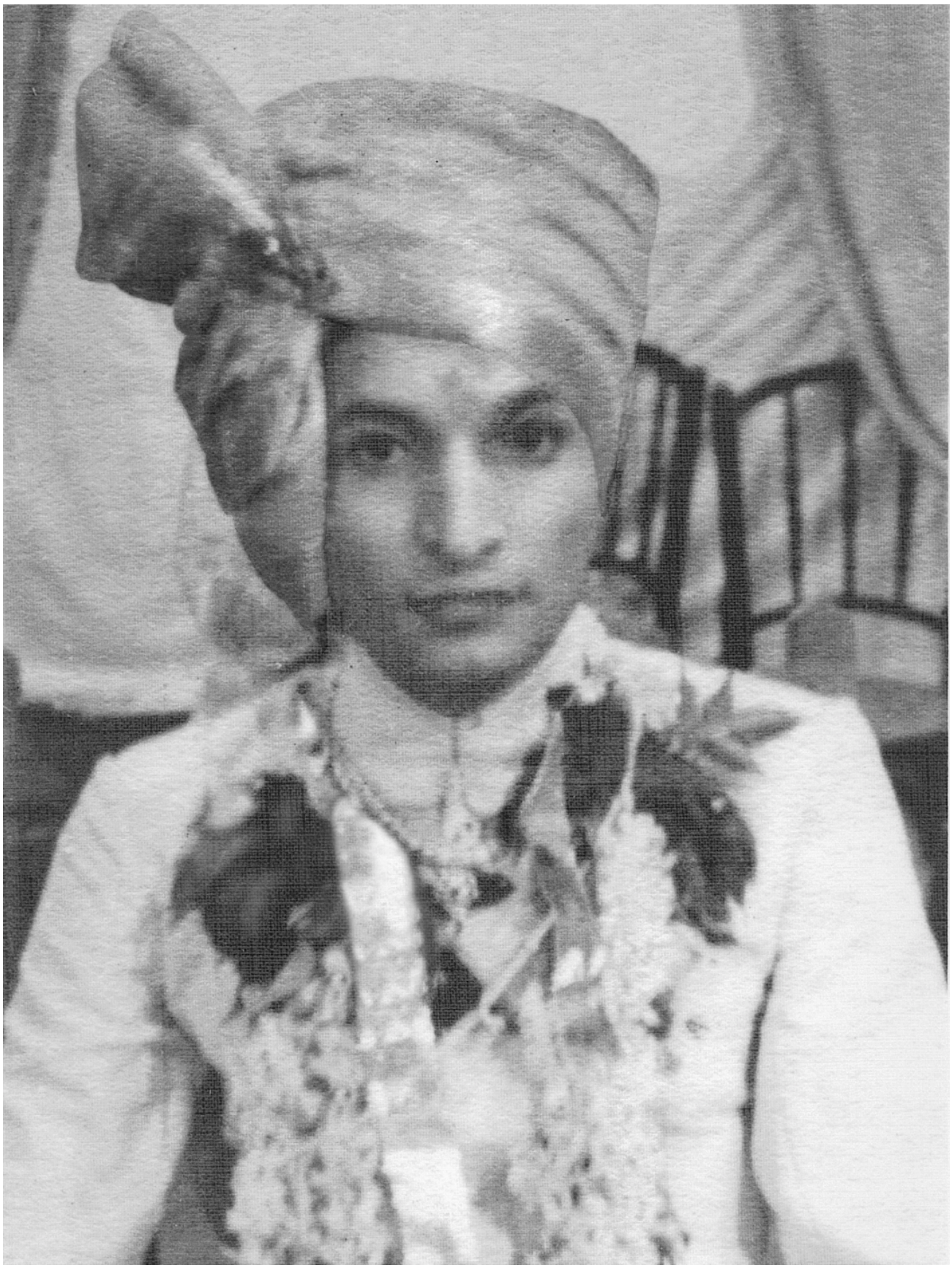
Imports of Chemicals in India

(in tonnes)

Chemicals	1935-1936	1938-1939
Sulfuric acid	284	131
Nitric acid	213	66
Hydrochloric acid	44	29
Sodium sulphate	247	1,725
Zinc chloride	1,870	2,066
Epsom salt	593	388
Iron sulphate	1,761	1,421
Aluminium sulphate	1,156	1,772
Alum	376	196
Magnesium chloride	567	584
Ammonium chloride	2,731	301
Soda ash	62,673	65,426
Caustic soda	20,299	25,057
Sodium bicarbonate	6,455	4,692
Bleaching powder	10,040	10,657
Calcium carbonate	3,337	2,866
Anhydrous ammonia	144	152
Sodium bichromate	713	720
Potassium bichromate	306	199

The decline in the imports of these chemicals in three to four years' time indicates that domestic production was rising. It is quite possible that Indian entrepreneurs were reading the international situation rightly and expecting a major war to erupt that could cut off imports and enable domestic production to get a regular and steady market and profits a good chance.

But even so the production of chemicals was on a limited scale and confined to only a few basic chemicals.



The handsome young Bridegroom,
Champraj Chatrabhuj Shroff.

2

Champraj C. Shroff: The Daring Innovator

With the setting up of Excel in the buffalo-shed in Jogeshwari C. C. was finally seriously in business.

The war was now two years old and slowly getting into full swing. A ravenous demand for all kinds of chemicals indigenously produced was becoming increasingly evident day by day. Imports were just unthinkable. C. C., in the circumstances, was just what the market needed. And he was ready to rise to the occasion.

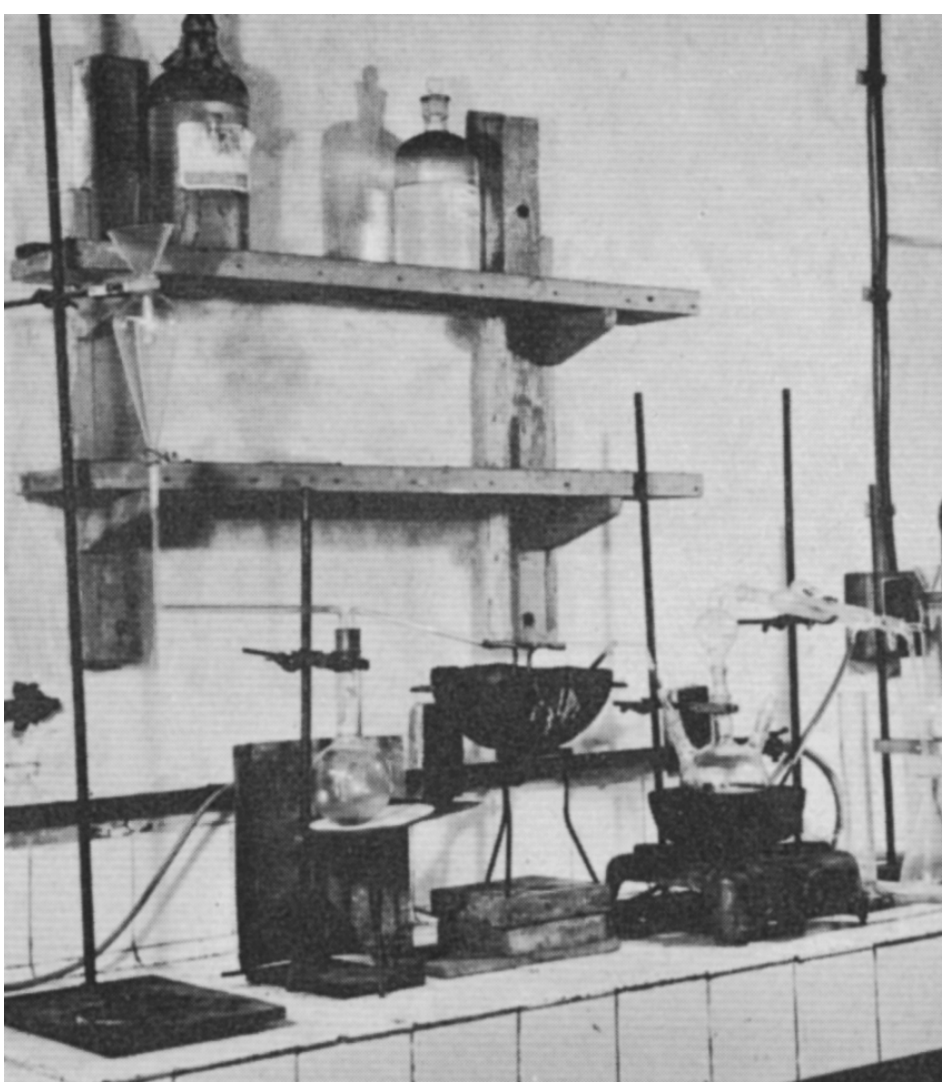
In the years between graduation in 1930 to 1941 when he finally decided to stake out on his own, C. C. had been working in his kitchen laboratory on ways to synthesise new products. The knowledge gained was only waiting to be put into effect. The chance had finally come and C. C. was ready.

The point to remember is that C. C. was not a chemical engineer. The "engineering" part of the production had to be learnt slowly and painfully. C. C. constantly improvised, in part because again getting equipment from abroad was not possible or possible only at great cost and considerable risk.

But C. C.'s ambition was unlimited. He would pore over books dealing with his subject and seek methods for import-substitution. According to Kantisen the first "fabrication shop" – if it could be called that – did not cost C. C. more than about twenty rupees! He went shopping at Bombay's stores selling scrap and bought bath tubs for use as vessels and reactors. One of his early buys was a ship's pressure tank from which a boiler was fashioned. He obtained old wooden tubs and had them covered with cement to be used for storing liquids. At some later stage he managed to get a 2" x 14" glass tube to work out a reaction between mercury and chlorine. To set up another sort of reaction he bought a silica tube of 4" diameter and a gutter pipe of 9" diameter. The purchases sound crazy, but those were the times. Improvisation was the order of the day. And this is where C. C.'s experimentation in his kitchen laboratory paid off handsomely. He had worked out the art of the possible.

The first product developed by Excel was zinc chloride, an outcome of converting waste zinc from the brass industry into a saleable product. It turned out to be profitable.

C. C.'s ambition was to turn waste material into saleable products, a philosophy that his youngest brother Kantisen was to imbibe and execute in subsequent years. One such waste material was film rolls that the industry wanted to dispose off. Studios were happy to pay any one willing to take them away. C. C. cheerfully undertook the task. Out of this waste film he recovered silver nitrate and celluloid. And from celluloid he managed



Improvisation at its best and a kitchen laboratory served to see many a breakthrough!

to make bangle rolls and quietly passed on the technique to small-scale entrepreneurs at no price. C. C. was interested not in making money but in spreading knowledge.

Behind his radical approach and over-simplification in the choice of equipment lay his great and instinctive knowledge of the strength of materials. Time and again he was to prove that it was not the machine but the man behind the machine who was important in the production of chemicals.

Whether one looked at the improvised equipment that produced so many processes or at the men behind them – ordinary, simple folk, often unlettered, many of them without any experience of industry, let alone of having worked with hazardous chemicals – C. C. was successful in picking up the gauntlet and developing processes within a very short time.

He had worked out a system that never failed him. From surveying available literature on a chemical process to laboratory experimentation to pilot plant production often took no more than three months. During this time he had to work out material fabrication, availability of raw material and production costs. Nevertheless it was not to be a one-man show, for C. C.'s mastery lay in team-building and nurturing team spirit to bring forth the creative ability of his team-mates

When C. C. first set up his Jogeshwari plant he had barely seven people as his employees or co-workers, none of them any better qualified than the boss himself. And if one takes into account the rudimentary equipment C. C. had managed to get (iron pans of different sizes, wooden tubs coated with cement, clay pipes!) one wonders at this man's courage of conviction and sheer audacity. There was family support. Thus Kantisen joined him in the mid-1943 and started staying on site from 1944 onwards. Govindji who was working at the Stock Exchange joined him at the beginning of 1945, to look after the business end of production.

And then there was his mother, Gokiben. Hers turned out to be an all-pervading presence. She was at the plant site, looking after cleanliness. Nothing was allowed to be thrown away. Used cotton waste was cleaned, then recycled. She saw to it that the workers had the right kind of clothes, that they got proper rest and tea at regular intervals. She prepared food for them and everyone ate together; there were no caste or religious distinctions. That made for a team spirit that was to become the hallmark of Excel.

C. C. revelled in the process of creating new products. His role model was the Swedish chemist Alfred Nobel who defied many traumatic accidents before he finally succeeded in making tri-nitro-toluene (TNT) the deadly explosive. (Incidentally, during the Quit India movement of 1942 C. C. put to use his knowledge of explosives to supply hand-grenades to revolutionaries, without

Raoji, Gangaram, Vishnu, Chhaya, Chandubhai, Manubhai, Vithal Sambhu and Amrutbhai Lad. (L to R)
Team-building at its best! C.C. Shroff's 'team-mates', in many an early enterprise at Excel.

Kumar Chemicals — The Toy Manufacturing Team. The little protectors seen around the Toys are Chetna, Ashwin and Atul Shroff (L to R).

being suspected of such dangerous and subversive activities).

C. C. was not scared of highly hazardous chemicals even when he had no first hand experience of handling them. Nor was he bothered at the complexity of the manufacturing processes. In fact he derived immense pleasure from creating those very complex chemicals with his limited resources. There are several incidents to illustrate this.

Once Excel received a large order for Ethyl Acetate, a highly inflammable chemical. At that time Excel had neither the required boiler nor a coal-fired furnace. Even the staff he had recruited was relatively new. It called for tremendous courage and patience to produce this chemical. A number of times it was only the vigilance of the untrained staff that saved them from possible accidents. It was a fine example of the calculated risk-taking ability that C. C. frequently practiced.

One industry that C. C. helped develop was the plastic chips industry. Once when he was visiting a West German chemical factory he expressed a desire to see their Phosphorus plant. The Germans were unwilling to disclose their technology for making Phosphorus trichloride but offered to show him their Plastic Division, instead. There he saw a plastic which was stronger than steel. Returning to India he pioneered the use of this material in furniture. This plastic was used as a substitute to the costly cane that was being imported from Singapore. This was on par with the setting up of Kumar Chemicals to produce toys.

Then there was the time when one of his friends had purchased 1,500 kgs of iodine at government auction. The whole lot was in a pathetic condition. The containers were in bad shape, some were broken and some others had gone rusty. Such was the stench that it was almost impossible to walk into the godown. At that point the friend had resigned himself to the thought that he had made a bad investment.

But C. C. however was not one to accept defeat – even if it was someone else's defeat. He liked challenges. In this instance the first task he was confronted with was to clear the godown. It was too hot in the day time to undertake the task. So he sent his men in the night time when the temperature was lower. There were no masks available. So C. C. told his men to tie wet towels round their faces which proved to be quite effective. In the circumstances the chemicals were saved and put to good use.

It was the same ingenuity that C. C. showed in the manufacture of Titanium Tetrachloride smoke-screen for the Indian Air Force.

Ferric Chloride was a chemical made through a highly complicated process only in Germany at that time. It once became a shortage item for Lever Brothers who

sought C. C.'s help. He made it in short order with the most rudimentary equipment that he could put together.

Again C. C. alone had the courage to prepare in a few weeks the highly polluting and hazardous Phosphoric Acid in a simple reactor, then needed by ICI (India). C. C. first bought some Red Phosphorus and commenced his experiments in his laboratory. Soon thereafter he set up a small plant to produce Phosphoric Acid of the required quality. ICI was so impressed that it came back with a request to manufacture some of the organo-mercurial compounds. That request, too, was complied with within a few months.

Bayer, the world-renowned German company, wanted to produce some of its raw materials in India. They approached Excel with a proposal for the same. Immediately Kantisen flew to Germany for negotiations. There was instant agreement on technical matters but Bayer's legal experts took months to ratify the agreement. Meanwhile C. C. had already started working on the project and had finished his research on a laboratory-scale plant.

Then suddenly, in February 1962, the local Manager of Bayer called up saying that he had run out of the stock of these very critical raw materials, and can C. C. help? Of course he could. In less time than even the Bayer Manager could think of, C. C. had the products ready for delivery that would last the company an entire season. To the Manager this was a near miracle that C. C. had worked and he became a virtual devotee of Excel and its Miracle-Maker!

About the same time, StanVac Refinery at Trombay realised that the crude available with it contained high levels of Sulfur. Further, they had stocks of only five to six days of the chemical used to remove this excess Sulfur from the crude. Although the material required was no more than 45 kgs per day, the problem was that no one manufactured it in India. Since it was impossible to import the material at such short notice, it appeared that the Refinery may have to close down. It was at this point that StanVac permitted their engineers to approach C. C. for help. Can he produce the necessary chemical in adequate amounts within a specified time? Of course he could. And what is more, C. C. produced StanVac's requirement in four days flat, setting aside all other work, leaving StanVac's Manager stunned in disbelief. What is more, C. C. refused to accept one penny more than the price of the imported material. His reasoning was simple: "Excel does not wish to project any impression that denigrates Indian technical expertise in the eyes of foreigners"!

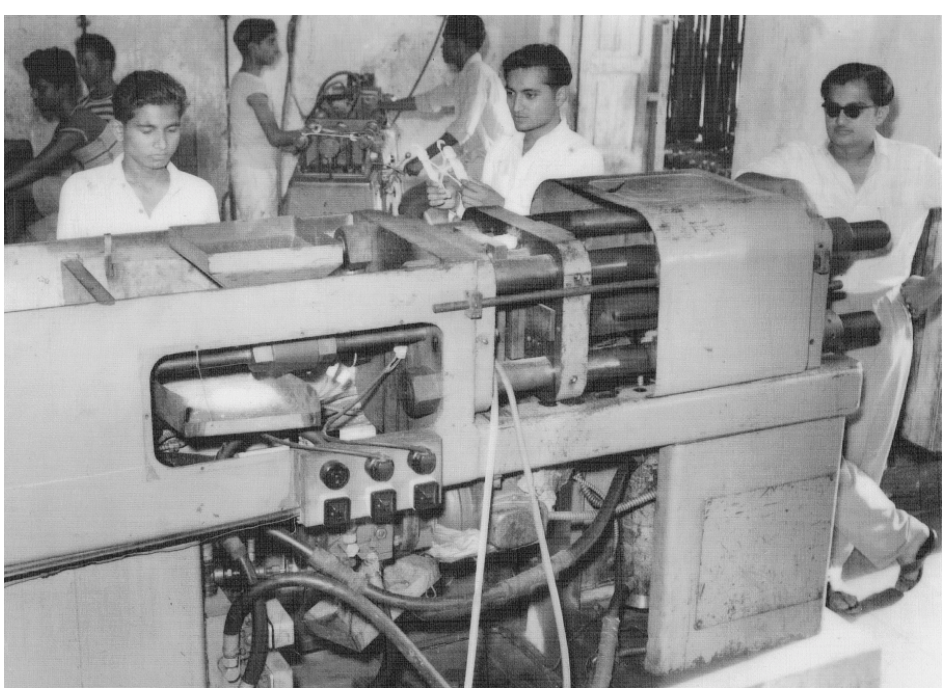
There were some who said that C. C. had no business acumen and it was plain silly on his part not to have charged StanVac a neat packet when it was in such urgent need of a particular product. But C. C. was not upset. All he would say was: "Industry and Business do not survive on profit alone. They need the goodwill of the people more than the profit".

Right from 1935-36 it was C. C.'s dream to make Camphor in India. He had experimented with recovering Camphor from film waste having first recovered silver from it. In the process he had discovered the process of making bangles!

In 1957-58 when spectacle frames began to be manufactured in India he started recovering Camphor from waste celluloid. But even this process did not entirely satisfy him. It was about then that one of his friends in the industry wanted to import Camphin. It is possible to recover Camphor from Camphin following a 4-stage process. Although there are plenty of trees in India from which it is possible to produce Camphor and Menthol, it was the lack of high-pressure, high-temperature reactors which prevented the Indians from doing so.

At this point C. C. decided to go to the very root of the problem. He asked a very basic question: "What do we need, really? Why do we require high temperature and pressure for the production of this material?" And he proceeded to work out a plan that eliminated these two factors. In due course he did manufacture substantial quantities of Camphor but when another industrialist set up a very large plant to serve just this one purpose, C. C. set his sights elsewhere.

In 1967 C. C. was attending a science conference. Among the delegates was the representative of a German company that manufactured Aluminium Phosphide. Now Aluminium Phosphide is a very important insecticide for protecting grain stored in godowns and at that time this German company was the only one in the entire world that was producing and marketing it. C. C. expressed a desire to



The manufacture of plastic toys and S. D. Shroff supervising the operations and Keshavbhai diligently working at the machine.

manufacture it in India, but when the German heard of it, he laughed off the idea as ridiculous. He asked C. C. how he proposed to make it in India when even other developed countries with their latest technology and equipment were unable to make it.

For C. C. that sounded extremely offensive to his national pride. If Germany could make the product, he thought to himself, why couldn't India? It was not that he was unaware of the hazards that were involved in the making of the product. For, in addition to the hazardous nature of Phosphorus, Aluminium and Phosphorus together created even greater hazards. But C. C. decided he would teach Germans a lesson and he went to work on it with demonic zeal. And he would not let go until he had mastered the process. The result was that within three months on his returning to home base C. C., to the astonishment not only of the Germans but the rest of the world, could make Aluminium Phosphide and offer it to consumers, under the Excel brand name of Celphos. Today all the godowns where the government stores grain it is Celphos that is in use. What is more, C. C. made available Celphos at Rs. 50 per kilo when the government itself was willing to pay Rs. 110 per kg. for it. For C. C. it was a matter of national pride that he could beat the Germans at their own game and offer their product at half their price. He was not after money *per se*. For, he said "Yes I could have got the price, but would have lost my value". When it came to asserting national pride, C. C. was unstoppable. And in any event he was not losing money either. Celphos brought in a neat profit.

The Phosphorus plant of Knapsack (Germany) was considered to be the biggest in the continent. And when Excel proposed to manufacture Phosphorus the Germans thought it was quite an interesting idea. "Where will you use Phosphorus?" they wanted to know. C. C. said that he wanted to use it for making Phosphoric Acid. The Germans grunted. "Good!" they said. Then C. C. added: "We also wish to make Phosphorus Trichloride". At that point the Germans pointed out to him that these were very hazardous chemicals. But when they came to realise that Excel was already making Sulfur Dioxide and Chlorine compounds, their jaws dropped. "Oh well!" they said, "If you are already making these chemicals, then making Phosphoric Acid will be the child's play for you."

The tomboy Renuka riding her father's 'wonder plane'. C. C. Shroff designed and built his own helicopter in the year 1957.

Child's play or not, Excel manufactured it.

So great was the respect in which C. C. was held across the length and breadth of Europe that when he requested Mr. Albright Wilson for seeing his Tricrycyl Phosphate plant in the U. K. he told his assistant: "Mr. Shroff has X-ray eyes. Whether you show him around or not, he is going to make his own evaluation. So we might as well show him what we have got!" Initially, the company had refused C. C. permission to see the plant. But the company's Board President knew better.

Excel's facility with the manufacture of totally diverse and difficult chemicals frequently amazed foreigners. A senior scientist of Lonza (Switzerland) known for manufacturing Hydrocyanide was surprised at the courage of Excel to manufacture Oxalic Acid involving the use of Nitric Acid and handling of Nitrous Oxide and Nitrous Di-oxide.

In the mid-fifties, the Government of India banned the export of mercury and mercury salts which had a heavy demand in the United Kingdom. To overcome this problem C. C. opened a factory in the U. K. to manufacture mercury salts.

The process of making Mercury Chloride developed by him within two months in 1952 was perhaps the simplest and cheapest the world over. The equipment, too, was very simple. The giants in the United Kingdom laughed at this whole affair. They must have also been intrigued by the fact that the man who was running the Excel factory in England was a man who could not speak a word of English – a man whom C. C. had trained to perfection, by name Manchhu. Obviously C. C. was not only proving that he could make a chemical product better and cheaper than any one could do in England, he was also entrusting the task to a man who, by British standards, was illiterate!

At first the giants did not take C. C. seriously. But when they found the market flooded with quality goods from this sticky Indian, they decided to crush him through a price war.

C. C.'s intention when he went to the United Kingdom never was to make profits. His sole motive was to prove that Indians were capable of not only developing but also running industries and businesses in a fiercest competitive market.

To prove his point he matched his price with that of his competitors. They finally had to accept defeat and were then won over when they saw the simple but efficient method that C. C. was following. Towards the end of three years C. C. decided to sell off his establishment to a party which continued to pay Excel a royalty for ten years.

C. C.'s success lay not so much in his having X-ray eyes, as one British industrialist had noted, but in having a brilliantly analytical mind that could reduce any complexity to a series of simple steps. Some of the processes which he picked up were a result of just two to three hours of a visit to a factory.

C. C. had another virtue: he would teach – and encourage – his staffers too to think along the lines he had perfected. Thus, his daughter Renu picked up the process of manufacturing Hydrocyanide in a mere two days, while on a visit to Switzerland.

Renu was an extremely bright and intelligent child. It has been said by many who knew her that in many of the breakthroughs that Excel had achieved, she had played a pivotal role. C. C.'s dream was that he would always have Renu beside him in his work. But the Gods willed otherwise. Ill-luck struck her within a week of her marriage and she came down with meningitis. Within two days she was no more. C. C. was shell-shocked but soon recovered his poise, saying: "The Gods must have willed for me to become a pure scientist, free of all other attachments. Perhaps that is why they took Renu away from me."

It was in deference to Renu's desire that science must be used for the good of the common man that C. C. involved himself more and more in that sphere. He shifted his attention to agro-chemicals and hydroponics, the art of producing flora without using up precious land. For these efforts Excel was to get the P. C. Ray Awards from the Indian Chemical Manufacturers Association (ICMA), for developing products and processes essentially on indigenous know-how and effort.

He successfully grew a Gulmohar tree on a 3 ft table which, when fully grown, occupied just the limited space of that table! He also conducted successful experiments of growing watermelons, corn and several other vegetables and flowers in his house. He also developed various fertilisers for this purpose. The balcony of his house and the ground of Excel, Goregaon were his laboratories for conducting these kinds of experiments. One of the major reasons why he concentrated his energies on this topic was the extreme congestion in Bombay city and the desire to tap the abundant solar energy which India is blessed with. Today, Excel has a range of agro-chemicals which protect crops right from the sowing stage to the ultimate storage in godowns.

C. C. may have been indulging in a hobby, or he may have been trying to fulfil some of his daughter's own dreams, but he turned even his hobbies into practical purposes. C. C. was clearly a man with a mission.

First and foremost he hated waste, in whatever form, whether it was zinc powder used in metal work or celluloid waste in film studios. He must have thought: why should terrace space be wasted when it could be put to productive use? Long after he was gone the Shroffs continued with his work – but on a different level. But C. C. undoubtedly was the inspiration. As the family saw it, biology has many answers in store for the pollution and toxicity problems generated in the manufacture of chemicals. Experiments carried out by, of all the people the NASA scientists, using the osmosis theory of plants, through the help of the water hyacinth, for the recovery of various toxic metals, encouraged the Shroffs to probe in this direction for an answer. And so they started looking to the plant kingdom for means to soothe the ever louder cry against pollution.

As they saw it, plants gave out oxygen, food, increased humidity. They absorbed air pollutants, detected noxious gases, prevented soil erosion, filtered water, acted as wind-breakers and selectively absorbed various chemical substances from the soil.

As the family spokesmen reported: "We are testing this theory in our one-acre laboratory at our Amboli factory. A laboratory that is directly on the soil and open to sun, wind and rain. Over the past three years, we have tried our pollutants both solid and liquid, on a number of species from trees of large and small crowns, through shrubs and plants of edible and non-edible oils, vegetables, fibres, cereals. The aquatic variety of

C. C. Shroff's Hydroponic Experiments at Excel, Amboli – Started as a hobby but was soon to be converted into practical solutions towards the needs of Indian agriculture.

Soft and serene Renuka, the pride and joy of C. C. Shroff. His daughter and companion in Science and Technology.

'Lemna gibba' (duck-weed) has also been tried. Just as many of the species have thrived and survived, so also many have withered and died.

"We have used effluent in liquid form as irrigation and pesticide and in solid form as soil and fertiliser. Cultivation is done in PVC bags so as to prevent seepage of the effluent. This also helps to retain 'nutrients' for the plant to feed on. To note the changes in the soil flora and structure, periodic analysis is done. There is no significant change in the soil structure of the experimental plot."

The results of these experiments far exceeded the expectations of the family. Better fruits and flowers in greater numbers and quality were obtained. A report in Excel's House Journal noted as follows:

"*Citronella* cultivation on effluent water with high C.O.D. value (5000 ppm) gave startling results. The plant is cut for oil extraction. The life cycle of the crop normally allows four cuts to be made. In the experimental crop, seven cuts were made. From one acre of *citronella* grown on ordinary water, 100 kgs of oil was obtained. Whereas the plants irrigated with effluent water gave 165 kgs of oil, resulting in an increase of Rs. 2,600 per acre. (Crude oil fetches Rs. 40 per kg.).

"*Carica papaya* takes a year and a half to grow to fruit in north India and one year for fruiting in the peninsular region. The vegetative phase in our experimental plot shortened to 11 months, with early fruiting of the variety. Double-blind trials (cross-checking in the layman's language) is still to be done in order to reach some conclusions.

"Justus von Liebig, one of the greatest German scientists said a hundred years ago that a time will come when the field and plants will be fertilised with waste substances that are produced in our factories. The time now seems to have come".

And this was written in 1979.

If C. C.'s dreams were grand, his feet were firmly planted on the ground and his eyes were always on his poor brethren. A strong belief in God led him to believe that there is no essential difference between science and religion. If God is everywhere, he argued, then surely, He must preside in Science as well? He felt strongly that to belittle Science is to belittle God. This thought continued to pervade in Excel's everyday life to this day, be it the pump-house superintendent Vazir Khan or the man who is in charge of growing fodder for the cattle at Excel's Bhavnagar plant.

The entire Excel family used to call C. C. "Pappa". This title reflected not only their love for him but also the father-image he projected for one and all in Excel. His self-confidence was contagious: it filled everyone with the enthusiasm to face the future, no matter what challenges it held for them. His definition of a successful manager-leader was: "A person who can train his subordinates so well that his own presence becomes redundant, so that he can concentrate on treading new paths". He was in a great measure the very personification of such a leader-manager to the point that even without his living presence, Excel has progressed from one success to another.

C. C.'s honesty, too, was legendary. Excel could always get import licences for its requirements on the weight of its own prestige. But C. C. never misused this facility. In an age when people would be ready and willing to cut throats to obtain these licences, C. C. actually surrendered those licences which he found to be in excess of his genuine requirements.

Life, it is said, is a sum of its various elements. Greatness lies in making the sum greater than the whole of its parts. There is a phrase for it in English. The man who started his venture in a kitchen laboratory went on to take giant strides in the world of chemical industry. It may be argued that

Many an award for Import Substitution from the Govt. of India, and for Innovation in Technology from ICMA! A Tribute to C. C. Shroff and his dedication to Technological Excellence.

he was the right man at the right time, considering that with the dawn of independence the demand for chemicals was bound to increase by leaps and bounds. That could well be so. But C. C. – not some one else – was right there on the spot, ever willing to try out the old and try in the new. He invented and produced many import-substitution chemicals for the first time, as no one else did. Some of his invention have made history, as they were made for the first time in the world.

His motto was: "If it can be made abroad, why cannot we make it here in India?" Without boasting, he could say, in a matter-of-fact way: "You name it, we will make it!" – and nobody would have had the courage to challenge it. People, especially in the industry, knew that this was no boast but a bare fact of life.

The extent of his ambition was not limited to any one particular field. More importantly, he was not a vain man, contemptuous of knowledge that could be garnered from abroad. He studied anything at hand, whether it was a book or just Nature. His only insistence was that if something could be done in India, one should avail of it. If something was available in India that should be availed of and not imported. He laid heavy stress on use Indian, buy Indian and make Indian. Gandhi would have been proud of him.

His views were often unorthodox. As in the matter of plant breeding. He would say: "If your ambition is to reach the sky, why build roofs over plants?" It sounded so natural as to be true! Though he was no stranger to the damage that brute strength and power of his opponents could cause, he was also very confident about his own abilities to take care of any eventuality that might arise.

His views, again, on the size of industries were sometimes out of tune with the views prevalent in his times. He proved conclusively that a large is not a pre-requisite for industrial success. Years after his passing away that is now and only now a lesson painfully learnt. He would say that a large size breeds bureaucracy and complexity in which companies often tend to get mired. Aren't we seeing that as the present government is thinking seriously of disinvestment? His experience at Excel was that the free-wheeling atmosphere tends to encourage innovation and risk-taking which larger units invariably tended to inhibit. If there is one message of his life to be learnt it is that India does not need behemoths in the name of industry. Small is not only beautiful, but profitable, and what is more, productive and cost-effective. As C. C. saw it even in the fifties and sixties, that instead of putting up a few giant fertiliser units, India should set up a multitude of small units catering to the requirements of the agricultural sector so that the demand of the sector can be met and enough employment generated, but not *wasted*, to ensure a greater absorption of the working class in the Indian economy. Excel's success proved it beyond doubt.

It is interesting and educative to remember the note he wrote for the very first issue of the *Excel House Journal* (Vol. 1, No. 1, 1967), edited, incidentally, by his younger brother Kantisen. He said in what was described as "Message from the Managing Director":

"Purposeful communication plays a vital role in the modern world, and *Excel*, the house magazine of Excel Industries Ltd., has been launched to share with our readers thoughts on aspects of national development in which we at Excel are involved.

"The country's progress depends to a large extent on the strides made towards self-reliance and self-sufficiency. The tendency to rely excessively on foreign know-how can defeat its own purpose in the long run.

"In the process of doing things by oneself, without outside help, one learns a lot; very often this yields faster results. And this helps to bridge the gap between knowledge and action.

"We in Excel have striven to contribute to the country's industrial development by utilising local talent and resources. *Excel* will highlight significant advances in this exciting endeavour.

"The success of any industrial enterprise depends not merely on the application of scientific knowledge and the development of technical expertise, but also on the attention paid to the human factors involved. A congenial atmosphere in which creative thinking and constructive efforts are encouraged can make many a hidden talent blossom.

"The urge to innovate and seek fresh pastures comes naturally in such an atmosphere which we in Excel have sought

C. C. Shroff with his co-workers.

to create. Our House Bulletin will, therefore, emphasise the human angle.

"It is on the dedicated work of the enthusiastic band of talented chemists and technologists that the achievements of Excel Industries Ltd. are primarily based.

"The Excel experience has shown that the natural enthusiasm for creative endeavour can be harnessed to progress, if the task is worthwhile and direction given to collective effort.

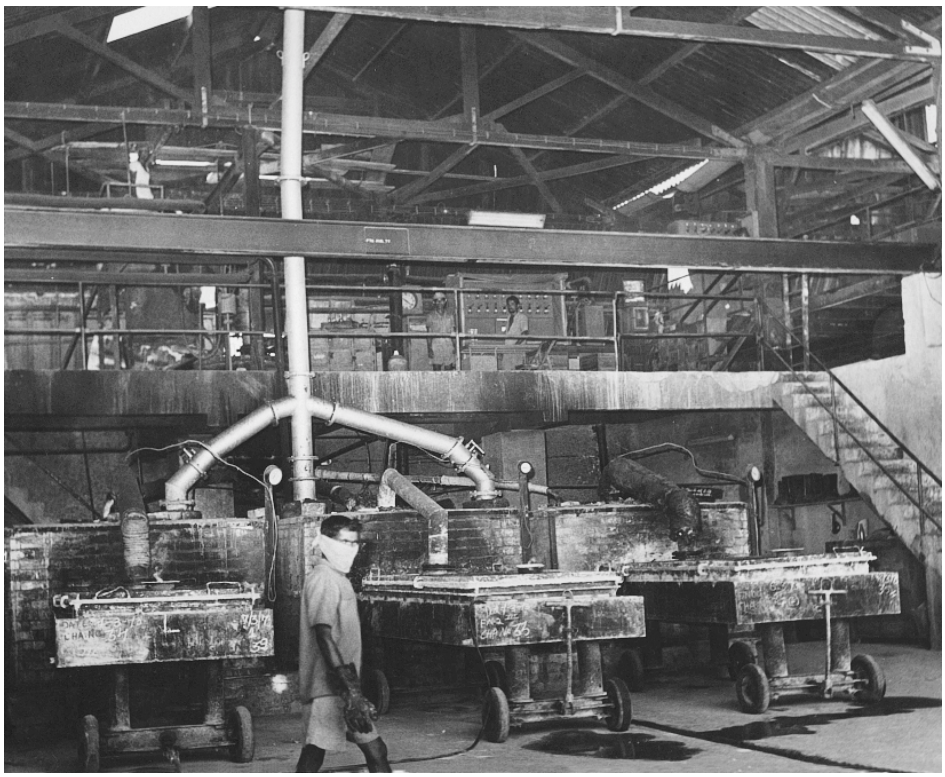
"The self-confidence that is generated thereby makes it possible to face any challenge with knowledge and ability. The success of working team, however, depends considerably on effective leadership by those endowed with a clear vision and the ability to inspire others to purposeful action.

"India today is awakening to the realities of economic development and industrial progress. The will to forge ahead is very much in evidence. Innate talent is in abundance, too. Yet, if India's present state leaves much to be desired, it is due to the lack of self-confidence to overcome the country's myriad problems through our own efforts and resources.

"After all, success comes to those who dare and act, we shall be masters of our own destiny.

"Excel Industries are committed to this objective and our House Bulletin will reflect the spirit behind it".

That is the entire message. It is reproduced in full to make a couple of points. Let it be remembered that it is a message from the Managing Director. But the observant would notice one peculiar fact. The word "I" is nowhere to be found in the 405 words that constitute the Message which must be considered something of a record! C. C. would have been entirely in order to speak of himself in the first person singular. But that was not his way nor has it been of his successors. He put stress on team-spirit, on self-reliance, on learning from experience, on the application of scientific knowledge and the development of technical expertise, on the need to humanise all activity, on the urge to innovate and develop a will to forge ahead and on the importance of daring. But not once was C. C. claiming any of these virtues as his own.



Phosphorus Pentasulphide plant at Amboli site.

It was Jawaharlal Nehru who once said that "Success often comes to those who dare and act, it seldom comes to the timid". Nehru was careful. He did not say that success will *always* come to those who dare and act. He said it *often* comes. And he was so right. Success *often* comes to Excel because it dared and because it acted on its daring. It could count failures on its fingertips.

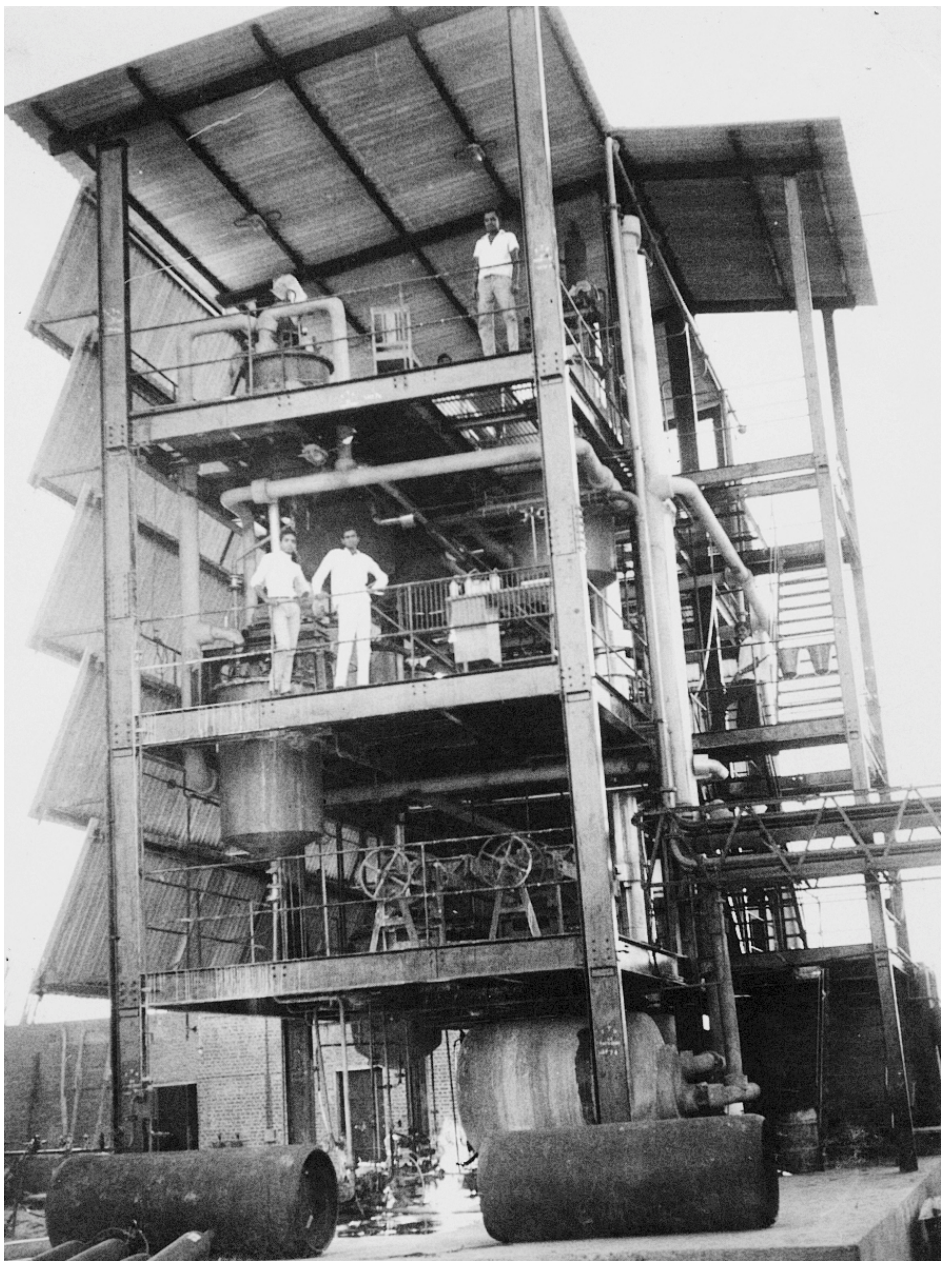
And because it dared, Excel men often got awards too. The First House Bulletin makes mention of R. D. Shroff who was then in charge of Excel's Amboli plant, and who became one of fifty Indian scientists and technologists who received awards for inventions on Independence Day 1967. The award was given to Mr. Shroff by the Inventions Promotion Board of the Ministry of Industrial Development and Company Affairs in recognition of developing a new process for the manufacture of Calcium Phosphide.

Calcium Phosphide is used by the Navy as a flare and is invaluable in Naval Operations. Till Excel started manufacturing it, Calcium Phosphide used to be imported at great expense. Even this was stopped after Indo-Pakistan War. At this point the Indian Navy requested Excel to find ways of manufacturing Calcium Phosphide in India itself. Excel, as usual, rose to the occasion. Now the entire requirements of Calcium Phosphide are met by Excel.

That same year Excel excelled in another department. A new unit for the manufacture of Phosphorus Penta-sulphide, designed and fabricated *entirely* by Excel engineers, was inaugurated by Dr. Patel of Cynamide India Ltd., the semi-automatic unit having a production capacity of 600 kgs per hour.

The design of the equipment involved the utmost care in view of the hazardous nature of the product. The equipment incorporated many safety features. The entire unit was fabricated and erected in a record time of just 40 days, thanks to the unremitting zeal of Excel engineers. Incidentally such records were frequently to be broken in subsequent years as well!

Phosphorus Pentasulphide is an important intermediate in the manufacture of organo-Phosphorus pesticides, such as Malathion manufactured by Cynamide India Ltd. and Rogor



The Malathion plant at Amboli site.

(Dimethoate) manufactured by Tata Fison Industries Ltd. From 1967 onwards Excel could make the intermediate for both.

Malathion is highly valued as a pesticide which is very effective and at the same time is safe to handle. Rogor is a systemic pesticide which spreads through the whole system of the plant, beginning with the roots. By making available the important chemical needed in the manufacture of these two pesticides, Excel helped to increase the country's agricultural production.

Mention is often made of indigenous fabrication of machinery and plants by Excel engineers. Many have gone unnamed. But in 1967 Excel could speak of a highly-valued young man, then barely 32, who had shown a remarkable talent for machine-designing by the time he was barely 20 and had been named Excel's Chief Design Engineer.

His name? Amrutlal Lad.

By 1967 Lad had built a well-knit team of talented engineers who were equal to any challenge in designing and then fabricating a wide range of machines. They included fluid energy mills, thin film evaporators and complete plants for manufacturing a variety of pesticides and organic chemicals.

It was Lad and his dedicated team that was successful in the fabrication and erection of the Phosphoric Acid plant, the design of which had to incorporate many ingenious features to control the flow of white Phosphorus, electrochemical plants, air liquifaction units etc.

The significant part of the story is that Lad had joined Excel as a student apprentice when he was only 14. He continued to pursue his studies and matriculated two years later. Instead of going to college, he preferred to remain with Excel as a full-time laboratory assistant.

However, it soon became apparent that his real talents lay in engineering and he switched over to the workshop and soon acquired high technical skills.

In 1956 Lad met with an unfortunate accident – a large quantity of Sulfuric Acid fell on him and badly burnt his legs. He was confined to bed for several months. But even in severe pain, his energy never flagged; he started studying radio and electronics. Lying flat on his back – the only posture permitted him by his doctors – Lad began to repair old radios! All this gave him a good opportunity to acquire theoretical knowledge and insight into instrumentation which later was to prove of great help in his field.

What needs to be remembered is that Lad's talents were fully matched by Excel's faith in him.

The year 1967 is important for Excel for another reason. That year it instituted for the first time its Vishwakarma Awards that were to become an annual feature in subsequent years.

It was on 15 August 1967 in the festive atmosphere of Independence Day that several Excel employees received the Award for outstanding performance in their work. The proud recipients of the Awards were drawn from most of the departments of the factories as well as office. On that occasion, C. C. as Managing Director hoisted the National Flag. The actual presentation of the Awards was preceded by a ceremonial parade presented by the children of the

Company's employees at the Excel Estate in Goregaon, Bombay.

The first issue of *Excel House Bulletin* is remembered for the statement of the Company's philosophy which is that small industrial units are indeed the answer to India's industrial development. That statement is self-explanatory. It said:

"In furthering the country's industrial development, the Government has undertaken huge projects, involving big capital outlay and dependence on foreign assistance and know-how.

"This emphasis on bigness is not always conducive to wholesome progress. For one thing, the construction and operation of big plants calls for a high degree of technical expertise and much experience. India, having made a rather late start in large-scale industrialisation, has necessarily to seek outside help for putting up such plants, till we become self-reliant. But the quickest way to become self-reliant is to make the best possible use of the know-how, talent and resources we already have, before we start exploring avenues of foreign assistance.

"Fertiliser production is a case in point.

"Large plants have been established with international collaboration in the Public Sector. While there is nothing inherently wrong with big plants as such, fertiliser production can be geared more effectively to the country's requirements and resources, if small and medium-size plants are established by our own efforts, instead of big ones with outside help.

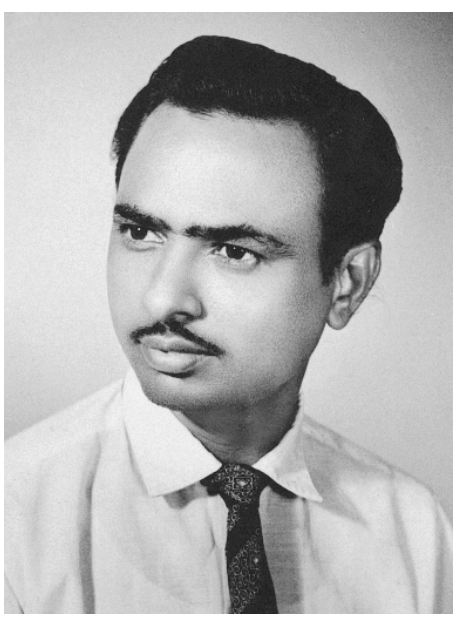
"Besides, small and medium-size plants spread over the country will help overcome the transport bottleneck. Thereby fertiliser can be distributed speedily at lower cost.

"The key factor in manufacturing the much-needed nitrogenous fertilisers is ammonia production. About 15 years ago, ammonia plants of 10 to 50 tonnes capacity were commonly built abroad and the trend to build much bigger plants developed later.

"Plants of smaller capacities can be erected soon, without our having to negotiate with foreign firms. Hence they are ideally suited to the prevailing conditions in India.

"Plants capable of handling two tonnes of oxygen and eight tonnes of nitrogen are easily available at a moderate cost. These can be used, with some modifications, to make ten tonnes of ammonia per day. Such plants will cost about ten lakh rupees.

"Using naphtha as the main raw material, ammonia can be produced at a cost of less than Rs. 350 per tonne, taking into account depreciation etc. Taking all factors into consideration, this is more economical than what can be achieved with big plants in India. In advanced countries, however, 1000 tonne plants are now favoured as they can operate more economically in the conditions obtaining there.



Amrutlal Lad, plant designing par excellence.

"Considering the present stage of technological and economic development, and the problems of distribution in India, small and medium-size units have the potential to transform the entire pattern of fertiliser production and distribution to the country's advantage."

C. C. was crying in the wilderness. His words of wisdom went unheeded. India's planners not only were thinking big but they also had in mind units also big. Small is beautiful (and paying) was not part of basic philosophy.

It is interesting to note that C. C. presented a paper at the Twenty-fourth Annual General Meeting of the Indian Chemical Manufacturers Association on much these same lines on 7 March 1965. That paper bears reproduction because of its relevance even today. He said:

"I think that the size of economic plants for India will have to be decided by us under our own conditions and not under those of the highly developed countries.

"If, for example, there is no demand for 5,000 tonnes of Phosphorus and a foreign economic plant of lower capacity is not available, we should not just wait till the demand develops.

"If a fraction of the foreign exchange required by a standard unit of imported design is made available, a Phosphorus furnace can easily be built and the cost of Phosphorus so manufactured will not be higher than the one imported.

"All our plants are of capacities which will be considered uneconomic from international standards but we run them and produce chemicals which we sell in India at a price comparable with imported material.

"To cite a few examples:

"Our Phosphoric Acid plant with a capacity of 3 tonnes a day can, with small modification, be converted to give 7 tonnes per day.

"A plant that has used the best materials of construction with all necessary instrumentation and so designed that minimum manpower is necessary has not cost us more than Rs. 6 lakhs. And this cost includes all services as well.

"Or take the example of our Oxalic Acid plant, which uses the process of Carbohydrate Oxidation with Nitric Acid and has all the arrangement for recovery of nitrous gases which are converted back to Nitric Acid and the process is so economic that these days we are *exporting our Oxalic Acid to England and Belgium*, the countries from which we used to *import* this product.

"We found that even our pilot plant producing 300 kgs per day was an economic unit!

"We are also producing Camphor since 4 years. We use Camphin instead of Pinene, because we find that our turpentine bearing trees are quite poor in Pinene and we concentrated on the difficult part of esterification, hydrolysis

and oxidation steps with recovery of Formic Acid. Here, too, the equipment has been fabricated by us or under our guidance. Costs of the plants are low and yet the product economics are quite sound by international standards.

"I suggest we in India begin thinking independently and in terms of the Indian context. Conditions in our country are different and requirements are smaller than in advanced countries. The demand for various chemicals cannot develop unless the product is available and no foreign collaborator will think of manufacturing them here unless sufficient demand is assured of.

"When we look into the history of the growth of Chemical Industry or any industry as such in any country, we find that each one develops according to its specific needs and conditions.

"American chemical industry was developed the same way. Thirty years ago American chemical plants were not very big – they grew as demand grew, as ability and knowledge to build big-sized plant came, but that does not mean that we must just build big plants like American plants as they are today.

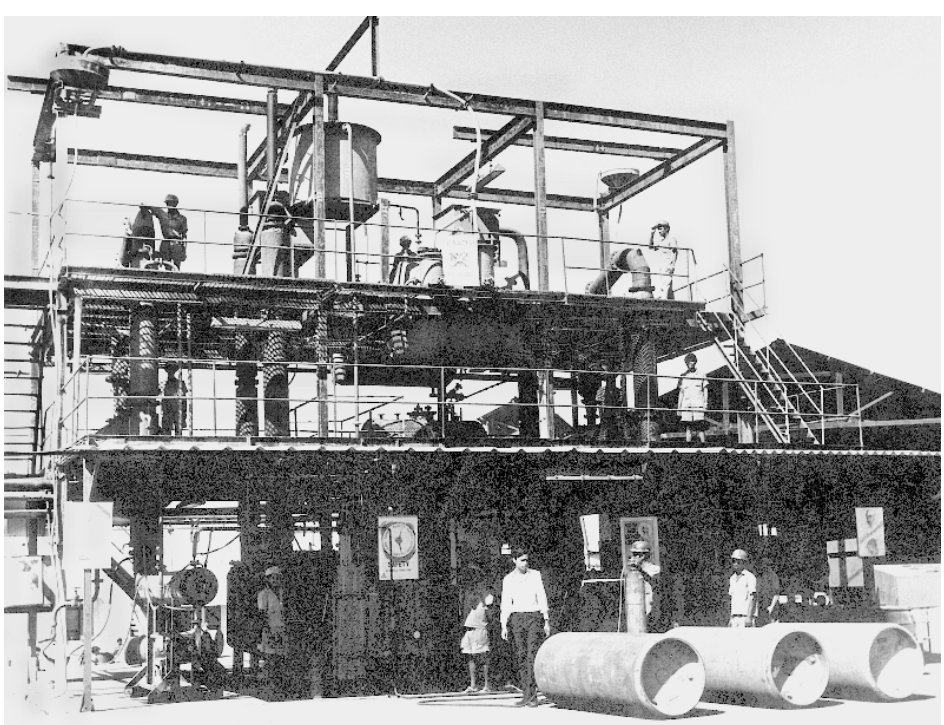
"Japan started in a small way and we have seen plants ranging from half a tonne a day onwards, running fairly well. Yes, today they do build big plants by themselves but after gaining experience on small plants. Their goal is to make their products sell against competition all the world over.

"Can I just say this much? Given an opportunity, I believe, we the Indian scientists and engineers can certainly solve quite a few of our problems of production of new chemicals.

"We may perhaps make some mistakes but that would be quite inexpensive compared to all the foreign exchange drain that we experience these days.

"You might have gone through the papers read at the recent Tehran Conference on development of petrochemicals. The papers read by the Japanese and the Italian delegates can certainly give us quite some food for thought. The same way when we look at the development work at Laq France, we have to conclude that a criterion for success is the ability to stick through a tough problem.

"We would be happy if the small experience that we have gained in the last 22 years can be utilised for bigger projects and other nation-building activities".



Phosphorus Trichloride plant.

C. C., of course, was being very modest. The experience of 22 tumultuous years can hardly be considered "small" by any reckoning. Excel had made many products of quality in those years, but then what C. C. was out to do was to make a point. And he made it powerfully and effectively.

He was applauded.

Actually he had outlined the work of Excel between 1941 and 1965 in another paper that tells the story as it is.

And this is how he narrated it in person.

"Our first *major project* was Ethyl Acetate, an ester solvent – manufactured for the first time in the country, satisfying all the quality requirements of the trade.

"The process was developed as a result of the demand in the celluloid and lacquer paint industry, together with the requirements of Rexine manufacturers.

"The process was a Batch One – starting with locally available raw materials such as denatured spirit and Acetic Acid. At one stage, advantage was taken of the Calcium Acetate available from the country. All the equipment was of our own design including the distilling and fractionating units. Our efficiency was equal to any attained in batch process.

"Hitherto we have manufactured a wide range of chemicals and it would be superfluous to describe all of them here. I would therefore restrict myself to the more interesting ones.

Chlorine Range

"We were attracted to use the freely available raw material, Chlorine, accompanied with all its hazards. Depending on peculiarities of each product, we went into production of several products. Ease of operation and control, subsequent higher purity products, maximum production, low cost of manufacture together with least space requirements gave us immense impetus and success.

"The products covered under this heading were and are:

"Ferric Chloride, Copper Salts, Tin Chloride, Titanium Tetrachloride, Phosphorus Trichloride, Chlorinated Paraffin, Aluminium Chloride and Ethylene Dichloride.

Mercury Chemicals

"During the Korean War, everyone thought of shortages that might develop. Luckily for India, all of a sudden about 30,000 flasks of Mercury were imported at a very low price. As the war situation became more serious, Government of India, as a precautionary measure, banned the export of Mercury that had come in.

"Meanwhile, the international price began to rise. So it was thought to convert surplus Mercury into chemicals and export them. This gave us an opportunity to start the manufacture of Mercury Chloride and Oxide.

"When dictates of economy and demand prevailed, we had to shed the orthodox, cumbersome procedure of manufacturing of Mercuric Chloride in favour of direct chlorination.

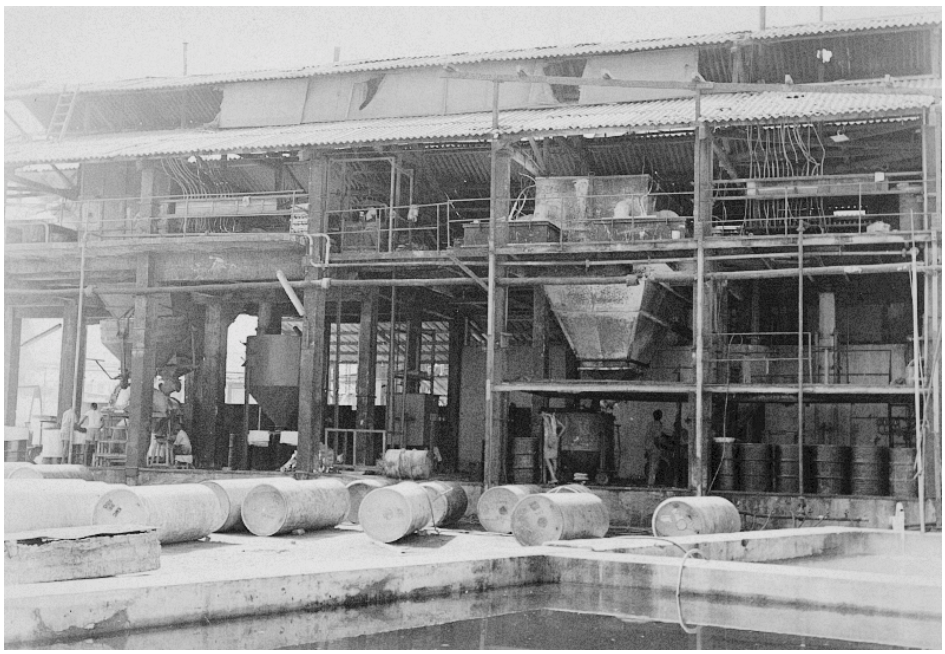
"At this stage the design of the converter and its material of construction were the major hurdles to cross. We, however, worked up a device which, incidentally proved to be a continuous plant. This has helped us to build compact unit, where production could be regulated and quality guaranteed. We have been meeting the growing export and internal demand.

Agricultural Chemicals

"As we were already in Inorganic Mercury Salts, naturally we were approached for agricultural chemicals based on Organo Mercurials. These are very important bases of seed dressings for agriculture.

"We worked out the processes in our laboratory and built the plants ourselves even though the processes are complicated and products very toxic. Initially we had a few difficulties but we overcame them and are now manufacturing a wide range, meeting major portion of India's requirements of agricultural seed dressings.

"StanVac Refinery posed us the problem of the manufacture of pure Sulfur Dioxide required for their oil refining process. The specifications were exacting. This was our first attempt at Liquefaction of gases. The standard procedure gives Sulfur Dioxide largely diluted with Air. Concentration and purification indicated complex equipment together with corrosion problems.



Aluminium Chloride plant.

"We utilised a reaction of Sulfuric Acid with Sulfur to the advantage that Sulfur Dioxide was undiluted – the reaction products being only Sulfur Dioxide and moisture, thus eliminating intermediate stages of the standard process.

"Normally a gas holder design is complicated in case of corrosive gases. We devised a simple gas holder of polythene. The advantages were low cost, no corrosion.

Phosphorus Compounds

"Next in line are the projects for manufacture of Phosphoric Acid from white Phosphorus.

"The normal practice is to utilise Phosphorus produced by the arc process in two stages for conversion to Phosphoric Acid. Initially Phosphorus is converted to Pentoxide and finally absorbed and hydrated to Phosphoric Acid. This involves elaborate equipment and design, complicated and costly. The maintenance and control are also cumbersome.

"Simplification being our aim, we went through the following stages of studies, till our ultimate goal of single stage direct conversion of Phosphorus to Phosphoric Acid was achieved.

1. Studies in handling of this hazardous item and mastering its eccentricities.
2. Design of the burner involving correct spraying values for full oxidation, bearing in mind the corrosion values at the high temperature because of the highly exothermic reaction.
3. Control and transfer of the liquid Phosphorus.
4. Reaction design, with no lining as per normal practice, attending to the high temperatures both due to initial reaction and heat of hydration of Pentoxide.

"After sufficient experimentation we succeeded in designing our present stainless steel reactor.

"And this helped us to give bigger output with high efficiency. The final product is of crystal clarity and of standards comparable to any imported product.

"While handling Phosphorus for Phosphoric Acid we developed methods of controlling Phosphorus reaction. So we entered the field of other Phosphorus chemicals. Phosphorus is a very important basis of new Organo Phosphorus pesticides and we have already started producing very important intermediate for these extremely versatile pest control chemicals and thereby contribute our share to help agriculture.

A Project in Progress

"Now I will mention one more important project on which we have been

working a pilot plant i.e. Methyl Methacrylate, normally known as Acrylic Plastics.

"Our costing shows that once the Trombay Fertiliser Factory is on and Ammonia, Methane and Methanol are supplied at a reasonable price, we can build a fair-sized plant involving a fraction of foreign exchange that others are visualising. In brief this is the process.

"Ammonia and Methane are oxidised to Hen, in a conventional Rhodium Platinum Catalyst bed – conversion on Ammonia being about 70 per cent to 75 per cent.

"Rest of the Ammonia is converted to Ammonium Sulphate and used as a fertiliser. Purified Hen is reacted with Acetone to Acetone Cynohydrin and with Methanol converted to Methyl Methacrylate, which is purified and cast into sheets.

"The big economy is in perfecting the technique of casting. For the past three years, even though we are producing the same in a pilot plant, we are able to compete in price and quality with imported material."

What a story! Reading it one feels it is all so easy. One does this and one does that and it all sounds so simple. But when one realises that all those involved were pure *desi* chemists and engineers and designers who had never been in the field before and were involved in something entirely new in their lives, one stands astounded at their feats.

It was inevitable, in the circumstances, that Excel should win an Award and the first one came its way in January 1965. Named after the distinguished chemist Acharya Prafulla Chandra Ray, and awarded by the Indian Chemical Manufacturers Association, it became the first of many similar awards that Excel received in subsequent years.

Members of the Awards Committee were some of the most distinguished chemists in the country. The Committee consisted of Dr. H. R. Nanji, Shri N. Adhikari, Shri J. H. Doshi, Shri P. D. Nagorwala, Shri M. I. Seth, Shri D. M. Trivedi, Dr. G. P. Kane, Dr. K. Venkataraman and Dr. Chipalkatti.

The citation said:

"The Committee have decided to confer the Sir P. C. RAY Award on your Company for developing products and processes essentially on indigenous know-how and effort. The prime considerations that have impelled the Committee to decide in favour of your Company are as follows:

"Your unit has been a pioneer in producing many chemicals of internationally accepted quality standards for the first time in India and thereby you have shown originality and initiative in manufacturing these items, such as Phosphoric Acid B.P., Oxalic Acid, Aluminium Chloride, Ethylene Dichloride, Organo Mercurials etc. Improvisation characterised by the use of unusual and simple methods based on the most advanced scientific principles has been the special feature of the activities of your unit, and, in doing so, instead of seeking overseas collaboration, you have been earning royalties on some of these processes. Further, most of the equipment required for these products are engineered and fabricated on your own effort and often times in your own works.

"Life is like a game of football. The goal is right in front; there is a wide playground open to you, but your way towards the goal is blocked by eleven tough guys. They are not your enemies. Nor even your opponents. They are your competitors. It is their business to stop you. Yours is to reach the goal. The tougher the competition, the harder the game, the greater the fun. And the victory."

This was the philosophy of C.C. Shroff in life and in work.

"The Committee feel that in conferring the Award, I.C.M.A. shows its appreciation of the pioneering work and initiative shown by your Company and hope that this will serve as an encouragement to other young chemists and chemical engineers".

That was high praise indeed but what is significant, very deserving. Never before had an Indian company used Indian initiative, Indian talent and Indian know-how to such brilliant effect.

C. C. accepted the Award on behalf of his company. In his acceptance speech he said:

"We, in Excel Industries feel honoured at being selected for the Sir P. C. Ray Award. Since it is the first time that such an Award is given, it is a great privilege and responsibility.

"Such Awards are being given in other countries to companies with records of achievements in different chemical fields. Compared with them, our achievements are small but we at Excel Industries will certainly further exert ourselves and strive to achieve results comparable to international standards.

"May I briefly describe how we have been able to develop into what we are today?

"We made a small beginning in 1941. The war was on. Conditions were difficult and all efforts were focussed on defence requirements. It was not easy to obtain either raw materials or plants. So we had to look out for what was available and convert it into what was wanted. For this we had to develop quick laboratory processes and fabricate plants ourselves.

"We selected products that were not manufactured in our country, but for which there was ready demand. Also, potential customers approached us with their requirements. We got used to quick experimental work and construction of flexible plants.

"We gradually increased our technical staff and trained them to work for results independently and with self-confidence. We have now a team of technicians who can handle any problem from the laboratory stage to the completion of the production unit.

"Fabrication of plants was also a problem for many years. There were neither the chemical engineering workshops, nor trained engineers and mechanics to undertake the work. So we had to build our own engineering unit. Today we have a staff of trained engineers, mechanics and draughtsmen and they build our plants faster and at a much lower cost.

"This briefly is how we as a team have been made to manufacture and market

products of a significant range on a self-help basis. We are particularly gratified that in a small way we can contribute to mitigate the pressure on our country's meagre foreign exchange reserve.

"Sir, you have given us the Award in appreciation of the work done by us and encouraged us to put in more effort. We will do our part. I am sure you will extend to us your continued support in our work."

At the end of the thanksgiving speech there was a round of applause. Here was a firm that was breaking new ground. It had developed newer and newer products without even once resorting to loans. Actually, by 1962 Excel had produced over a hundred products most of them for the first time in India.

The Excel staff came from all parts of India and from all communities and educational levels. As Kantisen was later to say: "We feel like saying: Look, here is India, different languages, age, caste, education and yet we all work together because we have an ideal to live by. A country to be built, a service to be given, a standard to be established."

Excel was a model of human excellence.

And it flowed from our bewitching dream. To show that India has the talent and can keep its head high in the comity of nations.

About that time the Shroffs began to entertain not so much as worries as doubts. Excel had come a long way since 1941. Could it go bigger, could it sustain itself with better and more qualified staff? Excel had started with young people who had seen hard days. Would new staff be able to stand up to the rigours of expansion?

Kantisen was later to explain the conflicts that went on in the minds of the family and how they were resolved. As he put it, "But then we felt that every human being will respond to love and respect. Every human being in the final analysis will rather have understanding people around than just numbers. The answer could be found only by trial and error and we thought: why not expand? Workers can be taught. They can be brought into the framework of Excel philosophy of learning by doing. If cricket can be taught, why not medicine or technology? If doctors can be taught to interact with patients, every executive can also be taught to interact with his equals and juniors for better results. We may fail at times, we may take a little longer time to develop happy inter-personal relations, but the effort looked worthwhile".

Mr. John Hewitt, M.D. of Tata Fison Industries on a more recent visit to India. He was instrumental in bringing Excel and Tata Fisons together.

Actually Excel had decided to go in for the manufacture of agro-chemicals almost from 1957. That way, Excel felt, it could render the greatest service to India. It could develop the potential to reach 80 percent of India's farmers and agriculturists. The ever regenerable wealth of India from the farms could be increased manifold. And so it thought. But many friends of Excel raised their eyebrows. They asked: how many of the poor farmers would really be able to use agro-chemicals to their benefit? And did Excel know that most farmland was unbelievably fragmented?

But C. C. had different ideas. He was clear that every square foot of sun-soaked India can be made productive. His optimism and faith in the farmer was to be seen to be believed. After all, he was to argue, Excel's own staff had emerged from an illiterate lot. If illiterate people could learn to be competent in his factory, why should he or anyone else for that matter presume that he would not do well on his own farmland? India was importing foodgrain from the United States, which C. C. thought was a shame. India needed to be self-sufficient in food. His aim was to make India agriculturally self-sufficient. As he saw it, Indian grain production could be increased twenty times per acre. The farmer had to be taught to think of such a possibility through the use of agro-chemicals.

So, when in 1963 Fisons of England and Tatas offered to join Excel on a 50 percent basis, the Shroffs got into the huddle. Doubts assailed their minds. Should Excel remain the Excel of the forties and fifties with its unlimited zeal for creative productivity? Would it not get caught in a web of procedure and paper work? As long as it was largely a family managed enterprise, everything seemed possible. C. C. could work out a plan in the laboratory, get his work-force to plan the engineering at its own fast pace and not be accountable to anyone. How would things be with Fisons and Tatas as partners? Would the small man be remembered?

Once again C. C. took the lead in settling issues. As he saw it, it was the man at the helm who laid down the style of functioning and set a pattern for others to follow. If he kept the ideals of brotherhood and service always in front of mind that

was all that mattered. The rest followed, no matter how large the staff or how enlarged the enterprise. A committed doctor could do justice to a hundred patients as he could to ten. And that settled the matter.

From 1964 to 1967 Excel's sales grew fourfold – from Rs. 50 lakhs to Rs. 2 crores. At that point tragedy struck.

C. C. passed away.

On 3 January 1968 C. C. was busy working in his laboratory at Amboli without, it seemed, a care in the world. Then he suddenly felt uneasy. And before anybody could understand what had happened he collapsed in the bare space of few uncounted minutes. It seemed unbelievable.

Throughout his life, C. C. had an optimistic view of death. His analogy for death was of a "passenger getting down from the train when he had arrived at his destination".

On 3 January 1968 his destination had arrived and he had alighted at his station.

God, the Station Master, had waved flag and the train had left.

Bereaved was the Shroff Family. At Excel the grief was palpable.

Tributes came thick and fast. Prof. K. J. Shone, who held professorial appointments in many universities abroad and was then heading the Department of Management Studies at City University, London wrote:

"I admired C. C. Shroff as a chemist and as a genius who visualised the whole process to satisfy a need to the production of a product innovatively. Furthermore, he identified the difficulties arising at each step of the research-manufacture sequence and the human, craft and intellectual skills required to overcome them. Finally, he inspired his people to acquire and use those skills.

"My first impression of Excel was of the pride of Miss R. C. Shroff, (Renuka) in the company and its achievements in 1962. One smiles at her youthful impetuosity and confidence in Excel's ability to use new ideas today and have the results the next day. But very soon one knew her enthusiasm was justified by achievement, achievement primarily due to C. C.'s philosophy and care to help people achieve results.

"I believe C. C. Shroff thought that Excel should grow because India needed the company's special expertise as innovators. It also needed the human resources developed within Excel. A much larger company four times the size in 1963, was also necessary to provide the range of chemical, engineering and production skills needed to make rapid innovations possible.

"But size for its own sake did not interest C. C. because small, well-integrated teams can move so much faster than large units. C. C. believed that there were always new developments that Excel was uniquely fitted to pursue. For this reason he was probably less interested in expanding manufacture of products which had been successfully launched.

"My thoughts are based on meetings ten years ago. Now you can be proud of the team efforts and growth that have distinguished Excel since then, as I believe he would be. Your success confirms the value of C. C. Shroff's philosophy and method. May it encourage us to use them in England as well as in India".

John Hewitt came in close touch with Excel and C. C. in 1959-60 when he was the Managing Director of Tata Fisons in India. Excel then used to supply a number of chemicals to them. In the very first few meetings with C. C., Hewitt realised the ability of the man as a scientist and came close to him. It was he who had proposed that Tata-Fisons should join hands with Excel and worked hard to materialise it. He wrote:

"How proud he would have been of Excel today! He always knew with absolute conviction what could be achieved by Indian chemists and chemical engineers, in spite of the severe restrictions and shortages of those early days. No problem was too great and with his experience a way was always found to provide an acceptable solution.

"He was an idealist and a visionary but always practical with both feet firmly on

C. C. Shroff – 'Pappa' as he was lovingly called, at his desk, towards the end of his life.

the ground which together with his extraordinary flair for harnessing to the full the latent talent around him were the secrets of his success and are reflected in the prodigiously successful growth of the company which meant so much to him and which, in its turn, owes him so much.

"He was a great man and I have always felt privileged that we were friends".

The editors of *Excel House Bulletin* later interviewed many of the staffers and on the basis of what they heard wrote a piece headed: "C. C.: As They Saw Him". It said:

"The boldness with which he could hand over responsibilities to men revealed his confidence in each of them. 'Even we lacked that confidence in ourselves which he often perceived in us' quipped three of his shop-floor members. Haribhau mentions how, soon after his joining, he was once asked to man the Phosphoric Acid plant alone at night. He was scared to death. C. C. told him: 'It is not difficult at all. These are things you should do. And still if you find any difficulty, close the plant and go to sleep'. But Haribhau did not sleep. And in the morning he got the title from C. C., he still remembers with pride. 'Haribhau Master'.

"There was very little in terms of equipment those days – not even pumps and stirrers. Mohan was the human pump – fetching water out of the well with rope and bucket. Hari, Shankar and Bhiku were the stirrers. None of these ever missed either the pump or the motor-operated stirrer. Shortage of coal as fuel? Vajubhai gathered the cobbler women from around. They made fuel balls out of coal-dust and cow dung (available in plenty in Jogeshwari). The boiler continued to operate. The same women later helped out in manufacturing acids made out of fat.

"Ambashankar still talks with pride and nostalgia of the time he spent three full days and nights, with hardly any sleep, almost drenched in oil, co-experimenting with 'Pappa'.

"None of these operations were done at the cost of efficiency. Many of the operators were unlettered. But the efficiency curve never went down. What was it in C. C. that was responsible for these results? Just this: he invited human involvement.

"In Phosphoric Acid or in Mercurials or in Cuprous Oxide – he would move in each department every day, discuss the minute details of consumption of materials and utilities, the time of each charge, and emerge with the best results through discussions with those Nathus and Haris and Bhikus. This was no plain industrial engineering. This was human involvement.

"His sense of equality with workers was inborn. From it stemmed democracy. All his decisions were jointly taken – jointly not only with his brothers, but also with a number of his colleagues. On the technical and production side, he would share his decisions with the shop-floor – both the scientists and the workers.

"Most of the old timers agreed on one point: Excel was an open house. Almost everyone knew everything that was happening in Excel. But many of them also agree that Excel then was much smaller compared to what it is today. With this phenomenal growth and with so many regulations from the authorities, would it be possible to have such an open house?

"The following incident reveals his sense of equality. Jagdish still remembers what happened three decades ago. All the Chloral left at the previous night in liquid form for crystallisation was found spilled over the floor the following morning due to some leakage. K. C. Shroff, then looking after production, severely rebuked those responsible, not only for loss of production, but also because they would miss the delivery schedule. The two men, who had put all their efforts and were as keen on timely production, felt very hurt. C. C. called them later on, pacified them and told K. C: 'Remember, just as you are my brother, they are my sons. Please don't rebuke them like this ever again. I want you to apologise to them'. And apologise he did, which is exactly why the incident has etched itself on Jagdish's mind".

C. C. has now become a legend. One of the best tributes to his style and relevance came from unexpected quarters, years after, from Dr. Surendra Patel who was Chief Coordinator of an UNCTAD conference in Sri Lanka on the subject of "Transfer of Technology in Developing Countries".

Dr. Patel had led a delegation visit to Excel in October 1976. Stunned by what he saw, he wrote:

"A visit to Excel plants reminds us of the great German alchemists of the 19th century who worked with the most simple equipment, but produced results. In Excel, one may not find that sophistication of a highly automated chemical plant, but it produces results, it is effective.... After all, what have we been trying to achieve at UNCTAD? Self-reliance and development of technology through local and indigenous resources to fulfil the local needs. Excel's whole history vibrates with that self-reliance and self-confidence which will inspire and enthuse any developing nation to try a few things on her own. Excel is almost a mini-UNCTAD".

To this day C. C. is remembered by those who knew him and even by those who had only heard of him with love, admiration and gratitude. The stories they tell about him continue to inspire and guide another generation of Excel workers. One of the C. C.'s favourite anecdotes concerned Thomas Alva Edison. Edison wanted to test the maximum strength of one of his sheet metal presses with a rated capacity of 25 tonnes. The fear and anxiety of the operator mounted at a pace with the increase in load at Edison's insistence from 25 to 35 tonnes onwards. Finally, at 75 tonnes, the press broke.

The operator shouted: "Didn't I tell you the press would break?

Coolly, Edison replied: "Yes, but at 75 tonnes!"

Edison wanted to know the extent to which he could stretch the capacity of the press.

C. C. always stretched Excel to its maximum, ever conscious that like Edison's press, something may give way at some cost. But how else was he to learn?

One of C. C.'s favourite sayings was: "To live in the hearts of those who live behind is not to die".

In the hearts of Excel men, he still lives.

Govindji Chatrabhuj Shroff, the Architect of Excel. 'Bhai' to one and all who knew him.

3

Govindji Shroff Takes Charge

With the passing away of C. C., the Excel baton passed into the hands of his younger brother, Govindjibhai Shroff. He was just two years younger than C. C. but did not have the scientific background of his elder brother. He had done his First Year Arts and then joined the College of Commerce when he heard Gandhiji's Civil Disobedience call. He left his studies. It seemed the right thing to do.

This was in the early thirties. The times were hard. The depression had set in, in the right earnest. His father Chatrabhujbhai had a cloth shop in Mangaldas Market in Mumbai, but business was lax. As Govindjibhai was to say later: "No matter what one did, we seemed heading for a loss!" He had worked for his father but the time came that he had to look out for a job. He knew of a sharebroker, Bhaidas Maganlal and decided to seek a job under him.

Bhaidas had just two questions to ask of Govindjibhai. If he knew the answers to them, Bhaidas said, he could take the young man under his wing from the very next day on. Intrigued, Govindjibhai asked what those questions were.

"How many hours are there in a day?" was the first question.

"Twenty four!" replied Govindjibhai.

"And how many days are there in a week?"

"Why, seven!"

"And do you know what that means?"

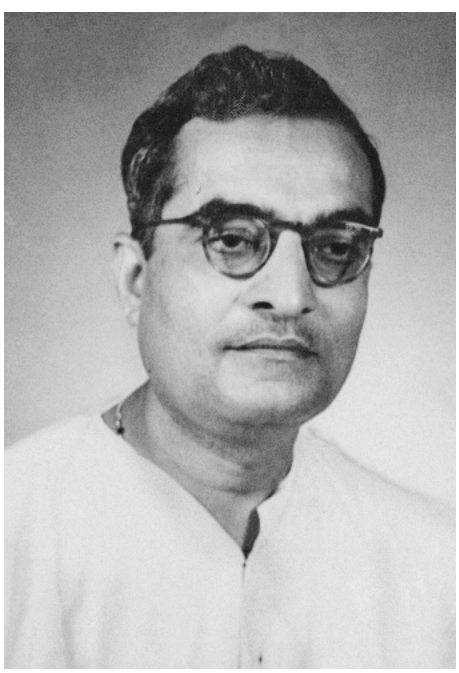
"Yes," replied Govindjibhai, "I do. It means I will have to work twenty- four hours a day, seven days a week!"

"Right" said Bhaidas. "You've got the point. You are hired!"

And so he was.

Bhaidas Maganlal came from a high-principled family, which did not compromise with honesty. From the very start it was impressed on Govindjibhai that he was at no time to deviate from the truth, no matter what it cost. In the business he was engaged in, Govindjibhai was later to say, that was the only thing that mattered and the only way to win credibility. Always to be truthful.

He had no difficulty in following these precepts. He himself came from a family that valued principles more than anything else. And he and Bhaidas got along famously.



Govindjibhai C. Shroff – A keen eye for business.

But then came the time when C. C. needed his services badly. C. C. had started Excel and wanted some one to take charge of office work which was slowly piling up. After working for ten years in the stock market, Govindji quit. He had no feelings of regret. His brother needed him – and that was that. The family was important. It was a joint family. Govindjibhai lived with C. C. Once he told an interviewer: "There are many advantages in living in a joint family. But first, everyone must get along with others. There has to be trust and confidence among all. If there is no trust, then it is better to break away and live on one's own. I and my wife lived with my elder brother and his family. My three children were practically brought up by my sister-in-law. There was so much love in the family".

The interview was carried out by Suresh Dalal, a well-known writer. And it throws a great deal of light on the kind of man Govindjibhai was.

S. D. What is the main difference between the world you now live in and the world in which you grew up as a young man?

G. S. There is a big difference. The important period of my development was between 1930 and 1950 from the time I was twenty to the age of forty. It was the Golden Age of India. Gandhiji was a great influence on all young people. We read his books. All of my brothers were impressed by him. I did not go to jail but my younger brother did. My sister, too. And my wife. They all went to jail in the 1942 Quit India Movement.

But by then my elder brother had started a factory. And we began to make explosives, bombs. We had good relations with Achyut Patwardhan. We knew other leaders too. They used to come to see us and talk matters over with us. It was not enough for us just to be able to make a living and to eat and drink. We needed to make what little sacrifice we can for the country. We wanted to do something……

S. D. Who has influenced you most in your life?

G. S. My parents. They believed in *dharma*, and stuck to principles. They held to the theory that while it was all right to go to a temple or haveli to pray, what was more important was to live the virtuous life, in being truthful in thought, word and deed.

The other influence in my life was Gandhiji. I must add that I was also influenced by Lenin and Trotsky who wrote about the wrongs of a capitalist society. But Gandhiji's influence on us was more than those of the communists. It was Gandhiji's movement that led us to independence.

S. D. I come back to my original question. What difference do you see between the present times and the days of your youth?

G. S. The difference is: today's generation is not far-sighted. They have only one aim: how much they are going to earn. They do not plan for the future. That is short-sightedness. It is necessary to think of oneself. But it should be enlightened self-interest.

S. D. How do you motivate the young?

G. S. There is only one way to motivate them. Continuously evaluate those who are working sincerely. We have an Appraisal System. We try to find out what a person thinks of himself, what his colleagues think of him and what his boss thinks of him. If on the basis of that he gets promoted, it influences others.

S. D. Appreciation of work is one way of motivation. Is there any other?

G. S. I believe in the principle of trusteeship. No, not because of Gandhiji or Jayaprakash, but because it is the right thing to believe in. It is necessary for our future good. We gain from it. We have money, capital, whatever . . . but the wealth we generate needs to be distributed justly.

Our wage scales are not greater than one to ten.

S. D. There are two types of industrialists. There is the industrialist who sets up an industry and, as he grows older, gives the responsibility to his sons and lets them function without any interference. Then there is the other type who entrusts responsibility in his sons but ties their feet and expects them to run. What is your approach?

G. S. I believe in giving the sons a free hand. But it is more important that responsibility is given to one who is not necessarily a son or a relative but one who has the ability to run the show. A small organisation can be run by a family but as it grows bigger and bigger management should be entrusted in someone who has the ability, irrespective of caste, creed, religion, region or gender.

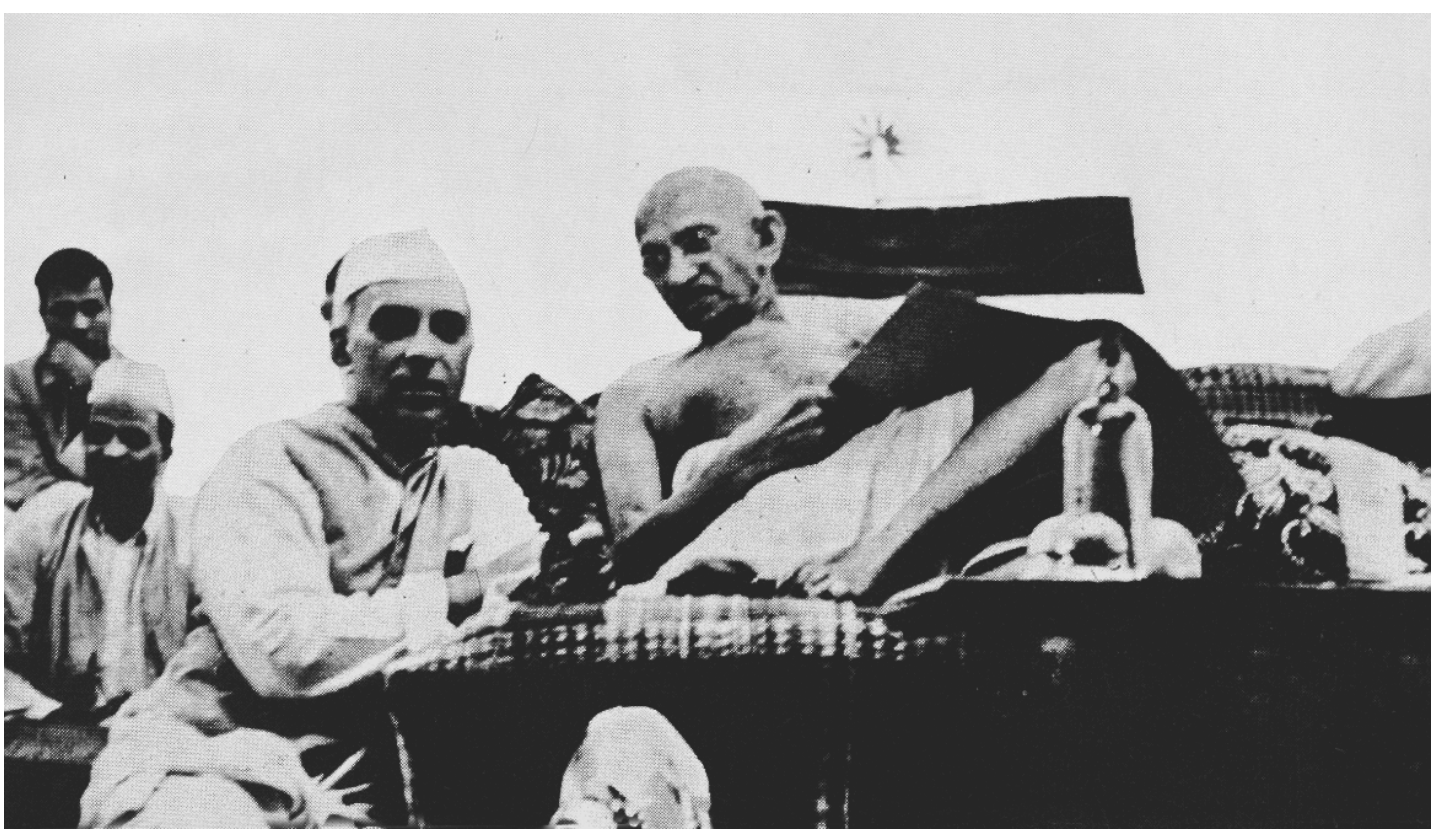
Responsibility and authority should go together. If you give a person responsibility, you must give him his rights as well. I have given one company to my son to run it. It is a public limited company. He is free to do what he likes. If I am asked for an opinion, I'll give it but still proffer no advice.

S. D. He has to use his own discretion.

G. S. Yes, he must. Secondly, I believe when a son gets married, the first thing I would give him is the key of the house. I will tell him that if he wants to go and live separately, he should do so. There won't be any compulsion. But if he wants to stay with me, that too is okay.

S. D. You are connected with several companies and organisations. Whether a company survives or breaks depends mainly on one person. Either he knows how to conduct his business or he does not. What do you think of it?

G. S. What the Chief Executive can do cannot be predicted. If his appointment does not work out, to what shall we



Jawaharlal Nehru with Gandhiji at the All India Congress Committee meeting, Bombay, where the Quit India resolution was passed.

attribute it: to inability or wrong intentions? If it is the latter, there is no point in keeping him for long.

But consider this: one of my marketing managers comes to me with a plan and I approve it. He works on the lines suggested but fails. Then it could not be his fault. The fault is mine. I bear the responsibility for failure. But if he succeeds, it is his success. It is only when he is given freedom of action that he can grow. That is motivation.

S. D. What is the happiest and saddest event in your life which you may like to forget but cannot?

G. S. My joining Excel was the happiest moment in my life. I have contributed to it to some extent. We were living in a joint family of 20-22 members. We lived together, ate together and we were happy. There was never any feeling of: 'This is my son and that is my brother's.' All are children of the same family. We all felt like being members of one family. Till my elder brother passed away, my life style was very happy. My brother's death came as a great shock to me. Our company, too, had grown big. My brother was the founder and he had the scientific knowledge. I hadn't. What should we do now, we wondered.

Then my son's four-year old daughter died suddenly. She was very much attached to me. It was then that I came to accept that it is God who gives and God who takes away what He gives….

S. D. Can you explain what qualities you expect in an Executive?

G. S. In 1945 I came across Dale Carnegie's *How to Avoid Worries And Start Living*. Carnegie showed how to overcome worry. I read his book fully. At the end it says: "Do not shut this book after reading it. Keep it with you for a few years". I have read it several times.

Then I came across another book entitled *Think & Grow Rich*. I had a job that fetched me Rs. 150 p.m. I decided that I must get rich! I read Napoleon Hill's book. Still later I read *Laws of Success*. It contains all the principles to follow in life. My life has been moulded by these three books. The last book lays down fourteen precepts on how to get rich. If you follow them, none in this world can stop you from getting rich!.

The proud grandparents! Govindjibhai and his wife 'Chachi'.

S. D. Of the fourteen, which ones do you remember?

G. S. One, keep your goals clear. Two, have self-confidence. Three, give more than what you receive. Four, be patient and at peace while being involved in a discussion. Five, let there be no discrepancy between what you say and what you do ……

When I first read *Think & Grow Rich* I had no idea where it would lead me to. I have gifted several copies of it to friends. I would tell them: "Want to get rich? Then read this!"

And then I follow the principles of America's famous Peter Drucker. His first book is *Effective Executive* and his second: *The Laws of Management*. In *Effective Executive* he writes the main objective of any commercial outfit is to serve the customer so that he is fully satisfied and could afford to pay the price. Profit is the by-product of service. Nobody would object to such profit. No organisation can survive without making profit. The job of the Chief Executive is to ensure Customer Service. He should feel happy with it. My management style is based on this Peter Drucker principle.

S. D. That is all very well. But in the *Gita* we are told to serve without any expectation in return. How do you balance these two.

G. S. Okay. My brother used to tell me that he followed two basic principles to be successful. One was – and you know it – *karmanaivadhikarasthe ma phaleshu kadaachana*. When you are at work, concentrate on it fully. If you keep thinking of what it will get you, you won't be able to concentrate. That is simple. The other was: do unto others as you would expect others to do unto you. Understand the other person's sentiments and behave accordingly.

Let me give you an example.

During the Emergency, C.I.D. people came to my place – some twelve of them together. I was informed that C.I.D. people have come. I sent word to them that I was having a meeting with some people and would they wait for a few minutes? They did.

Then their leader came in and introduced himself, saying: "I am from the C.I.D". I asked him to take his seat.

He then asked: "Do you know G. Rao?"

I said: "Yes, I know him. Govindrao Deshpande is my friend".

He asked: "What kind of relations do you have with him?"

I replied: "I am chairman of the Trusteeship Foundation and he is its secretary".

"Does he write to you?"

"Yes, he does".

"For what?"

"He is travelling continuously. He is never at one place. Hence, if he has to give any return address for Bombay, he gives mine".

"But why does G. Rao write letters? What does he write? What name has he assumed?"

At that point my secretary walked in. I asked my visitor what he would like to have. He asked "Are you going to offer us tea or coffee?" And I replied: "Why not? You have come here to do *your* duty. I do not consider you as my adversary. You take your time. Have tea or coffee. See whatever you have to. Our canteen is downstairs".

Then it was around 1 p.m. My secretary brought him a *thali.*

My visitor was reluctant to take the food. So I told him, "There is no restaurant around here where you can order food. You cannot work well if you are hungry. If you can eat, you can perform your duty well".

He went on to search my office for five full hours. In the course of his search he found copies of *Sadhana*, *Bhumiputra* bulletins from Delhi. He said: "You are doing some thing wrong".

I said: "I know this is wrong from your point of view. I know this is illegal, punishable, but in these times, if I want to know the truth, I can't get it in newspapers. The truth is delivered to me in these bulletins. They even come by post".

Then he said: "I found these in your drawers".

I told him: "Yes, I agree. It is a crime. I know it. I do not want to blame anyone. I consider it my fault and I take responsibility for it. If you want to take me to jail, my bedding is ready. I do this with full understanding. It is likely that you have to fulfil your duty and I am ready for it. That these papers are here is correct."

I talked in a very composed manner. This impressed him considerably and he said: "You read so much".

Govindrao was put in jail. You must have realised from this incident that if one keeps one's cool in any circumstances, one does not have a problem.

On another occasion, a C.B.I. man came. I was not afraid of the police. I said: "I have not done anything wrong. From your point of view it could be wrong but from my point of view I am serving my nation. You can give me whatever punishment you wish to for it. I am ready to accept it.

S. D. Now I have one last question. After all that I have asked you, is there still anything which I have missed out, but you may wish to enlighten me on?

G. S. Yes, there is one thing. I have been running this company for many years. It has 2,800 employees and so far there has never been a strike.

S. D. Are you telling me that people have been working for you for 43 years and they have never struck work? And that too in Bombay and in this day and age? What is your secret?

G. S. Only one. Understand the man. Understand his feelings. Remember your duty towards him and what his expectations from you are. Say, two percent of them may be bad. Keep an eye on them. Separate them from others. If we are not alert, two would multiply into 22. Among one hundred only two or three are bad and two or three are courageous enough to come out. Ninety per cent are blind followers. If you do not look after the two bad ones, others would join them and oppose you. The three good ones, you keep on your side. They cannot do any wrong. We have to communicate with them, all of them. In India, generally speaking, workers are balanced and understanding. Outside leaders mislead them for their self-interest. If we are not in direct communication with our workers they would be led like a herd of sheep. It would then be difficult to take care of them. Often, when there is the possibility of a strike, the Managing Director leaves the city or the country, leaving the responsibility to handle the situation to the Personnel Manager. We have never done it.

When the possibility of strike arises, there is shouting. Myself, or my younger brother would stand at the gate and tell the workers: "You blame the Personnel Manager, point out his mistakes. This is wrong. It is my responsibility. I am the one who has rejected your demands. So, whatever you want to say, tell me. If you want to burn an effigy, burn my effigy, not his!

They understand the whole matter. They see the love and have confidence in our behaviour. Today in the canteen, what I eat, they eat. I consider every worker as my family member. This is not just talk. I practice what I say. I sit where they sit. This has an effect on them.

'Chachi' and Govindjibhai in a lighter mood, with 'Chachi' in her element!

Once we were visited by a Shiv Sena Union. They had come to discuss the matters with me. They scare you. They called us *badmash, ustad* etc. But I asked them: "Why have you come here? What is the purpose of our meeting? We have many differences and we will have to lessen them. Do you think that the 8.33 percent bonus we have given is little and we should give 20 percent? Then let us discuss that. We have given our accounts to you."

To that they say "Yes, but bonus is bogus".

So we say: "May be, but government has not given us the right to alter it. If you have, tell us."

They kept talking and swearing. We said: "Look, we cannot solve our problem fighting like this". They got up – and never came again.

We had thought about the matter calmly and had answers ready for any questions they had. You can now understand why there has been no strike in all these years. If others are wrong, we say so boldly.

Govindjibhai had just taken over charge when there was a Letter of Intent from DGTD, placing an order for Phosphorus. It placed Excel on the alert. Without C. C. to guide efforts, can the order be fulfilled in time, and to specifications?

This was a test and those in charge of Excel braced themselves. It was going to be a case of now or never. They were fully aware that in order to grow they had to expand. They were willing to grow, learn new things and organise on a much grander scale than in the past. The time for fresh recruitment had come.

Excel needed electrical, mechanical, chemical and industrial engineers. They needed financial experts, good site managers, capable erectors, tough operators who could stand the heat, the fires, the poisons and understand a whole lot of technology to handle sophisticated equipment. They were painfully aware that none of them were available from off the shelf as it were and a plant had to be built somewhere away from Bombay.

There were other requirements besides, like a port, large quantity of water and electric supply, abundant space, good neighbourhood, a willing and enthusiastic workforce, a forward-looking municipality and far-sighted city fathers. It was like asking for the moon. In the end the decision was taken that of all places Bhavnagar in Gujarat met most of the specifications laid down.

Mansukhram Jobanputra laying the foundation stone of the Phosphorus project in November 1969.

The foundation stone of the project was laid in November 1969 by a very eminent educationist of Gujarat, Shri Mansukhram Jobanputra of Shardagram. And it was decided quite early that the required team would be created in Bhavnagar and mostly from among people in and around the city.

In March 1970 started the erection of the pilot plant. It was clear from the very start that there were lots of things to be learnt and learnt quickly and to perfection.

Excel had been warned that even experienced, world-renowned international companies had been ruined in Phosphorus production when they built their plants in unknown areas. It had also been warned that another Indian company which had even got its turnkey plant from Europe and which had set up that plant in the industrial belt of Bombay had got into trouble right from the start and had not been able to get out of it.

But despite that Excel was adamant in going to a non-industrial area without any tradition of chemistry or heavy industry, and what was worse, an area with a perennial water shortage.

The site was selected at a place that needed laying down a power-line 11 miles long. There were no civil engineering firms with experience of building such a factory nor were available electrical engineers or contractors able to handle the job.

Bhavnagar was chosen simply because it was a University town – a town with a long tradition of culture and crafts. People were friendly and kind-hearted. Bhavnagar, besides, was an all-weather port and part of the population consisted of seafarers. The people had played their part in the freedom struggle and a number of people were wedded to Gandhian principles. Bhavnagar also had an agricultural hinterland with a rural university close by.

Many well-meaning friends in the industry kept asking Excel why, of all places, it had to choose Bhavnagar for setting up an industrial unit. But the Shroffs had their answers ready. As they put it, Excel was not just Phosphorus, nor concerned only with making money. Its main business was Men. Its aim was

self-reliance. Its infrastructure was going to be built neither on imported knowledge, machinery or money. It was to be built out of creativity, courage and commitment of the people and their goodwill. Bhavnagar, it was felt, would help Excel learn how in a country like India, industries could be developed.

Almost the entire workforce – from officers downwards – was recruited from Bhavnagar and selected, trained and placed in the right position and given the right responsibility and authority.

The first phase of the work, i.e. Phosphorus Furnace No. 1 was completed in 18 months. Work started in March 1970. Production started in October 1971. In those 18 months Excel learnt how to raise a humming, productive, sophisticated factory from a barren, useless, saline, even uneven land. It was a story of human involvement of a kind never attempted before.

Excel had noted that there was no dearth of knowledgeable people in India – people who could help and have helped in building huge industrial units in different parts of India and even abroad. So Excel started learning from all those who had helped build complexes like Koyali Refinery, Gujarat Fertiliser, Kota Chemical Complex, Hindustan Zinc, or Synthetic Rubber Factory at Bareilly.

It learnt how they solved their problems and got over their bottlenecks and hurdles. It learnt that everywhere it was locally recruited youngsters who had mastered the technologies and made the plants run smoothly. And it learnt that it was positively wise to depend on men – and not instruments – to train people to perfection through involvement.

The initial recruitment of cadres was from Bombay. Excel needed a few veterans to act as guides and trainers. Thus it gathered experts, project managers, engineers, financial experts and social scientists. Two experts were sent to Europe and the United States to get acquainted with Phosphorus technology, plant management and economies of scale. They could gather information about plants of the size that Excel had in mind that had been built 35 years ago. Their designs were good enough for Excel.

Back at headquarters the Shroffs read and re-read about the great scientists of the past who had fought against odds and through sheer courage had got over bigger hurdles than what faced them then. But they were always attentive even to the prophets of doom who were telling them that they were bound to fail. They were warned about the non-reliability of Indian suppliers – regarding time schedules and product quality. They were warned about irresponsible contractors and labour and about lethargic government bureaucracy not to speak about financial institutes with their long lists of queries to be answered before any loan could be sanctioned. And they were warned about delays in getting imported goods and import licences. In fact if the Shroffs were not Shroffs they would have given up on their dreams even before the first brick was laid.

But these warnings sufficed to convince Excel even more than ever before that what it should aim at is a small, cheap plant that could be managed with the least fuss. And it was determined that before even the first pit was dug, before any order for anything was placed, it would learn the 'why' of everything. It would erase its own areas of ignorance. C. C. was gone and everything had

The transformer was transported by train on the Ruvapari track and the ONGC crane helped transport it to the Excel plant site at Bhavnagar.

to be learnt and re-learnt and its only strength was faith. C. C. had once said: "Learn like Guru Dattatreya from everywhere – from dogs, donkeys, fish, clouds, sun, wind. Learn with humility and reverence".

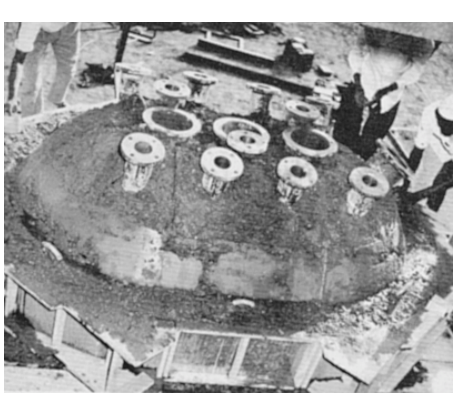
So Excel went about recruiting the men for the great job ahead. Persons were selected who had the right attitude towards learning. Some had had brilliant academic careers. Some were not all that bright. A few were old Excel veterans. But they all had one thing in common: they never were interested in living in the past and were capable of understanding the needs of tomorrow.

Then came the problem of availability of equipment. The most important item on the list was the furnace transformer. Excel knew what it wanted: some really rugged equipment. It had a long experience of handling chemicals but here was one area where too much risk was just ruled out.

Cash flow was important. The Bhavnagar plant was ten times bigger than anything Excel had built in the past. It had to go to public to raise money but that would take time.

Above all everyone from top downwards had to get acquainted with the process of manufacturing Phosphorus. One had to learn how to operate indigenous equipment. So a pilot plant was first set up in Bombay, only to realise quickly enough that for local boys to know how to handle it, it had to be located in Bhavnagar! So the pilot plant was dismantled and transported to Bhavnagar.

To Excel's joy it learnt that the local people were even more competent in erection work provided they received the right guidance. The plant was readied by June 1971.



Phosphorus furnace roof as seen from the top.

Carbon paste being poured into trays. Hazardous and tedious work that would help build the furnace.

And the effort that went into it!

June is a hot month and temperatures would rise up to 44-45 degrees C. The steel plates lying in the open would absorb the heat and could get as hot as 75 degrees C. But the local staff would keep going except that the lunch period could last two hours for the workers to get some rest for the noon-time sun. Work would then start and continue till midnight.

Kantisen who was looking after Operations was busy looking into every aspect of construction work. He was aware that he was an outsider as far as Bhavnagar was concerned. He had to watch every step, lest he fell foul of local sentiments.

Almost the first thing that Kantisen had noticed when the factory site was chosen was that, right in front of it was a leprosy home. Hardly dismayed he walked into its portals to be received by two of its inmates.

"Namaste" he said to them.

"Namaste" they replied jointly.

"And what are you doing?" Kantisen asked solicitously.

"We were electricians" said one of them, softly.

"What do you mean you *were* electricians? Have you forgotten your skills?" countered Kantisen.

He should have known better. Both had become leprosy patients and nobody but nobody would hire them. They had been reduced to idleness.

"We can't find jobs" they said in unison.

Kantisen rose to the occasion.

"Come and join me" he said.

The two leprosy patients thus became the first employees of the Bhavnagar plant. One of them was Darbar Kalubha. He had done a course as wire-man years ago. Now he became a member of the team that did the electrification of the Bhavnagar plant. In the course of time Kantisen was to hire about half a dozen men from the leprosy home cum hospital. And Darbar Kalubha was to become president of the Workers' Union!

The members of the hardy seafaring community, the Khalasis were the people to be trained for erection work and were taught to treat Excel as their second home. Their stamina was unbelievable, especially of the women. Their men folk would do the digging; the womenfolk would do the lifting. Mounds of earth would vanish in no time. Pits would be filled and uneven land would be flattened and turned into working sites. The women were treated as mothers and sisters.

Excel then started visiting technical institutes, I.I.Ts and Polytechnics to find draughtsmen, mechanists, welders, electricians, engineers, chemists and even accountants. By June 1970 a team of committed staff had been readied.

But they reckoned without the climate.

Just as everything seemed to be going on smoothly came the rains, the heaviest downpour Bhavnagar had received in a decade! For fifteen days the land was completely under water. Civil work came to a complete standstill. And to top it all, the pilot plant transformer fell far below expected standards. The furnace just would not work and the temperature would not reach the rated values.

There was nothing to be done in the circumstances except to sit back and laugh. Some of the staffers would just jump into the man-made lakes and have a good swim. But the Khalasi women were not the ones to give up all that easily. In no time they dug up channels to drain the water and get civil construction going. By 1 August 1970 the workshop was got ready. It consisted of a plate-bending machine, two lathes, three welding machines and a radial drilling machine and, of course, the carpentry shop. Excel celebrated Tilak Jayanti and raised the slogan that Tilak had raised more than half a century ago. "Swaraj is our birthright". And to that the staff added one more line: "We would not fail and God give us courage!"

Attention was shifted to the pilot plant and why it was not performing. It was argued that if the transformer was below capacity, better results could be obtained by building a smaller furnace.

So a furnace with a 1.5 sq. ft hearth area was built. The transformer did not fail. The ore was placed and the process started. Predictably the ore (rock) melted and flowed down effectively from the tap hole in the dark hours of the night; white clouds of Phosphorus pentoxide billowed copiously, covering the area. There was a sigh of relief that things could be made to work.

Then came the next challenge: fabrication of the main plant. The furnace was oval shaped, about 30' long, 20' wide and 2' in height. It was to be lined from inside by carbon refractories.

There was no engineer available with any experience of having done such a job. But work had to start somehow. At that point one of the men hired locally came forward asking for permission to do the fabrication. Without further ado work began on the base plate that was to carry the load of 110 tonnes of carbon lining, 75 tonnes of roof casting and 200 tonnes of raw material. Every day began with suspense and new problems but ending with workable solutions.

At one stage it was found that the plate bending machine could not take the load. In a mad rush to get started Excel had purchased one that was below par. Looking round for help, Excel found that there was a ship-building workshop that was willing to lend a hand. But then, miracle of miracles, the local hire had found a way to make the machine on hand function.

Long after it was all over, looking back at those thrilling days Kantisen was to say: "It was then that we realised one thing: that the tradition was all there! India is a country with a running culture three thousand years old! Our people had built temples and ships and palaces and roads and goodness knows what else calling for engineering feats! They had handled steel and copper, stone and mortar since ages. One had only to search for them and they were there!"

"So" he continued, "we decided to build a model of our plant as we visualised and as they looked at the model, they understood what we wanted. They showed us where they thought they were wrong – and we agreed – and then they said: 'Leave it to us. It can be done' ".

After that it was go, go, go. Whether it was lifting a 20-tonne piece of equipment 40 ft high or fabricating the huge hoppers 50 ft above the ground which would carry a 150-tonne charge material, the workers completed the job with aplomb.

The Phosphorus champions pose after a tiring day. Vinod Makwana, Babubhai, Pitambarbhai, Bhupatbhai, Narayan, Bharatbhai, Tank, Vijaybhai, Thomasbhai and Manharbhai (L to R).

Working hanging up in the air was simple to them – be it under a burning sun or blowing winds. One day Kantisen got very worried about the risks he was taking with the men and said so. Hearing him, one of the men told him: "Do you know, it is customary in our community to say farewell to our womenfolk every morning when we leave our home? Who knows, God may call us up that day. We do not fear death!"

That day, Kantisen was to say, he learnt the meaning of simple, cold courage.

But no accident was ever reported at the site.

Work continued at a fast pace. The schedules were found workable. By March 1971 the major framework had been got ready. The technology tiger was getting tamed. 110 tonnes of material was to be tamped at temperatures ranging from 70 degrees to 80 degrees C. Initially Excel had thought of getting more mechanical handling equipment to deal with the problem. The men had to work with smelly, fuming, irritating mass and to heat, pour and tamp tons and tons of it in partly enclosed space. But it was done. Young engineers rose to the occasion, adding to the knowledge they had gained from books.

Then came the problem of raising the roof. A parabolic, monolithic non-reinforced alumina cement roof weighing more than 75 tonnes and having more than fifteen small and big holes. The setting took place with a lot of heat generation and yet if the heat was not controlled, the roof could crack. Never before in India had such an operation on such a scale been tried. Excel had hired an expert to oversee the operation, but he too kept his fingers crossed. It was then realised that to keep the temperature within control we had to keep ice, tons and tons of it! But that much ice was not available in Bhavnagar and what Excel needed was more than the daily output of the Bhavnagar Ice Factory. But help came. "Let the people of Bhavnagar forego their ice needs for just three days!" was the agreement.

Needed were more concrete mixers, more vibrators and 300 men and women to pour the mass of 75 tonnes in a short period of four hours. But all that was mobilised. Every act of mass pouring was rehearsed again and again, in order that nothing was left to chance. Then, on the appointed day work started. From the Director downward to the peon and watchman, everyone was at his post, in a long, unbroken human chain which passed the cement from ground to the top of the roof.

Part of the furnace being built. The outer shell under fabrication with buckets of fuming carbon paste being poured into the making of the side walls.

The enthusiasm was unforgettable. Kantisen reminisces: "When, on the following day, we slowly opened the outer mould and saw how good the setting was, everybody had tears of joy. We cried unashamedly!"

But the most critical job was still ahead. Baking the furnace. Any mistake here meant ruin. It was June 1971.

Meanwhile, the new transformer for the pilot plant had been commissioned and the staff was learning to condense and collect the Phosphorus. The high temperature or electrode movements or transformer operation or furnace conditions – everything was under control.

Then it was felt that the time had come to send someone to the U. S. to learn the "starting up" techniques of how to handle the massive electrodes 30" in diameter.

Kantisen was not sure how the American technologists would react to what Excel had done with its small, out-dated and very likely uneconomical Phosphorus furnace. But they listened to the Excel experiment with interest – and then amazement. They welcomed Kantisen, showed him around, gave him instructions and he returned a wiser and more knowledgeable man.

By then it was August 1971. Then came the last of the problems: where were the power-lines? Where were those transformer switches? The power-line had to come circling around Bhavnagar through land owned by different people. Through the land of the ex-Maharaja of Bhavnagar, through the lands of small farmers, industries and even a river bed. At every stage the goodwill of the people was needed. Kantisen went out to make friends. And he succeeded.

The baking started slowly. The temperature, too, was raised slowly. Everyone prayed that the operation would be successful. The electrical fittings had been tested – and found satisfactory.

Finally came the moment when the switch was turned on, and the material fed. From the chimney there burnt the bright yellow flame of carbon monoxide.

Excel had won the day!

The total investment needed was about Rs. 100 lakh at 1970 prices for one arc furnace to manufacture 2,500 tonnes per annum (TPA) of Yellow Phosphorus. To meet the fund requirements Excel had made a public capital issue of Rs. 50 lakh in 1971. With the demand for Phosphorus compounds continuously increasing, Excel was to set up another furnace with a similar capacity in 1976, also in Bhavnagar.

But this time the total project took only ten months for completion. It was still a commendable feat considering the volume of work involved and the constraints of operating in Bhavnagar. Yet, the planning, coordination and control was adequate to achieve the optimistic targeted completion date with the use of relatively simpler techniques. As the Project Manager was later to say: "Project management is not merely a technique of computation of cash flows, drawing, PERT etc but it was much more to do with the organisational behaviour point. What really went behind this success is the story of Excel culture".

As he saw it, the mystery of success lay in its people and in their team work. Two major factors helped in building a good team work:

- A new emerging concept of motivation and
- Superior-subordinate and Peer Group relationship.

The Project Manager, B. K. Achuta put it this way:

"It is difficult to identify the precise motivational factor that enabled us to complete such a mammoth task. Although many psychologists and behavioural scientists may disbelieve 'achievement motivation' as a factor of motivation at all levels of the team, it appears to have been a key force for the success of the project at Bhavnagar. Western behavioural scientists have always recognised achievement as a high motivational factor. But in our culture this factor seems to work like magic at all levels".

And he added:

"As an example, every member of Bhavnagar team is proud today to note how they managed erection of the furnace transformer without the help of the crane. A committed team which had individual and team goals compatible with a well-defined objective and achievement, motivation working as key force, organising, planning and coordination became a relatively simple task.

"However, let us not forget the other bond, that of human relationship, excellent superior-subordinate and peer group relationship which was responsible for strengthening the team work. Above all there was an implicit faith in all the members of the team about each other – and certainty that each would carry out his responsibilities.

"Mistakes did happen and one is very sensitive to exposure of one's mistakes. It kills motivation and increases fear of security. But mutual faith in the leader and members of the team made each one feel secure and enabled them to take calculated risks. This certainly was responsible in creating an atmosphere conducive to 'creative thinking' " .

And Achuta concluded thus:

"Thus project management is essentially an art of getting a proper mix between technique and men. The success solely lies in people and teamwork – motivation being dependent on the culture and situation prevailing in the organisation. The experience at Bhavnagar served as an eye-opener to start re-thinking on the concept of a judicious mix between men and techniques. Techniques are not an end in themselves. They are just a means to an end".

After the success of the Bhavnagar Factory, Excel never looked back. Kantisen summed up his philosophy thus:

"This is India, where people can work together, be they from the north, south, east or west, young or old, rich or poor. They will work, they will surmount any amount of difficulties, if somebody knows how to keep faith in them, real faith with real understanding".

At Bhavnagar, more than 150 raw young men, graduates and non-graduates, even so-called illiterates were trained in dozens of different subjects and thereby was created a cadre of scientists, plant engineers, erection experts, fabrication and maintenance specialists. Even leprosy patients and members of the so-called

Assembling the transmission line tower for Excel. "A Herculean task for all the obstacles that came our way . . ." in the words of Kaka. The team-spirit is what made the difference!

'Jagdambas' – Mothers of the earth . . . "they toiled with sticky soil and proved their mettle with each new challenge. . ." Kaka recalls.

criminal tribes got an opportunity to grow that way.

It was because of such training that a person like Manchhu Warli could go to manage production in Excel's factory in England.

The experience gained at Bhavnagar in training men was later used by Excel to start a summer school for students to learn from experience. Every student was encouraged to do things in which he was interested. Quite a lot of students were interested in the Chemistry Section that involved experimenting with various chemicals. The school was a success considering that those who attended wanted to go on even when one month term was over!

Excel carried out one more experiment at Bhavnagar of which it is justly proud. It brought what was often dismissed as a "criminal" tribe into the mainstream of life.

Around Bhavnagar lived a tribe of people called Adodia. They had been labelled in the past as "a criminal tribe". Their 'profession' was petty theft, minor crimes and distillation of illicit liquor. Because of the stigma attached to them no industry would employ them in numbers. But Excel went to their moral – and economic – rescue and started them on a programme of education, building houses for the homeless and giving over a dozen of them jobs at the Bhavnagar factory.

Many friends of Excel kept warning that it was inviting trouble. Even the supervisors and officers who had to deal with them were at first a little hesitant to handle them. The Adodias, truth to say, had never known what discipline is and how to work at a regular job and it was difficult for them to obey instructions and settle down to work. That they eventually did is a tribute to Excel's philosophy.

The Bhavnagar plant's Phosphorus production, incidentally was to save the country some Rs. 1.5 crore in foreign exchange.

So popular was Excel in the Stock Market that when it issued to the general public 4,65,000 shares each of Rs. 10 on 24 February 1971 they were oversubscribed, within three days. The public issue was closed on 27 February 1971. (The total amount of public issue was Rs. 50 lakhs).

How did Excel succeed in its several product preparations and what were the techniques it employed to come out on top? A case-by-case study was undertaken in 1967 by Dr. N. H. Atthreya who came to the following conclusions: (Reference : Annexure)

Ascertaining and Establishing the Need

- Effective industrial research is need-based.
- This need may stem from what is wanted at the end, for example, fertiliser.
- The need may be one of utilising what is in abundance, as for example fish or forest.
- The need also can be one of what is currently thrown away as waste, for example, groundnut cake or shell.
- The need can be for a product that is currently imported.

Survey of Literature

In the same field or a related one, a fair amount of thinking may have gone on in some other part of the world. In large measure this is available in published literature. At the second stage, therefore, whatever has been written about the problem or project chosen, is gone through.

- This is to establish the many paths that seem to be available.
- This may help avoid paths already tried and found not good enough.
- This will certainly help start where others have left.
- This may also provide a thought starter.

Bench Scale Production

At this stage the project leader tries out one possibility or more with a view to "establish a condition", as it is called.

This is the area where the scientist's *personal skill* plays a critical part.

This is team work and the team consists of *two types of skills* – the skills of an informed scientist and the skills of an operating force with industrial experience.

The Scientist-force will look for breakthroughs and the operator-force will sit out. The theorist indicates the route and the operator goes doggedly after it.

Design Stage I and Fabrication of Pilot Plant

The purpose here is to upscale the production.

Towards that end the 'container' or apparatus has to be designed and the handling procedures established.

This, again, is team work. This calls for *two types of skills too*, the engineer who is

The influence of an elder brother! Govindjibhai guiding and inspiring Kantisen and young nephew Ashwin C. Shroff (R).

strong in theory and who can say what may serve the purpose; and the mechanic who takes up the production and who can convert design into hardware.

Pilot Scale Production

This stage is primarily to see that the design is learnt properly. This also helps to prove that the initial fears were unfounded.

Design Stage II

The aim at this stage is to upscale the design further, after incorporating the findings on the pilot plant design.

It may be noticed that all the refinement voted for at the pilot plant stage is indeed not necessary – that one can do with less. Industrial research is team work all through – and so at this stage. The additional team members will be electrical engineers, hydraulic engineers, civil engineers and others, depending on the project.

Fabrication of the Equipment

The equipment designed for regular production is fabricated in the workshop within the compound.

By doing so the benefit of the thinking and experience of the entire project team is garnered.

The fabricated equipment is essentially functional – the criterion is whether it does the job well.

Regular Production

Trial runs are had and the bugs noticed and removed.

Operational manuals and maintenance manuals are prepared.

Refinement and Sophistication

Refinement and sophistication are kept out initially both for reasons of cost and time.

Arising out of production experience, when extra funds are available, refinement and sophistication are taken up.

If time is demanded by other projects, these get priority. In other words refinement and sophistication are for a leisurely age.

All Through

All through the stages two things play a key role : one is the Research Administration and the other is Team Work.

The related teams work as one man, and they are oriented to one idea: to deliver the goods in record time.

Such a pattern plays up the core and the personal skills, and plays down the peripheries and gadgets; such pattern plays up functions and use-orientation and plays down costly form and ceremony.

The first factory set up by Excel was at Jogeshwari. It started making zinc chloride but currently is engaged in manufacturing a wide range of materials.

In 1963 Excel commissioned its second factory in Amboli – a suburb of Mumbai. The products manufactured here include Aluminium and Zinc Phosphides, Phosphorus Pentasulphide, Celrich and other biotechnology based products.

1970 saw the launching of Excel's third factory in Bhavnagar, when the foundation was laid for its first Phosphorus Plant – plant built on barren, useless, saline and uneven land. Today Excel is a major industry in Bhavnagar, covering two hundred thousand square meters of the same land now beyond recognition. Excel Bhavnagar produces Endosulfan technical and its formulations, Butene Diol, Chlorpyriphos and Phosphorus and its compounds.

On 7 June 1975, amongst the undulating hills of Raigarh, on the banks of the river Kundalika, in the valley of Taluka Roha, Excel's fourth chemical factory was inaugurated. Products manufactured at Roha include Sulfex (a wettable Sulfur), Phosphorus Trichloride, Diethyl Thio Phosphoryl Chloride, Glyphosate technical and its formulations.

1984 saw Excel's factory situated in the picturesque locale of Lote Parashuram going into production of Sodium Chlorophenate. Water treatment chemicals are also manufactured here.

C. C. was on hand when the first and second factories were set up. But when the question of raising a plant at Bhavnagar came up, he was no more. The task was left to his brothers Govindjibhai and Kantisen.

The Amboli Factory

How the factory at Amboli came into being, how, indeed, the Amboli land came to be bought, makes a fascinating story.

Amboli lies between Mumbai's western suburbs Andheri and Jogeshwari. To the immediate west of Amboli is the Arabian Sea and during high tide it was usual for the land to be flooded by sea water. The place was totally deserted and only criminals indulging in illicit liquor manufacture were to be occasionally seen around.

The site, measuring about 3.25 acres originally belonged to a Catholic gentleman, one Mr. Nicholas Pereira who some time in 1956 was looking for some one to purchase the property. He needed

some Rs. 12,000 for the wedding of his daughter, but no one seemed interested in buying that unproductive land.

At that point in time a friend of Mr. Pereira suggested that he might as well approach the Shroffs who were well-known in the area and were regarded as helpful and charitable. "Who knows" the friend told Mr. Pereira, "the Shroffs might even loan you the amount to help you tide over your immediate difficulties!"

So Mr. Pereira approached C. C. Shroff (Champrajbhai). Would he care to purchase the land, he was asked. The Shroffs did not need the land really and C. C. Shroff offered to give Mr. Pereira the loan.

"But I may not be in a position to repay the loan. Why don't you take the land outright?" replied Mr. Pereira.

C. C. checked out the land and thought it was being under-priced, and very nobly offered to pay a higher amount.

"Thank you, sir" Mr. Pereira said, "but all I want is Rs. 12,000 and the land is yours!"

So land was transferred to Shroff Charitable Trust. At that moment, the Shroffs had no immediate need for that bit of real estate and the land was bought more to help out a fellow citizen than with some futuristic plans in mind.

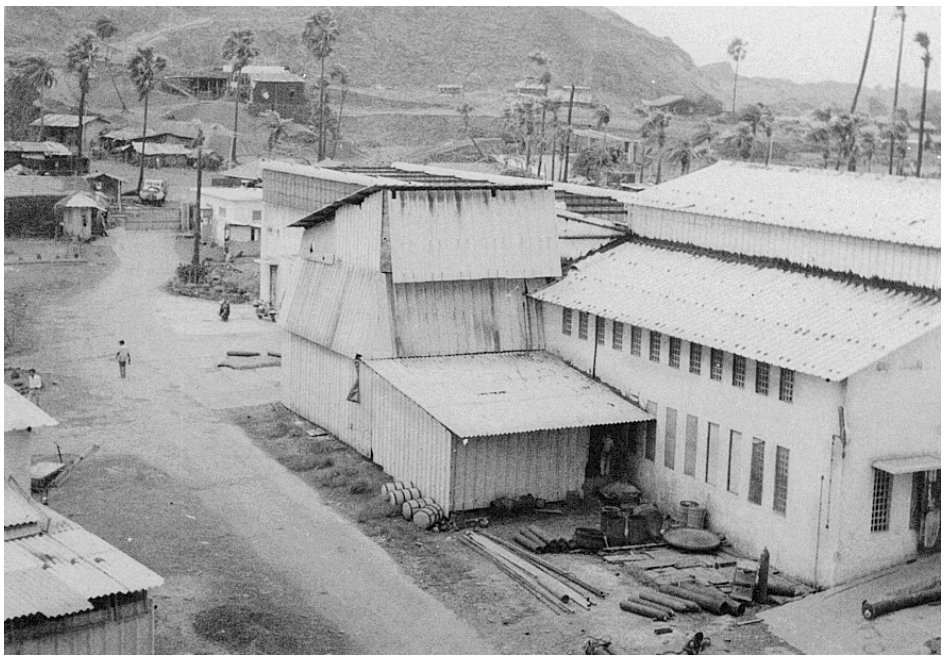
Amboli recorded in an early map as 'Ambauli'.

Amboli site being developed with a proper boundary wall and entrance gate.

Now Kantisen says: "That purchase has since taught us that it makes sense to be useful to somebody in need, without worrying what benefit we might futurely be reaping from our act!"

It was at Amboli that a factory was to be raised which was to prove to be almost the 'mother factory' for Excel. But when C. C. bought it, no one gave much thought to the land. It was there.

By 1962-63 things were happening at the Goregaon factory. Expansion was being talked about since process development and pilot scale manufacture had come to be stabilised and Excel was ready to scale up. Where could it go? At Jogeshwari, the site was already crowded, space being taken by the factory, workshop, offices and the R & D laboratory. "What about Amboli?" asked someone. It seemed the natural place to set up a factory.



The Amboli site develops! The Amboli hill is prominent in this view of the early days at Amboli Factory. The Zinc Phosphide shed and workshop are visible in the forefront.

Looking back, Anil K. Purecha who was put in charge of developing the Amboli site now wonders how it turned out to be a blessing. There was no approach to the site, one had to go over a hillock to reach it, but the youthful Excel staffers charged with developing the land – including Kirtibhai Shah, Y. K. Toprani, Bhailal, Chhagan, Ramji, Sitaram, Laxman Kandu, Sakharam, Babanrao Niwate, Yeshwant, even the redoubtable Manchhu Warli – got on to the job with redoubled energy. A wall had to be built round the property, partly to keep water out, partly to keep poachers also out and to make the property safe to build a factory.

C. C. would come regularly to offer guidance. So would Rajjubhai (R. D. Shroff, son of C. C.'s elder brother Devubhai) and his two younger brothers, Shashubhai and Kishorbhai. Kantisen was always on hand to keep the workers' enthusiasm from not flagging. In due course a tarred road was also built by Excel and a water line laid. A small shed was set up. Production work then started in right earnest. The first item to be manufactured at Amboli was Aluminium Chloride. Then the manufacture of other items was taken up. There was no tablet making machine for Aluminium Phosphide and these had to be laboriously made by people squatting on the floor, with C. C. doing the supervision.

There were no fixed working hours. Very often the staff wearing khaki shorts and a white under-shirt, would stay at the premises overnight, to complete a given task. As the number of workers increased it was felt necessary to set up a canteen in the premises. Transport was non-existent until Excel bought a jeep and a trailer. All workers – about a dozen of them – were taught to drive, just in case the regular driver was not available.

The tempo of activity increased from 1968 as Excel broadened its range of products. Old-timers remember the days when practically all the Excel products – Malathion, Chlorinated Paraffin Wax, Red Phosphorus, Zinc Phosphide, Celphos, Methyl Bromide – came first to be manufactured at Amboli before production was shifted to factories elsewhere. It was here at Amboli that Excel really and truly mastered production processes. Kantisen now says: "It was at Amboli that we mastered quite a few hazardous but nationally very important processes and in the process trained our staff as well. It was here that we could execute our growth plans and learnt the art of cooperation".

Accidents happened. Once the valve of 1000 kl capacity chlorine tonner got detached and the gas started leaking rapidly. That was when one of the workers, a dare-devil called Manchhu Jaina, rushed to block the leak at considerable risk to his own life. But the job was done. But some harm had been felt by residents in the neighbouring area who had to be rushed to the company's doctor for immediate treatment. Later, the Shroff family members cooked food and fed them.

There were other accidents, mostly minor which nevertheless were handled with professional expertise. Realising the importance of being present at the site, C. C. had a house built at the Amboli site for him to stay. Later his wife was to build a Krishna Temple close by and to fetch an idol all the way from Jaipur for installation there. The temple was formally opened on 11 March 1977 amidst much fanfare.

Amboli is again where C. C. passed away one night, as also where years later his wife Snehlataben breathed her last – in peace. Mention Amboli to Kantisen and he will turn sentimental. It was at the Amboli site that C. C. even started experimenting with growing potatoes using hydroponic techniques.

After the passage of some time, another plot of land measuring about 1.35 acres, adjacent to the existing Amboli site was available, and Excel felt the need and bought it out. So, except for this small annexed plot, the rest of the land at Amboli belongs to the Shroff Charitable Trust. Excel now pays a regular rent to the Trust for use of the plot. The Trust is engaged in many charitable activities but it was timely action and foresight of Govindjibhai and Kantisen that gave Excel the original piece of land.

It was at Amboli that Excel perfected its work philosophy which Kantisen once summarised as consisting of three elements, "Work is fun," "Work is Partnership" and "Work is Worship".

At this point a new man enters the scene. Chandraketu A. Mehta who was to stay with Excel for the next quarter century and play an important part in the growth process of Excel.

Popularly known as C.A., Chandraketu Mehta had been a rolling stone prior

to joining Excel and had never stayed on in any job for longer than eighteen months. At Excel he was to remain from the day he joined till he retired. It surely is a tribute to the challenges that Excel provided him and the job-satisfaction that he enjoyed working with the Shroffs. Mehta was extensively interviewed. This is his story. It tells us as much about C. A.'s involvement with Excel as with those who ran the organisation. It also incidentally throws light of the management style of Excel.

The installation ceremony of the Shri Krishna Temple, at Amboli, on 11 March 1977.

Chandraketu Mehta's Story

It was some time around the end of July 1968 when I was looking for a change of job that a friend of mine arranged an interview at Excel.

I reached there early in the morning and was greeted and shortly was interviewed. I had prepared myself for a normal interview. I had gone with my certificates and thinking about all my previous experience and how I would reply to the questions asked to me about what I knew about the subject I had learned during my education and during my previous jobs. But believe me, I was never asked to show my certificates nor was I asked any questions on the things I learnt during my education.

After the usual questions about my name, my qualifications and the companies I had worked for, I was asked an unusual question as to what I thought were my strengths and weaknesses.

I was asked about my ambitions in life and how I would see myself at the end of five years, if I got the job at Excel. After I narrated my strengths and frankly my weaknesses, I was told that the policy of the company was to build on the strengths of the people and to prepare them to overcome their weaknesses, either by training or by counselling.

When I said that my greatest strength was in establishing a rapport with the people I was working with and give them the confidence that if others can do something, so can we, I was immediately told: "It seems we can work together!" The man who told this to me was Shri Kantisen C. Shroff, then the Technical Director of Excel, affectionately known as 'Kaka' in the whole company. And so I decided to join the company as from 18 August 1968.

I then came to know that this organisation was built on the family tradition and the top Shroff family members were also being addressed accordingly. Shri Champrajbhai Shroff who had recently passed away was known as 'Pappa', Govindjibhai Shroff who had taken over from him was known as 'Bhai' and Kantisen Shroff himself was known as 'Kaka'.

The entire atmosphere was that of a family. Other family members were addressed as 'Mummy' or 'Chachi' or 'Kaki'. I also quickly realised that no one in the company felt like an employee but more as a member of the family. This was a new experience for me.

Excel Industries Ltd., – the Head Office on S. V. Road, Jogeshwari, Mumbai.

Another discovery that I made was that an academic degree was not everything in the company. Experience on the job mattered just as much. Except Rajjubhai (C. C.'s nephew and son of Devubhai) and Ashwinbhai (C. C.'s son) who were science graduates, Govindjibhai, Kantibhai, Shashubhai (eldest son of Devubhai) and Kishorbhai (Devubhai's third son) had no degrees to their credit, but they were all experts in their own fields.

As a matter of fact, after Pappa (C. C.) passed away, people thought there would be a vacuum, but Govindjibhai and Kantibhai successfully handled the situation and, as we will see later, took Excel to great heights.

Govindjibhai was looking after Finance and Accounts and Kantibhai after technical development, Shashubhai after implementation, Rajjubhai after new products, Kishorbhai after housekeeping and maintenance and Ashwinbhai who was (then) the youngest, was helping all of them wherever needed.

I started working as a Mechanical Engineer and was given the charge of the workshop where all the fabrication activities were being carried out for the in-house projects of the company and the development activities of the expansion of existing plants.

I worked here for exactly five days when I was told that a pilot plant for Mono Chloro Benzene (MCB) was to be set up and I was given the charge to complete the same before Diwali.

It was a marathon task but we did it more or less in time. I say more or less because we were just *two hours* late than the schedule! In fact I had told Shashubhai that on the New Year Day at 5 a.m. we will be starting the trials, but when I rang him up at 7 a.m. about the completion of the job, first he congratulated me and then added: "But you are two hours late!"

While working on this project for MCB, I came to know about how Shashubhai motivated people.

Excel's Amboli site was at such a place where nothing was available nearby. So he personally used to come every day in the evening with lots of snacks and would talk to us about the progress on the job, give guidelines for any of our difficulties and would stay on till late night. It was during this time that I came to know about Kaka's style of working.

Oxalic Acid plant under construction.

Incidentally, during my interview Kaka had asked me if I knew cooking and when I said I did, he asked: "Do you know why I asked the question?" And then he added: "If you master the art of cooking, you could master chemistry as well! As in cooking with the same ingredients and the same utensils, you prepare a variety of dishes. With the same raw materials you can also prepare a variety of chemicals!" And he added for good measure: "Like in cooking, what matters is the type of vessel, the temperature, the pressure and the time. In chemistry, also these factors, when controlled properly, produce excellent products of the required quality". Since then I was given responsibility of plant expansion for all in-house developed products.

My next task was connected with the production of Sulfur Dioxide. This plant had most of the equipment lead-lined. At that time Raghu and Kondiba were the best persons to do the lead-lining and they were the ones to instruct me on how carefully the lead-lining had to be carried out. Raghu also narrated the incidence when Kaka had thrown out a person who was wearing shoes with iron nails. I had never seen thereafter anyone so respectful of lead-lining to this extent.

We were having an Oxalic Acid plant running on a batch process, producing one ton of Oxalic Acid a day. The plant was of stainless steel. Kirtibhai, Gajanand and Arvind Patel were in charge of the operations. Of these three, Kirtibhai Shah was quite demanding in terms of operation procedures and Gajanand and Arvind Patel were quite fastidious where fabrication and aftercare of the equipment was concerned. The demand for Oxalic Acid was so high that we had constantly to enlarge plant capacity.

The main problem with this plant was of pollution. Nitrous gas fumes generated during the process had to be absorbed to recover Nitric Acid and the tail gases to be scrubbed. The problem with batch process plant was that the rate of generation of nitrous fumes was quite uneven and hence

Plant Stalwarts! C. A. Mehta, J. S. Gosalia, Navin Asher, R. Subramaniam (Top to Bottom).

the design of absorption capacity was problematic. It was therefore decided to go for a continuous plant.

Kaka had always believed that whenever we thought of increasing capacity, we should think of high capacity, so that we can understand the difficulties that we are likely to encounter in terms of engineering, material handling, process flow etc. We could then scale down.

Accordingly we started working on a 3 tonnes a day continuous plant. But as a first stage we put up a one tonne a day continuous plant that went on stream quite smoothly. Here we learnt about difficulties that could be faced in terms of Nitric Acid recovery which would otherwise affect the economics adversely. The same plant later on, in the same floor area, with additional equipment differently arranged, was converted into a 3 tonnes a day continuous plant. The plant gave such good results that later on, we decided to set up a similar plant at Bhavnagar.

A team of European experts who visited the plant in connection with the anti-dumping duty levied in Europe, where the product was being exported, gave a very high opinion about the engineering, layout and process flow. They were also convinced that the costing figures as given by Excel were genuine and not cooked up. As a result the anti-dumping duty was waived off.

In 1969 Excel thought of putting up manufacturing facilities for the production of elemental Phosphorus which was then being imported. The reason was that, at that time, Excel was the largest consumer of Phosphorus in India, was manufacturing Phosphorus compounds like P_2S_5, PCl_3, Phosphoric Acid and Red Phosphorus.

Putting up a Phosphorus plant was Pappa's dream but in January 1968, he had breathed his last and hence the challenge of fulfilling his dream was taken up by Bhai and Kaka.

The know-how for the process was not available in India and Excel had not believed in importing any technology. As of then all products manufactured by Excel were developed by Excel itself and it did not want to deviate from this established trend. But a team was sent to the States where Tennessee Valley Authority had plants to manufacture Phosphorus. The team consisting of Shashubhai and Shri Vaishnav went there and understood how Phosphorus could be manufactured. They returned with all the information that was available as 'public knowledge'. This is what we called 'show-how'. Kaka had, in the past, adopted a similar technique for the Dimethoate plant of Rallis where he had told Monte-Cartinie to show him the plant and honestly reply to his questions.

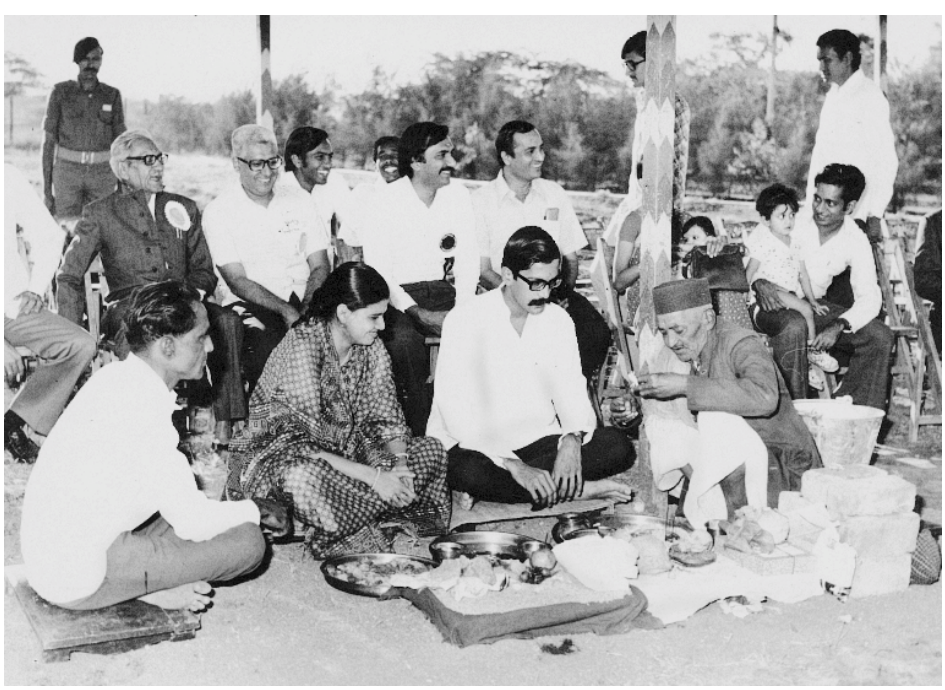
With this Phosphorus plant Excel was opening a new chapter as it was going to be a Public Limtied Company. To decide about the project cost we invited offers from foreign countries. The lowest offer we got was Rs. 6.5 crore.

At this stage, Kaka and Bhai wanted to know whether we could design the plant based on the information available and if yes, how much would it cost.

A team consisting of Prakash Shringarpure, T. D. Thomas, Vijay Kothiwale, G. O. Kanabar and C. A. Mehta was set up to work out the details. We came out with the figure of Rs. 2.5 crore in which the cost of imported equipment was to the tune of Rs. 1 crore. But Kaka was still not happy and he pressed us to do some more homework. Ultimately, when we completed the project, the cost was about Rs. 1.25 crore with the imported items costing only Rs. 11 lakh. This import was necessary if unfortunate only because no one was making graphite electrodes of the size we wanted.

There were a few events that merit explanation.

We wanted a 22 KV, 5 MVA furnace transformer which nobody was making in India. Ultimately we approached Siemens



Mr. and Mrs. Prakash Shringarpure performing Bhoomi-Pujan at the Bhavnagar site. Vajubhai Vankani, Pranav Bhatt, Raju Mehta, Kapinjal Vohra and T. D. Thomas (L to R).

India Ltd. They said they could design the transformer and also manufacture the same, but they were not willing to guarantee the same.

We asked them as to the level of their confidence. They said they were 100 per cent confident but would not undertake guarantee of performance. To that Kaka's reply was: "We want your confidence and not your guarantee"!

So the order was placed with Siemens India.

The transformer worked most satisfactorily. Next was the lining of the furnace. Usually graphite blocks are used for the furnace lining which were then not being made in India. For this Kaka sent a team to various ferro-alloy factories which were using arc furnaces. Here they learnt about the tamping paste and its effectiveness in arc furnaces. We mastered the technique of manufacturing blocks out of this tamping paste and also how to use it for monolithic lining.

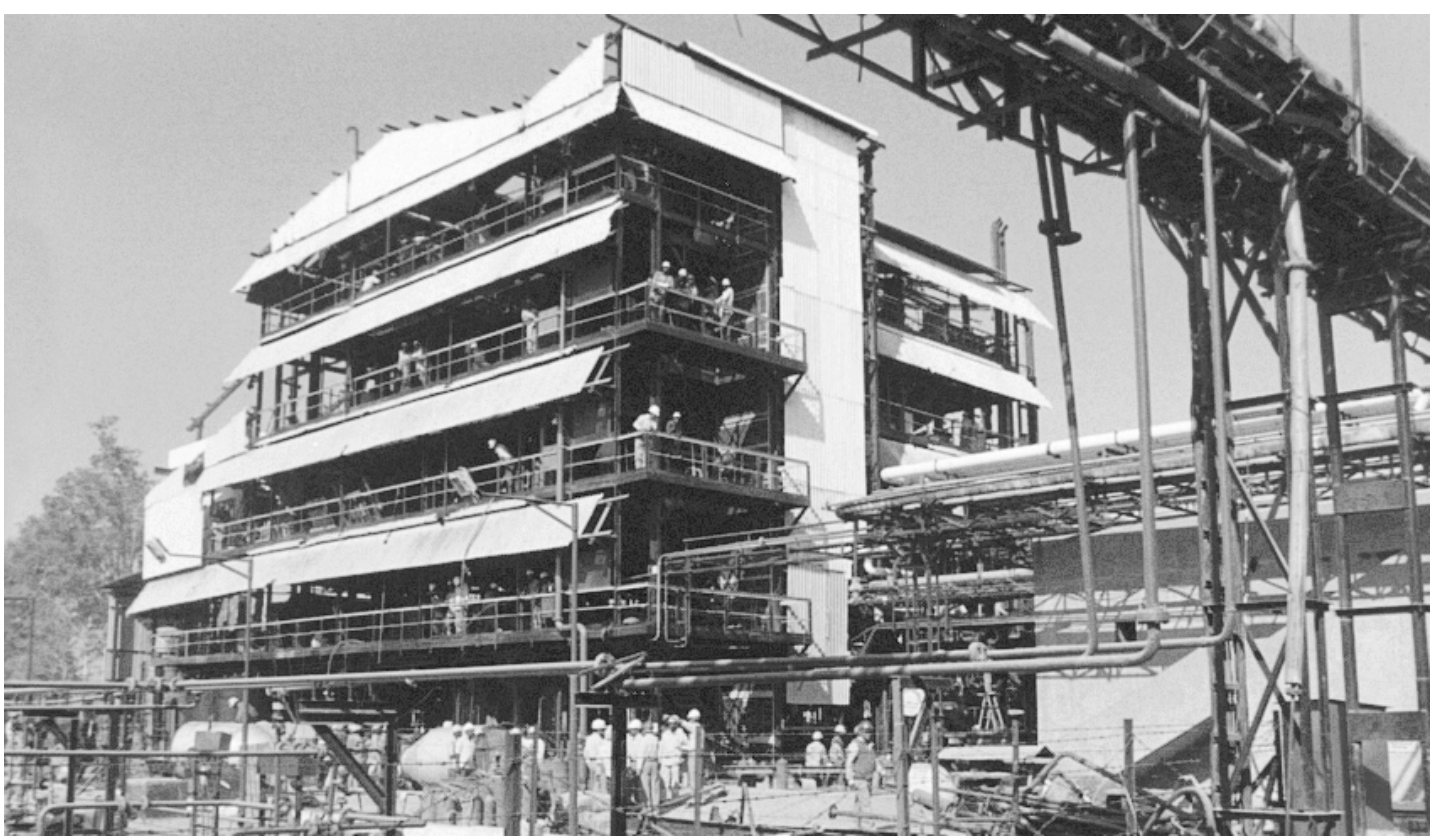
Still next was the copper cone for removal of slag from the furnace. The available literature specified a hollow copper cone from which the slag tapping was to be done. Water had to be circulated through the hollow space to remove the heat. We tried some indigenous parties but were not successful. At such times Kaka used to tell us to conduct what is fashionably known as "brain-storming", though what we did was to sit all together solving a jig-saw puzzle – understand every bit of information, thoughts, ideas and knowledge, and piece them together to present a meaningful solution. During the session we discussed the fundamental principle of heat removal and came out with the conclusion that we can go for a Mild Steel fabricated hollow cone which will be quite simple to manufacture and would be quite cheap compared to the copper cone. This cone worked quite effectively.

There were umpteen number of such things, like the casting of roof, A. C. motors instead of D. C. motors, electrode assembly system and the like which helped us in reducing the cost.

(Let me mention at this stage that when we were putting up this Phosphorus plant, another company was also putting up a similar plant with a similar capacity but with totally imported know-how and equipment. The cost of the plant was about three times the cost of our plant).

When we decided to put up the project, we selected Bhavnagar as the site. The reasons were that Bhavnagar had an airport and was only a 90-minute flight away from Bombay. It was an education centre and had other infrastructure facilities. Land was also available at a reasonable price because it was 'Kharaba Land' or wasteland.

Kaka, Bhai and the entire Shroff family believed in the social responsibility of the company. So it was decided that the first preference would be given to whatever talent was locally available. People were surprised when they came to know that our first two recruits were patients from the nearby leprosy home, who had been declared negative. A local community known as *kharwas*, who were originally engaged in sea-faring activities were given an opportunity to show their skills in erecting structures and heavy equipment.



The Endosulfan plant at Bhavnagar.

Science graduates were selected to run the plant. A student from the local Commerce College was taken up as a part-timer for the Accounts Section. He is still working for Excel.

Before the start of the plant, we remembered that Phosphorus was a hazardous material. So a seminar was conducted to appraise some of the leading medical practitioners on how to treat an affected patient and what medicines were to be applied in case of any mishap in the plant. This was necessary because the type of treatment to be given in case of Phosphorus burns is different from that given for other types of burns. Later on a separate ward was also created in the General Hospital for the burns.

When the project was about to be commissioned in September 1971, we all prayed for a smooth and successful start-up as the other similar plant (which was set up by another party elsewhere) had a fatal accident just a few days prior to the day our plant was to be started. We did not face any problem for a long time after the start-up.

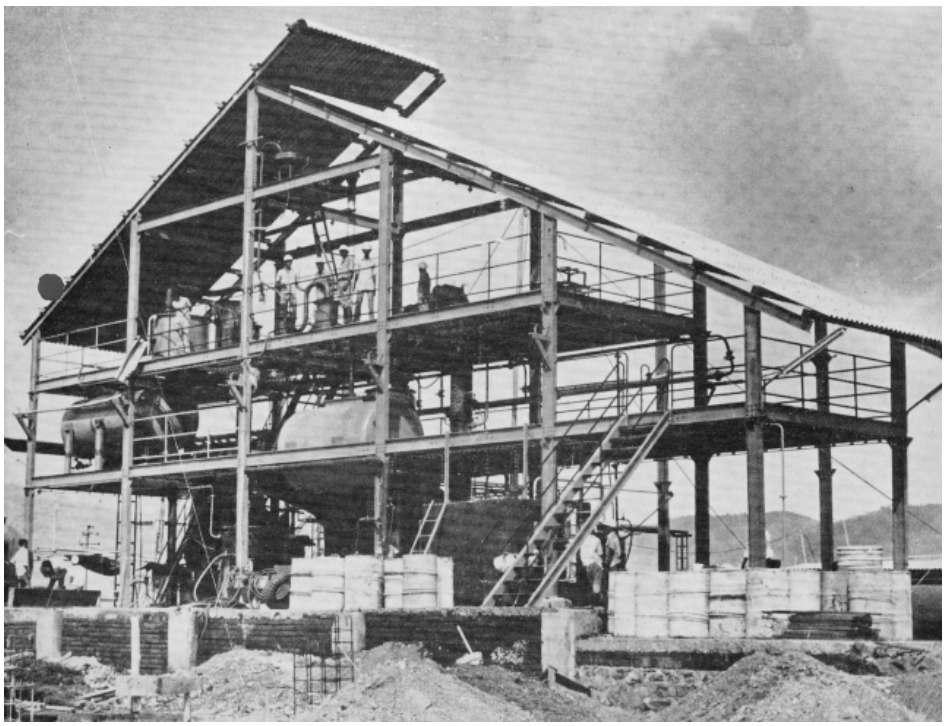
This Bhavnagar site later on became a very important site for Excel as so many other products were later manufactured there, like Endosulfan (including its formulation), Butene Diol, Red Phosphorus, Phosphorus Pentasulphide, Oxalic Acid and finally Chlorpyriphos. Excel scientists based all these products on in-house process developments.

Out of these Butene Diol needs a special mention as everywhere in the world this product was made by high pressure technology, whereas we were thinking of using low pressure technology as it was prepared using Hydrogen and Acetylene which are both extremely hazardous. The key was the catalyst to be used and the credit for developing this catalyst goes to Jitubhai Shah and Kirtibhai Shah.

The scene now shifts to Baroda.

Here a group company under the name of Kalali Chemicals was making Hydro-sulphide of Soda using Zinc as the main raw material. Zinc Hydroxide was coming out as a by-product. The entire economics of the plant depended on the recovery of Zinc powder from this Zinc Hydroxide.

Shroff Technical Services, which as another Group Company of Excel, had developed the recovery process, using rotating cathodes. The recovery process was working satisfactorily but the efficiency of recovery was not up to the mark.



PCl_3 plant under construction, at Roha.

This was some time during early 1972, soon after the Phosphorus plant at Bhavnagar was commissioned. As usual Kaka was called to give his advice. A team consisting of Y. S. Mehta, N. C. Shah and C. A. Mehta, under the leadership of Kaka went to Baroda to study how the plant could be made more efficient.

At one stage the team thought that it was not possible to streamline the plant but then, if that was the case, what would happen to the technology offer that we had given to Rallis Chemical at Kanpur?

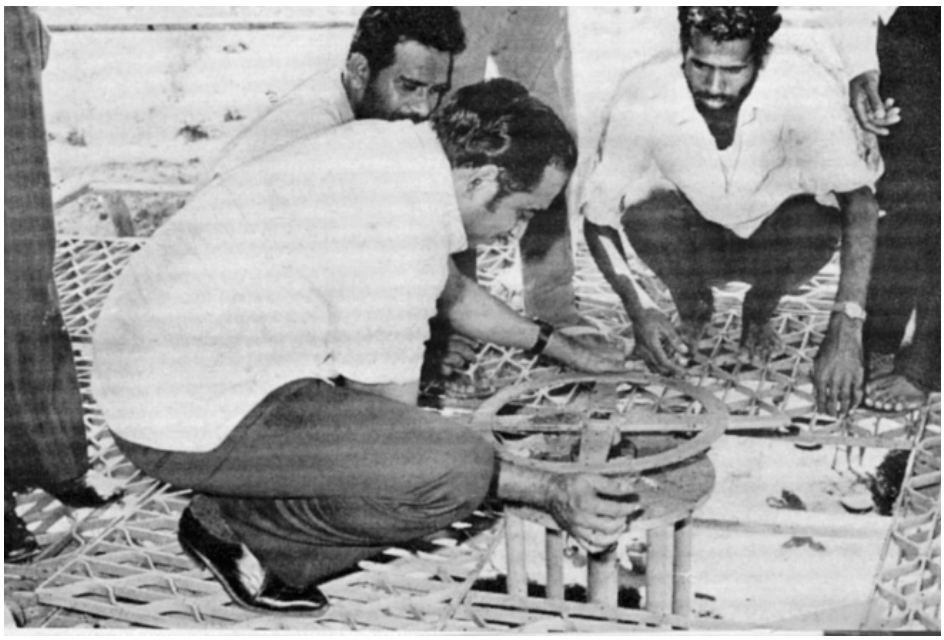
Secondly, Kaka was not one to give up so easily. So, as in Bhavnagar, we went into the basics of the process and the parameters to be maintained. The voltage, current density, spacing between anode and cathode and the concentration of Zinc in the electrolyte were all studied in detail.

Experiments were carried out for optimising each of them. To our surprise, we came to know that the concentration of Zinc in the electrolyte measured in grams per litre (gpl) was the key factor, which was not being maintained at the required level. When the same was maintained at the correct level, the Zinc production was at its best. A plant that people had thought would have to be closed down thus turned out to be a great success.

In the years that followed, Kalali Chemicals went on to become one of the largest hydro-producers in India. Since then, whenever we faced some problem about fixing of parameters for any process, Kaka would remind us of Kalali Chemicals.

In view of my experience in Hydro, in 1973 I was assigned the responsibility for putting up the plant for Rallis Chemicals Ltd. at Kanpur, who had purchased the know-how from Shroff Technical Services. It was during this project that I experienced the love and care of Kaka and Bhai.

During the one-and-half year period I was at Kanpur from start to finish, Kaka used to visit my house personally, talk to my children and take them out for trips to various places. To see that my wife did not have to face the difficulty of going to the bank for withdrawing money, Bhai made the arrangement that my salary be paid in cash instead of by cheque. Shashubhai also kept constant touch with my family. Needless to say that the Kanpur plant was also a great success.



Dr. Pandit of Bayer turns the wheel for the first supply of PCl_3 flow, while Arjun Dhondu and Sajnu Mahadev look on.

Excel had a plant to manufacture Phosphorus Trichloride (PCl_3) at its Amboli factory. It was a pilot plant with a capacity of a little less than one tonne per day. Our main client for this product was Bayer.

Bayer were using this industrial chemical as intermediate in the manufacture of Parathion, a pesticide. Suddenly, in early 1975, they came with a request that as they were going to increase the capacity of their plant, they would require about three tonnes per day and that, too, within a very short time of about three months.

As usual, Excel accepted the challenge. We started the search for a new site as it was not possible to expand the capacity at Amboli.

Fortunately, around the same time, the Maharashtra Industrial Development Corporation (MIDC) was developing a chemical zone at Roha, which was 125 kms away from Bombay. It was connected to Bombay only by road and the travelling time in those days was about 2 1/2 hours.

So we selected a 2-acre plot in this Industrial Estate. Meanwhile, details were worked out for a 2-tonne per day PCl_3 plant. The *Bhoomi Pujan* ceremony was arranged on 7 February 1975 and the top man of Bayer was invited to attend the same.

When he saw the site, he was quite skeptical about our being able to deliver the goods within three months and expressed his doubts openly. But Bhai and Kaka were quite confident.

Immediately after the *Bhoomi Puja*, both Bhai and Kaka addressed the group and explained the urgency of completing the project in time. The *pandal* which was put up for the opening ceremony was covered with brick walls to create a small temporary building to be used as a canteen, store room, sleeping place and a site office! (To this day the structure has been left as it was, for its nostalgic value!).

As construction power was also not available immediately, a small generator was installed to provide light during the night hours and to run diesel-welding sets during the day for the construction activities.

Marking for foundations was done on the same day and excavation work started. A site team headed by Shri Atulbhai Shroff, and consisting of Messrs B. V. Gandhi, S. S. Ogale, Shankarbhai and C. A. Mehta was formed to carry out the project.

When on 110th day we called up Bayer to send the tanker to collect the material, they could not believe it. But when they came to collect the first dispatch, they were amazed to see the plant actually working!

The credit, of course, goes to the team work, detailed planning and motivation by the seniors and the untiring effort of every individual. Otherwise, considering the fact that we had to bring almost everything from Bombay, as Roha was then still a small town and that practically few things required for the project were available locally, it was quite difficult, if not impossible, to complete the project on time.

We used to have a daily trip from Bombay to Roha and back for maintaining the supply chain. The spirit of the entire team was so high that I still remember an incident when the jeep used for such trips had some problem on the way. Sajnu, one of the workers working at Roha site was travelling in the jeep and was having fever. But that did not stop him from pushing the jeep for about 2 kms to bring it to the repair garage so that supplies were not delayed. That was the tempo with which people worked.

As usual, here too we selected local persons mostly, for recruitment and training. As was done at Bhavnagar, local doctors were contacted and informed about the type of treatment given in case of chemical accidents.

We could get practically all the statutory clearances required for the site from the local authorities. But for the furnace oil storage we had to obtain permission from the Explosives Department at Nagpur. For this we had to obtain a No Objection Certificate from the District Collector.

When we approached him and explained to him the urgency of the matter, he said he would definitely like to give the clearance then and there, but unfortunately the Class III and Class IV employees were on strike and hence there was no typist to type the clearance letter. I inquired whether he can allow me to use his typewriter and if he could dictate the letter, as I knew typing. He immediately agreed and dictated the letter, signed it and delivered the same to us.

In another case we had to sign the agreement with MSEB for connecting the power supply. We had prepared all the documents for signing when on the last

evening we found that the route of the electrical line shown on the map, which was to be attached to the agreement, was not correct. We were to sign the agreement next day at 3 p.m. but before that, the drawing had to be revised and signed by the MSEB official at Roha. I told the concerned seniors to be at MSEB office at 3 p.m. I started for Roha next day at 7 a.m. went to MSEB office at Roha, talked to the concerned Engineer, who was kind enough to make the change in the routing shown, and I came back to Bombay by afternoon with the revised drawing. We signed the agreement as per the schedule.

Thus we commenced the plant on 21 May 1975, in exactly 110 days from the *Bhoomi Pujan* day. Subsequently Roha had plants of Aluminium Chloride, Di Thio Phosphoryl Chloride, Wettable Sulfur and Glyphosate and it became the second largest site of Excel after Bhavnagar.

Incidentally, for Glyphosate, Bhai had met Monsanto Chemicals – the renowned multinational corporation, which, until then, had a monopoly hold on the market, for the weedicide – for talks, but they refused to part with the know-how. Whereupon Bhai informed them that in that case, Excel will put up the plant with its own know-how.

We successfully commissioned that plant but then the suppliers of one of the raw materials (Imino Di-acetic Acid) stopped supplies to Excel, possibly at the instance of the said MNC, to block the entry of Excel as a competitor. Not getting bogged down by this road block, Excel also successfully developed this raw material with its own process.

Excel was also manufacturing at its Amboli factory a pesticide called Malathion which was being used both in agriculture as well as in the eradication of Malaria. We had a plant with a capacity of one tonne per day and had developed process ourselves. The statistics published by the Government of India indicated that the demand for the product was likely to reach 12,000 to 13,000 tonnes per year. Attracted by this projection, a Public Sector Undertaking (PSU), namely Hindustan Insecticides Ltd. (HIL) approached Excel to give them the technology to put up a plant with a capacity of 600 tonnes per annum (TPA) at Rasayani near Panvel.

The final agreement was signed on 9 May 1980. But they had a very stringent condition that the structure of the plant should be in form-finished concrete and not steel nor plastered concrete.

Till then all our structures were in steel basically because of the fact that in steel structures later modifications were quite easy. We could move equipment whenever required, giving us the facility to produce different chemicals by rearranging the equipment. (As some foreigner once remarked, Excel was not having plants but was having mechanos, where one can do a lot of variations to suit the needs). Thus this was our first experience in making a concrete structure and that, too, in form-finished concrete.

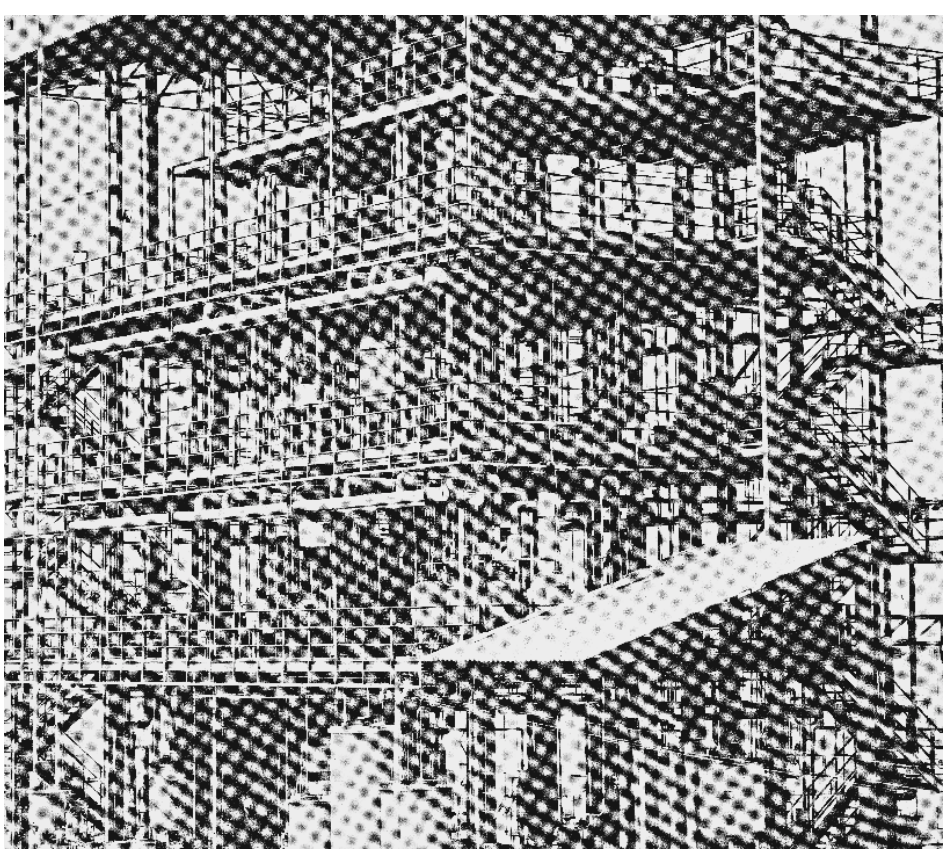
During this period, Punjab State Industrial Development Corporation (PSIDC), a State government undertaking, had also entered into an agreement with us, for a Joint Venture Company for putting up a 600 TPA Malathion plant at Dera Bassi, near Chandigarh. Hence we decided to put a form-finished concrete structure there, so that any difficulty that we might face can give us the experience for the HIL plant at Rasayani.

My colleagues during this project were Madhukar Malhotra, R. Narayan, both of whom were first at the Head Office and then on site, besides K. V. Suryanarayan at the Head Office.

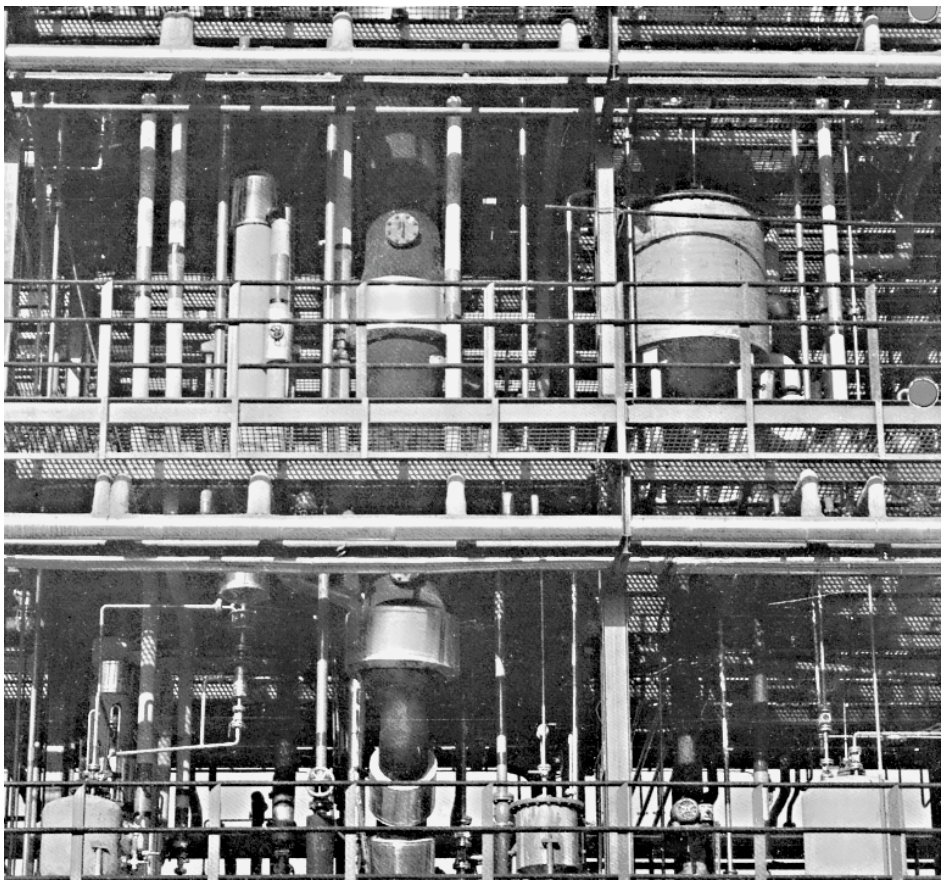
We completed this Dera Bassi project in about 18 months and it was commissioned quite successfully.

In this instance, we had approached ICICI for project finance. Under the guidance of Bhai and Ashwinbhai Zaveri (the then Secretary and a Director of Excel), the detailed project report was submitted to ICICI which was so thoroughly prepared that it was cleared in just three months' time.

Later on we added an Oxalic Acid Plant at Dera Bassi. This was with a view to supply the material to Indian Drugs & Pharmaceuticals Ltd. (another Central Government PSU), their factory being at Rishikesh and nearer to Chandigarh.



Malathion Technical plant set up with Excel's specialised project skills.



The Malathion plant – Steel structure: focus on equipment and process piping.

A further forward integration led to putting up a Diethyl Oxalate plant at the same site. This product, along with Oxalic Acid had a very high export potential and thus this plant became the largest exporter of Diethyl Oxalate.

When we designed the plant for HIL we came to the conclusion that it would require 5000 litre glass-lined vessels (GLVs). At that time, Gujarat Machinery Manufacturers (GMM) at Karamsad (near Anand) were the only manufacturers of glass-lined vessels, but their capacity was up to the maximum of 3000 litre vessels. As this plant was a turn-key project to be supplied by Excel, we wanted to keep the cost at a minimum, and import of these vessels would mean a lot of cost.

The Chairman of GMM then was Mr. Jethabhai V. Patel who was also the Chairman of New Standard Engineering at Bombay, and Bhai knew him very well. He also had a philosophy like Excel and when Bhai talked to him, he told Bhai that he was willing to undertake the manufacture of these 5000 litre vessels at his Karamsad unit.

So an order for seven such large capacity vessels was placed with GMM. This was perhaps the biggest ever single order that GMM had been awarded till then and they appreciated Excel's gesture very much.

Our people were also sent for training at GMM in maintenance, under the leadership of Vasantbhai Mistry who was well-known in Excel for all precision jobs. The maintenance work of GLVs is like a dentist's job and the tools used are also similar. Vasantbhai acquired such mastery in this job that the GMM maintenance group to this day regards him as their *guru*.

Though we were quite confident of the capability of GMM in manufacturing these 5000 litre GLVs, in order to be doubly sure, we placed an additional order for one such vessel which was to be installed at our Amboli factory. This was to enable us to learn the operation and understand the difficulties, if any, in its maintenance. GMM also agreed to keep one such vessel as spare at their works, to take care of any eventuality.

As the HIL plant was a turn-key project, it had all the terms and conditions related to time, performance of all equipment, capacity, raw material consumption and quality of product as well as the treated waste water. The project took about three years to complete and during this time we had a team of our supervisors and workers staying at site. A small guest house with a canteen facility was constructed to accommodate about 40 people. My colleagues at site, during this project, were Vipin Doshi, S. C. Sharma, S. P. Iyer. Besides, Anil Purecha and Pratap Dave were there as facilitators to look after the administration and hospitality. Both of them were so good at their function that the entire team of the PSU staff looked to them with great respect, and also sometimes approached them for personal work.

Since HIL was a PSU, the security was managed by the Central Industrial Security Force (CISF). Their rules laid down that CISF personnel reported and accepted orders only from the Home Ministry and not the General Manager of the PSU at site. That created problems for the Force in the matter of food. Sensing that, Pratap and Anil would invite the CISF personnel for snacks and beverage along with our people, especially during the night shifts. The result of such cordial relationship so developed was that we never had any difficulty in terms of the vehicular movement of our material, coming in or going out.

The team spirit of the entire group was so good that Mr. Kayastha, then General Manager of HIL once said that it was difficult to distinguish between a worker and a supervisor. He noticed that a worker was available for any job that needed to be done. No one was lazy. The arrangement so appealed to him that he too would sometimes join us.

I remember an incident when the trainees of Ficom Organics (one of the potential clients of Excel for another Malathion plant to be taken up at Ankleshwar in Gujarat) had come for a day to the site to see the plant being commissioned. In the evening we were

about to commission one of the sections. So they approached me to find out whether they can stay overnight and see the commissioning. I told them that I had no other problem but at night arrangements for sleeping were inadequate. Their reply was: "We are here to see the commissioning of the plant and not to sleep. We will not get such an experience ever again". They worked all night and left early next morning.

We completed the project in time and within our budget. Not only that, but as established by the guarantee runs, the capacity of the plant was 15 percent more than the guaranteed figure. The consumption of raw materials was also much less than the targeted figures and the quality of the product was also above the guaranteed percentage.

But then later we faced a small problem. As per the agreement we had said that the quality of the product would be as per ISI standard in existence on the date of signing the agreement. But by the time we completed the project there was a change in the testing method of the product for establishing the quality.

The HIL chief wanted us to test according to the amended procedure whereas we insisted that it had been tested as per the ISI procedure. Because of this the final payment to be made to Excel was withheld.

HIL insisted that the final payment would be made only after the quality was established according to the revised testing method whereas we were firm that it had to be as per ISI procedure mentioned in the agreement. This led to a dispute and the matter went to court.

During this period, when the legal procedures were going on, the chief of HIL was coming to Bombay to meet Bhai. I had gone to receive him at the airport and while we were on our way he asked me what Bhai's mood was like.

I told him: "Sir, as far as I know Bhai, if you stick to your demand, he would not mind spending any amount to fight the case. Whereas if you tell him that you are releasing the last payment and make a request to help you out in this matter, he will also not look back in spending any amount to establish the quality as per new testing method".

The result was that he agreed to my suggestion, decided to release the final payment and withdraw the case. Excel in turn put in all efforts to establish the quality of the product according to the amended test and all was well. The PSU went on to become the largest manufacturer of Malathion in India!

Even as we were assisting HIL, we received requests from several other entrepreneurs for giving them the technology to manufacture Malathion. Among these were companies like Ficom Organics, Khatau Junker, Bihar Chemicals and Pesticides, IFFCO, Ultra Rasayan etc.

While Bhai was always business-like, he would occasionally not mind a little levity on my part. I once told him the story of Akbar the great and an Arab horse dealer to illustrate my argument. I did not have to go very far. . . he quickly got my point . . .

Bhai tried to convince them that India already had enough capacity to produce the needed Malathion and they would only be operating in a saturated market. But they kept making their demands and in the end Excel gave its know-how to three companies which then went into production, only to burn their hands. They had to close down their plants. Bhai was right. What is to be remembered is that he did not try to cash in on their zeal to make a profit for himself.

Bhai was a very simple person. But he was quite clear in his mind as to what he had to do. He would tell us: "Whenever you come to me with any difficulty, please come with all the details and also your views on some possible alternatives. It would then be easier for me to give a decision. It will also give you an opportunity to work out a possible solution".

While Bhai was always very businesslike he would occasionally not mind a little levity on my part. I remember one incident when IFFCO asked us for an offer for 600 TPA Malathion project. We submitted our proposal, they sent us a list of questions. Bhai called me to find out whether Excel should provide the answers sought. Instead of meeting his query straightaway, I told him the story of Akbar and Birbal.

It went like this:

Once a dealer of Arab steeds came to Akbar and showed him his horses. Akbar was so impressed that he straightaway gave the dealer a lakh of rupees telling him to get more of them soonest.

Some time later Akbar told Birbal to prepare a list of fools then residing in Delhi. When Birbal presented the same Akbar found that his name was on the top. "What's is this?" asked Akbar, "why do you consider me the biggest fool of all?" Birbal said "Shahenshah, you have given a lakh of rupees to an unknown trader, for getting you horses. What if he didn't bring any? That's why you top this list".

"But what if he does bring them?" queried Akbar.

To that Birbal retorted: "In that case I would replace your name with his!"

Bhai got the gist of my argument. We did not provide IFFCO the answers they needed. And, of course, we did not get the project either.

Excel's philosophy has been to create entrepreneurs from among who worked for it. Every opportunity was provided to those who aspired to do something on their own. This did not mean that they had to leave their services from Excel. But they could find ways of complementing Excel's products in a meaningful way.

Thus, we were using Ammonium Carbonate for the production of Aluminium Phosphide. The process was very simple. (As a matter of fact, such simplification of process engineering was Excel's key to success). Ammonia and Carbon Dioxide were simultaneously fed, at a controlled rate, in a big plastic balloon, resulting in Ammonium Carbonate. The untreated gases were taken out from the other end. After the process was totally established, it was handed over to a group consisting of Bansi Marfatia, Gajanan Dedka and Bhanubhai Purohit, who

formed a company by the names of Freezco. Another product made out of the waste Phosphoric Acid was handed over to a group consisting of Vanraj Pattani, Anil Purecha, Y. S. Mehta and others. Another partnership company was floated under the name of Waman Industries in which W. G. Mulye, P. V. Kango, C. A. Mehta and G. O. Kanabar were the main partners led by Anshul Chemicals, held by Ashwinbhai Shroff. These are just a few of the names but there were many others.

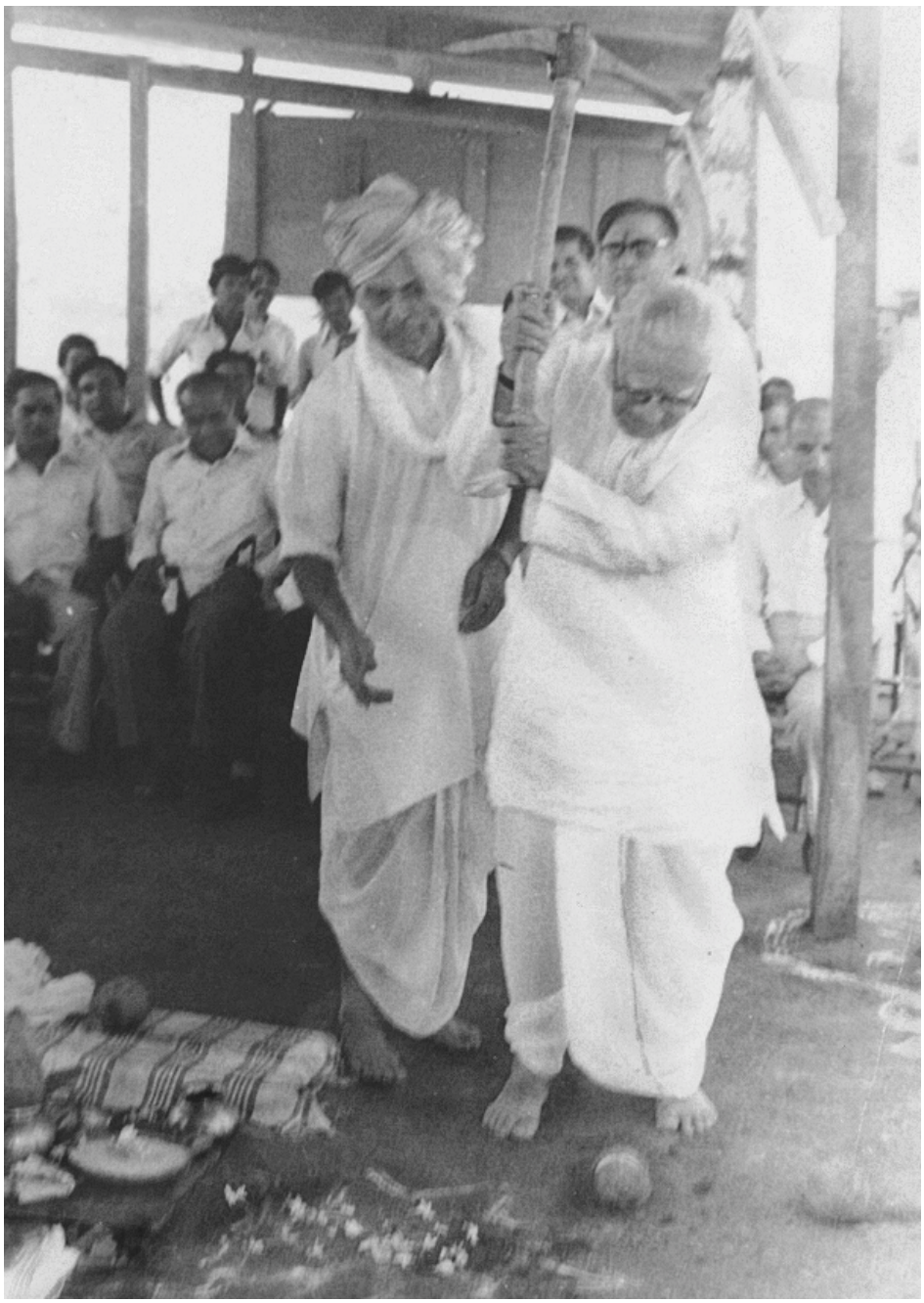
Once, when I was talking to somebody, he just told me that when such companies are formed, the people tend to devote more time to their own companies and not to the parent company. I said my experience in the matter was exactly opposite.

In our case we complete our work at Excel and then after office hours go to our own units. This policy has resulted in such strong attachment of people with Excel that in those days, once a person joined Excel, he would rarely leave the company.

We used to call it a One-Way Traffic. Even in case of recruitment first preference was always given to the children of employees. There were many examples of a father and son both working for Excel. (This *Baap-Beta* scheme is still in vogue – of course, subject to available vacancies).

To get back to track. We had given the technology to manufacture Malathion to Khatau Junker, Ficom Organics and Bihar Pesticides. We completed the plants for Khatau and Ficom more or less simultaneously. The Bihar plant did not go on well because of various reasons, mainly bureaucratic.

During this period, attracted by the name and reputation of Excel, many foreign companies also approached it for various other know-hows. National Pesticides Company of Tanzania for Malathion, Fertiliser Distribution & Pesticides Production Corporation of Iran also for Malathion and a company from Egypt for Wettable Sulfur powder. The negotiations had gone quite far, in some cases right up to the signing of agreement, but the deals did not go through on the grounds of price quoted by Excel.



Pujya Bhai, performing the Bhoomi Pujan on 14 April 1983. The Lote site was born.

However, from these experiences we learnt the nitty gritty of negotiating with international firms.

Then came the last and the best project as far as I am concerned. In the late 1970s Excel had been called upon to set right a plant manufacturing Sodium Pentachlorophenate. (SPCP). This plant was lying idle for quite a long time and our team went to study the problems and set them right. Again, due to the attitude of people there, even after our best efforts, the plant did not go on stream, but, in turn, we learnt a new process.

In 1983 Excel selected a 20-acre site near Chiplun in Ratnagiri district of Maharashtra. The place was called Lote Parashuram where MIDC was setting up a chemical manufacturing zone (CMZ). The place was located on an elevation of about 600 ft above sea level and was a scenic spot. It also had a historical background attached to Bhagvan Parashuram from whom it derived its name. That time it was

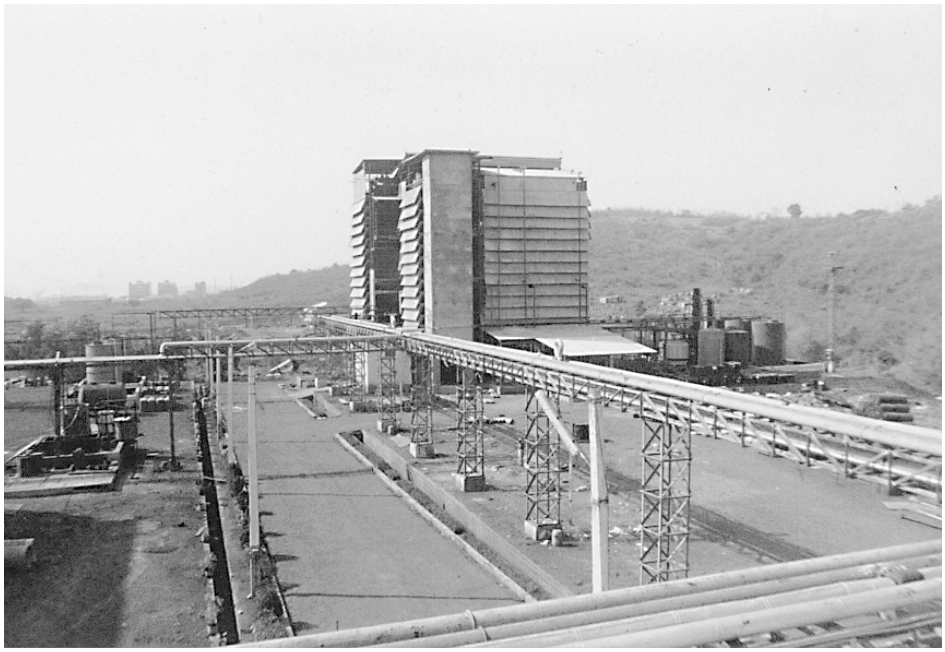
approachable from Bombay only by road. The travel time was between 5 to 6 hours.

When we performed the *Bhoomi Puja* on 14 April 1983 there was a lot of resistance from the local people. Their main reason was that they would not be benefited in any way, as none of the companies in that area had provided employment to local people.

They even raised this point during our *Bhoomi Puja* ceremony. They were not wrong, as one of the big industries which had set up a plant there had specified matriculation as qualification even for the job of a sweeper.

But when they came to know of our tradition and the intention of providing jobs only to local people, they cooperated very well. We also told them that our first group, which is coming from Bombay consisted of people who belonged to Ratnagiri. The beauty was that all these people belonging to the team were working in Excel as plant supervisors or electricians or in workshop. Under the leadership of Kaka, this group was specifically trained for carrying out project activities and thereafter to take over the production activity when the plant was commissioned.

As usual we created a temporary guesthouse from the *pandal* which was put up for the *Bhoomi Puja*, which also housed a canteen. The group for the project included Prakash Gagangras, Padmakar Jawdekar, Yeshwant Kambre, Chandrakant Pujari and others. All of them were employed at Excel Bombay at very junior levels but had the potential to grow and take higher responsibilities.



The HEDP plant was commissioned at Lote in 1991.

We all were staying at the site, as the nearest place where hotel accommodation was available was Chiplun, which was 15 kms away. We started recruiting people locally, not only in the lower categories but also visited the local college to recruit B.Sc. candidates who could operate the plant. All of them were sent to Bombay for training. The Lote Plant went on stream in 1985. Over the years many speciality chemicals have been added to the product range of Lote Parashuram.

At the time of its erection, we did not know that we were engaged in creating one of the most beautiful sites of Excel. The layout, engineering and landscaping turned out to be excellent. I would not have mentioned this had it not been for the appreciation that this site got from GE Plastics group who recently thought of this site as ideal for their toll manufacturing activity.

Prakash Gagangras has his own story to tell about the setting up of the Lote Parashuram unit. He had joined Excel in 1974 and had been initially put in charge of Quality Control at the Amboli site under the guidance of Sudhir Kapadia. After a period of three months, he was taken in Operations under the guidance of Narendra Shah, Prakash Shroff, Y. S. Mehta, the late C. P. Vyas and S. P. Iyer. Gagangras' main contribution was in the development of the flaking process in Phosphorus Pentasulphide.

Gagangras was responsible for commissioning two plants of Phosphorus

The SPCP plant at Lote Parashuram. The first plant to be commissioned at the Lote site in 1985.

Pentasulphide, one at Roha (Waman Industries) and another at Chandigarh (Pentaphos). In 1983 when Excel selected a new site in Konkan, at Lote Parashuram, at Kaka's request, W. G. Mulye was asked to prepare a list of employees hailing from Konkan and Gagangras was included in the first team of twelve employees who were to undergo training, to take the task of setting up the Lote unit.

Gagangras was in the batch which went there. As he was to say later, the area was barren and the land sloppy. The only natural vegetation was small shrubs and a few wild plants. Almost the first thing Excel did was to seek to beautify the place by planting three truck loads of saplings from Bhavnagar. A few ornamental trees were also planted along with coconut, mango and chikoo trees.

This is how Gagangras remembers developments at Lote:

Ten of us were transferred to this place under the leadership of C. A. Mehta. A small make-shift shed was erected to provide shelter for them. They worked hard and sought all possible help from the local people and created an atmosphere of goodwill and harmony all round. Then a multipurpose shed came into existence for sheltering the Administration, canteen, laboratory, stores, raw material and finished goods. Production related activities were also taken care of by erecting a new building for the first product of Excel Lote, Sodium Pentachlorophenate (SPCP). This product was earlier manufactured at Excel's Jogeshwari unit. However, because of capacity constraints, the decision was taken to produce it at Lote.

The production of Sodium Pentachlorophenate was streamlined in 1985 and it was the time for the Lote site to consolidate its existing strengths and look for more challenges.

However, it was a bad period for Excel. It's cash flows suddenly tightened due to sluggishness in the market. There was no demand for some of its products. Again this bad patch was overcome by the innovative and enterprising spirit that prevailed at Excel. From the very start it had relied on its Research & Development. It got into production of a speciality chemical HEDP (Hydroxy ethylene diphosphonic acid). For almost two years this product was being produced at Excel Roha. But since Roha was assigned the task of development and production of Glyphosate, the new product was transferred to Lote.

15000 trees planted along the highway by the ICDU, Lote Unit, among other Community Development Projects in Lote.

The year 1990 was one of the turnaround years in the history of Excel. Demand for SPCP and HEDP picked up. It was also when the Lote MIDC got itself stabilised with the establishment of a proper infrastructure.

The commissioning and erecting of HEDP took place in 1991. About the same time the Samarth Gram Vikas Trust was established with the objective of serving the community by providing education to the under-privileged, creating awareness of hygiene among the children and propagating advanced harvesting techniques to the farmers to increase the productivity of their farms.

The period 1992-94 witnessed another achievement in the history of Excel Lote. It was also when Excel completed its fifty years. Our Industrial Civil Defence Unit (ICDU) planted a record number of trees along the entire highway leading to the Lote MIDC area. This programme was undertaken for three continuous years. Apart from that, there were small time projects such as propagating soil conservation techniques, smokeless chullas and construction of an earthen dam near a village Ghanekund for the conservation of water. Ghanekund village itself was provided with roads within its jurisdictional area.

The period from 1995-2000 made Excel Lote consolidate its strengths. It was the period when Lote achieved the prestigious ISO 9002 from BIS. With its employee strength almost touching 210, it was a major dream come true for Excel. The

phrase '*continuous improvement*' was more than a phrase in Lote. It was practiced on a day-to-day basis. During this time there were many studies conducted on bench scale for processing Polymaleic Acid, Acetyl Chloride, Herbal etc. some of which were later commercialised.

In May 1996, came the opportunity, when GE Plastics conducted an audit as part of its global search for a supplier of an intermediate used in the manufacture of plastics. This challenge was accepted and converted into an opportunity for growth.

In the course of his interview, Mr. C.A. Mehta spoke about the important role played in Excel through brain-storming. Brain-storming, done Excel's own typical way, has been an effective tool in handling difficulties and ensuring continuous growth. At Excel these brain-storming sessions are known as Syntrophy (Creativity) Seminars.

The seminars are held under clearly defined goals.

- The seminar participants are properly chosen.
- The objectives are made clear.
- The areas of ignorance are fully recognised and systematically listed.
- Thoughts expressed are tabulated and workable solutions offered are further processed.

Result: situations that often looked hopeless, tasks that appeared impossible have been handled dexterously and fruitfully.

An example of how brain-storming succeeded was in regard to the setting up of the factory at Roha, mentioned earlier.

As early as in 1974 Excel had been looking into the availability at Roha of land, water, power, and other essentials for the setting up of a factory for producing chemicals. The issue of how to treat effluents was also being studied.

At the pace at which studies were being conducted, Excel hoped to establish production at Roha by the middle of 1976.

But suddenly, toward the end of January 1975 a very important customer came to Excel with an urgent demand for one of its products which was being manufactured at one of its units, but was insufficient to meet the customer's requirements.

The customer wanted its increased demand to be met within three months. Could Excel help? It could and it set about its task in earnest. The very first brain-storming session was held almost immediately. Participants ranged from the Chairman, the Technical Director, the various heads of production and of various Divisions such as Project Engineering, Workshop, Finance, Personnel and Legal Department. About 20 veterans, all experienced in brain-storming and an equal number of freshers were called to the seminar.

Every participant was briefed in advance through a circular about the objectives to be achieved. The session was held in an undisturbed, airy place with participants sitting at ease in a semi-circle, with four black-boards facing them. Good quality chalk sticks and dusters were kept at hand. A time limit was set for the first session: 90 minutes. The first 10 minutes were spent in identifying the problem for which a solution was intended to be sought.

Each participant was expected to come thoroughly prepared. Besides he knew in advance exactly how much time he would get to present his ideas.

Excel had one advantage: it was accustomed to face novel and unexpected situations; so were the participants who knew the art of the possible.

As Kantisen was to explain the situation: "At such times we develop the most fluid functional organisation – as functional as a football or cricket team in the field. It keeps on changing rapidly. Our people respect and know the capacity of others. None of our seniors is an autho-ritarian boss who refuses to respond to suggestions from others, especially juniors. On the contrary every sparkling, brilliant idea is listened to, tossed, modified and pushed further – pyramid on to other ideas till a complete working picture emerges".

The brain-storming session on Roha – there were several of them as work progressed – helped in taking timely steps to rectify early mistakes. The last session was held right before the starting of the plant. And the project was completed in 110 days instead of 90 days, no mean achievement if the fact of power shortage and the strike by the Maharashtra Government Staff during April – May 1975 is borne in mind!

And this is how the project was completed:

Activity	**Date of commencement**	**Date of completion**
Possession of land	01-02-1975	—
First brain-storming session	03-02-1975	—
Roha Cell formed to control the entire project	05-02-1975	—
Levelling of land started	07-02-1975	—
PCl_3 foundation	08-02-1975	26-02-1975
Fabrication & erection of plant	08-02-1975	07-04-1975
Installation of utilities	08-02-1975	25-04-1975
Complete plant ready for inspection	27-04-1975	—
Inspection of Plant	21-04-1975	02-05-1975
Electricity application to MSEB, procurement of equipment, installation of sub-station etc.	08-02-1975	10-05-1975
Trial runs (with our own generator)	03-05-1975	08-05-1975
Finishing touches after trial runs	09-05-1975	10-05-1975
Plant ready for production	13-05-1975	—
Electricity supply from MSEB	24-05-1975	—
First consignment of 6 tonnes of PCl_3 dispatched	07-06-1975	—

According to Kantisen, it is incorrect to say that brain-storming only generates 'top-of-the-head' ideas that lack real depth. That could be partially true but, as he put it, "the quality and novelty of ideas generated now compare well with those developed through other Syntropic techniques."

Brain-storming dealt with erection of units, their operation and finally production. In the mid-seventies, another issue came under consideration: what about the quality of life of workers?

It all began when Yeshwantrao S. Lele, a one-time principal of Dnyana Prabodhini, a school for gifted children at Pune, joined Excel. One of the things he noticed was that the canteen boys were idling their time. So he started study classes for them to help them continue their education from where they had left off.

Later on, the wards of workers staying around Excel joined the classes. The question arose: what about the workers themselves? Why not arrange classes for them also?

Ideas spring up like mushrooms but putting them into practice is another story. The Excel management was all of arranging a Workers' Programme but which department was willing to spare men during working hours?

In a production-conscious system, man-hours become important. The Department Heads were consulted and in participative fashion they okayed the idea, if somewhat reluctantly. After all, for them what mattered was product, production and productivity.

Nevertheless the first Workers Training Programme was inaugurated on 15 November 1976 with a batch of 34 workers from 12 departments.

The normal experience of any course is that the number of those attending tapers off by the day. But in this case the experience was quite different. Attendance increased as the days went on, despite some absenteeism.

Spread over 12 hours duration in a six-day week at the toughest hours of the day – 1.00 p.m. to 3.00 p.m. – the course, like Excel itself, was need-based. From answers to questions like: What problems do you face in your work-life, what would you like to improve, and the like, the programme was drawn up for a particular batch.

Meant not as a technical refresher course, it aimed specifically at improving the general quality of life. So what broadly was envisaged were three areas: Physical fitness, mental hygiene and occupational efficiency. Also the importance of life at home, the importance of judicious and meaningful use of leisure hours and the importance, thus, of becoming useful members of society and the community – and so of India.

What gave the organisers a thrill was that the needs of the workers as they had gauged them largely coincided with the felt needs of the workers.

The course consisted of the following:

Subjects for Physical Fitness:

(a) Physiology (b) Hygiene (c) Diseases and their cure (d) First aid (e) Fire-fighting & (f) Foot drill.

Subjects for Mental Hygiene:

(a) Education for leisure (b) Getting rid of bad habits (c) Key to happiness (d) Small savings (e) Money game (f) Insurance (g) Noise pollution.

Subjects for Occupational Efficiency:

(a) Factories Act (b) Standing Orders (c) Workers' participation (d) Industrial safety (e) Unions (f) Works improvement (g) Excel philosophy and (h) General introduction to Excel's products.

The main reason for organising the course was to bring in a sense of discipline and more importantly team work and efficient distribution of duties in case of emergency.

Haribhau Patil – A vital link in the Excel chain of communication.

Several 'games' were organised concerning money matters. Guest lecturers were invited and many people most happily gave their time and expertise like Mr. D'Cunha who spoke on industrial safety drawing his ideas from 30 years of experience.

Shri Haribhau Patil, a worker with 22 years of experience was the most appreciated 'lecturer'. He spoke simply of the story of his life, his slow climb from a rupee and a half a day job to the position of plant operator, his spare-time activities towards self-betterment, his hardships and joys. Talking from the heart he endeared himself to all.

When about 20 supervisors met to voice their opinion about the programme the observations they made was that the topics covered under the training programme were so relevant to the needs of the workers and the view points stressed had so vital a role to play in their life that they were very happy.

The best outcome of the programme was that some of the workers came to the faculty members for guidance even on personal and family matters.

And well they might for there were on the staff people like Amrutbhai Lad who had done well in life. Amrutbhai's father had sought a job for his son in Excel which was arranged. He started work on a wage of rupee a day. A quarter century later Amrutbhai was still working for Excel but then at a salary of Rs. 2000 p.m. at the level of Senior Development Engineer.

Amrutbhai had no degree but that had never hampered his progress. His deep love for work based on his own knowledge, his readiness to help everyone and his constant thirst for knowledge had together pushed him to heights his father could never have dreamt of.

At Excel growth and progress were always possible. In fact they were encouraged.

If there was one thing that Excel was never short of, that was winning awards. Excel had almost made a habit of it. The first award it had won was the P. C. Ray Award for Development of Products and

A Rewarding Year – 1992-93: An array of Awards received in just one year alone!

The Economic Times – Harvard Business School – Corporate Performance Award, being presented to Darbari Seth and K. C. Shroff.

Processes in Indigenous Technology. That was in 1964. After that other awards came tumbling in. Thus:

1964: The Sir P. C. Ray Award for Development of Products and Processes in Indigenous Technology.

1968-69: The Bronze Shield for Import Substitution for Developing Indigenous Know-how for manufacture of Monochloro Acetic Acid.

1969-70: First-ever Gold Shield for Import Substitution for Developing Indigenous Know-how for manufacturing Methyl Bromide, Aluminium Chloride, Phosphorus Pentasulphide and Aluminium Phosphide.

1972: The ICMA Award for Social Progress in the Chemical Industry.

1973: The Sir P.C. Ray Award for Development of Products and Processes in Indigenous Technology for Development of Elemental Phosphorus.

1973: Silver Shield for Development of Know-how of Elemental Phosphorus.

1981: The ICMA Award for Process Design and Process Engineering of Chemical Plant and Innovative Production of Endosulfan.

1982-83: First Award for Export of Organic and Inorganic Chemicals including Pesticides, from Basic Chemicals, Pharmaceuticals & Cosmetics Export Promotion Council, Bombay.

1983-84: First Award for Export of Organic and Inorganic Chemicals including Pesticides, from Basic Chemicals, Pharmaceuticals & Cosmetics Export Promotion Council, Bombay.

1983: Environmentalist of the Year Award to K. C. Shroff, instituted by Chemtech Foundation.

1984-85: Trishul Award for Excellent Export Performance for three consecutive years, from Basic Chemicals, Pharmaceuticals & Cosmetics Export Promotion Council, Bombay.

1990: The Sir P. C. Ray Award for Development of Technology indigenously for Butene Diol.

1991: The ICMA Award for Innovative and Purposeful Programmes for Social Progress.

1990-91: First Award for Export of Organic and Inorganic Chemicals including Pesticides, from Basic Chemicals, Pharmaceuticals & Cosmetics Export Promotion Council, Bombay.

1991-92: First Award for Export of Organic and Inorganic Chemicals including Pesticides, from Basic Chemicals, Pharmaceuticals & Cosmetics Export Promotion Council, Bombay.

1992: Jamnalal Bajaj Uchit Vyavahar Puraskar (Jamnalal Bajaj Prize for Fair Business Practice.)

1992: ET-HBS Corporate Performance Award in the Medium & Large Category.

1992: The First Award for the "Best Exhibit" in Green Expo 2000 – All India Exhibition on Environment.

1992-93: Top Award for Exports.

1993-94: The Good Corporate Citizen Award from the Bombay Chamber of Commerce & Industry.

And the Award-winning spree has continued since then.

The Sir P. C. Ray Award given in 1973 by the Indian Chemical Manufacturers Association (ICMA) was received by Kantisen. The Award had been given for the development of Phosphorus technology. In receiving the Award Kantisen said:

"On behalf of all our 2,000 workers and 10,000 shareholders, i.e. our total Excel family, I am thanking this august body for conferring this Award on us for developing the Phosphorus technology. It is indeed very much more gratifying because, on the occasion of the first Sir P. C. Ray Award, in his acceptance speech, the late Shri C. C. Shroff had mentioned about his idea of developing the Phosphorus technology and this recognition is indeed a tribute to his genius and I as a person who got an opportunity to spend all my formative period with him, would say, that all who played our part in building this Phosphorus plant could do it because every day we were remembering him, his style, his approach, his courage, his love for others. And though we had to build that plant out of Bombay, away at Bhavnagar, we had to train a completely new team of young men and women, educated and uneducated, for doing this job – a team which had not only never built a Phosphorus plant but not even built a chemical plant. Our success is because of the training imparted by the late Shri C. C. Shroff. So I feel like sharing with you a few more thoughts and his style of tackling any situation. It is much more important today when we are facing a real crisis of confidence, confidence in one another, in our society, in our tomorrow.

I feel we really need his optimism today, his ability to find a simple solution to any complicated problem. His capacity to share thoughts, inspire everybody, give away all credit to others and take all the blame on himself.

All of you may not be aware that in his life-time he had developed more than a hundred useful processes up to plant scale level. He could sell the product quite often at a price cheaper than that of the imported one. He could even go to England and set up a chemical factory there and run it successfully and then give the process to a big firm in England and prove that Indian talent can do such things.

I feel like sharing with you a few of his dreams unfulfilled and one of the biggest was about practical sized nitrogen-based fertiliser plants, using indigenous raw material, be it coal, be it methane from sewage or be it from any alternate resources. He had also visualised the possibility of using bacteria for nitrogen fixation on a massive scale.

It seems the time has come to utilise these ideas and as Shri D. M. Trivedi was reminding me – there may be a hundred such plants suitably located and thus we may permanently tide over our fertiliser shortages.

Another of his work of great importance today was his research in plant growth and he had shown to us repeatedly how wonderful is the capacity of different vegetable and fruit plants to grow and to grow profusely. He had visualised that soon a time will come when men will have to understand properly nature's close carbon cycle and, instead of squandering away earth's precious resources, carefully conserve and improve upon these resources.

Today we are facing that situation and very rapidly we will have to utilise this knowledge. We will have to redefine factories and luckily for India, 80% of our population is connected with some or other agricultural profession; our climate is extremely suitable for such jobs and utilising the late Shri C. C. Shroff's know-how on this subject, it may be possible to increase our farm production 50 to 60 times easily.

Not only can we be extremely happily placed with our food situation, we can even satisfy all our other needs too. We can create a new era of chemical products from farm resources, may be we will get out of the area of petro-chemicals and go into the area of farm chemicals.

It is really high time that we give some fresh look to these ideas and if we carry on with the same zest and faith for tomorrow that he had, we can certainly create a wonderful self-reliant society that he had always dreamt of."

In 1974 Kantisen dared to dream. Twenty years later he was to introduce an innovative microbial process for treatment and conversion of urban solid waste into organic manure. The product that came out of that process was Celrich. It has revolutionised the treatment of urban waste, literally turning waste into hard cash.

How did this come about?

Some time circa 1975 Kantisen had gone to stay for a while in Kutch and was staying at Shri Vivekananda Research & Training Institute (VRTI) complex located in Mandvi, about 55 kms from Bhuj.

While staying in the VRTI complex where they have a piece of land used mostly for conducting experiments on cultivation practices and innovations, Kantisen wanted to understand the process that takes place in the making of compost manure.

Kantisen was aware that every farmer utilised farm wastes and also wastes collected from urban areas, including human excreta or night soil found in soakage pits systems generally found outside the residential premises in small towns.

VRTI was also doing the same thing. In this composting system they generally dig a big pit in one corner of the farm into which all waste materials are dumped along with layers of cow dung. Once the pit is full it is covered up and left that way for four to six months.

Then, at the time of preparing the farm land for the next crop, the covering is removed and the material inside is taken out. In farm language that material is known as *Son Khat.* It is spread over the land as manure, after it is sieved for undigested ware.

Kantisen wanted to know: What was happening inside the pits? Why was it taking four to six months for the waste to be turned into manure? Why was cow dung being used? What was it that led to the formation of the manure? What were the factors responsible for the conversion?

Kantisen wanted to study those simple questions through scientific approach. Could the period of conversion be brought down from six months to, say, three? Was there any way of saving labour? Could the process be made cost-effective, capable of replication too?

With these questions in mind, Kantisen had one such pit opened up ahead of time. And he initiated a study of physical, chemical and biological changes that were taking place in the manure pit on a week-by-week basis. The material that went into the pit including the sweepings from the VRTI complex, the night soil, the cow dung and the farm wastes was also scientifically studied. It was found that during the conversion process – the degradation of cellulose material in the farm wastes – much heat was generated inside the pit. As a result moisture was released in the form of steam and different gases, too, were released, while proportion of contents of carbon, nitrogen and other minerals increased, What was more, the harmful, disease-spreading pathogens that were present in the original material were seen to have been destroyed because of the heat which often went up to 70 degrees and more.

From this Kantisen deduced that the fermentation process was taking place because of the large population of microbes present in the cow dung. He now knew why the process was taking a long time for completion. This was because the fermentation process was taking place *inside* the pits. It was an anaerobic process where the heat, the steam and the gases were trapped inside the pit. He thereupon decided to carry out the same process by the aerobic process

So he got all similar material heaped on the ground – instead of dumping it inside the pit. The heaps were adjusted to a height of four to five feet and leaving reasonable space between them and across wind direction. This time after every layer of waste a slurry of cow dung and cow's urine was spread.

City waste being de-odorised and treated by Excel team during the outbreak of plague in Surat, in 1994.

At first the plan was to have standard four walled compartments open to the skies built, so that they were all identical in size; holes were made on the sides for better air circulation. But Kantisen opted for wholly open heaps so that they were completely exposed to the wind and the sun. At regular intervals he arranged for the heaps to be stirred and supplied with the mix of cow dung and urine. The results were as expected. Whereas in the anaerobic process it took from four to six months for the manure to be prepared, in the aerobic open-air process carried out on ground level, regular manure was obtained between 30 to 45 days. The recovered material was of better quality as no useful minerals were destroyed or converted into unwanted compounds.

This new manure was named Celrich. It turned out to be a miracle manure. It was rich in microbes and it excelled in its appointed task. It was Celrich.

Celrich served many purposes. In the first place it helped restore the health of barren land and soil, or soil which had been turned into waste by excessive use of chemical fertilisers.

In the second place it was prepared from waste material which otherwise would have polluted the landscape, especially in urban areas.

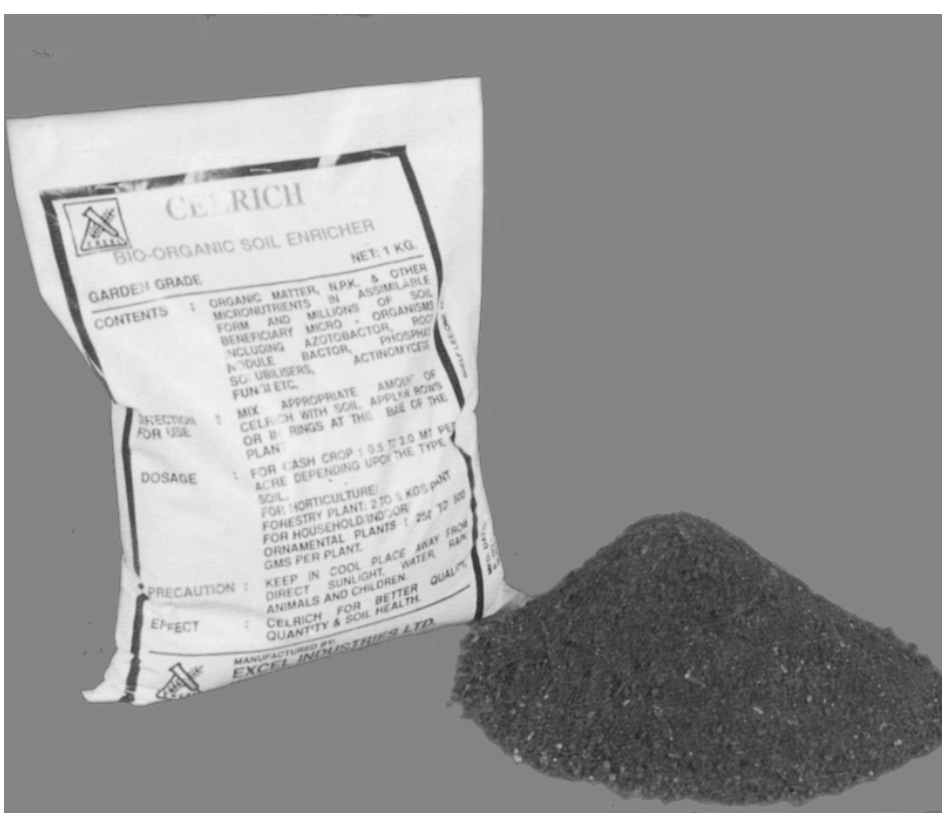
In the third place it enabled material otherwise considered waste into a source of wealth for farmers. Celrich was not only a cent per cent farm product, the raw material cost the farmer nothing! On the contrary the end product, Celrich was not only affordable, but economical and in the preparation of which only a little manual labour was involved.

But Kantisen was not satisfied with his VRTI experimentation. He wanted to take the process further. Towards that end he got involved a whole team of microbiologists at the laboratory at the Amboli factory. Solid degradable wastes were procured from the Bombay Municipal Corporation. Rigorous tests were conducted to maximise production of microbially rich manure. The results exceeded anything that Kantisen could have imagined. Grape growers and sugarcane cultivators in Maharashtra are the best customers of Celrich. It has worked wonders with even the most infertile soils in places like Sangli.

Further work was then carried out on a pilot plant set up by Excel at a small plot of land near Chincholi garbage dump-yard where the company invested its own capital on the infrastructure and deployed its own workforce.

One noteworthy feature about treating the garbage the Excel – or Celrich – way is that when the huge heaps of garbage are sprayed and inoculated with the slurry, the repulsive stench usually associated with the garbage goes within a couple of hours. With the elimination of the stench the menace of flies too disappears and vultures and stray dogs too cease to get attracted, to the dumps. The treated dumps, in the circumstances, become quite eco-friendly.

As various experiments were being carried out for testing the effectiveness of the Excel process of handling wastes, the company's volunteers were summoned by



Celrich – the Bio-organic soil enricher. Microbes at their best!

the Bombay Municipal Corporation at the time when the municipal staff had gone on a prolonged strike, leaving piles of garbage in front of residential areas not cleared, causing extreme discomfort to the residents.

Excel volunteers valiantly rose to the occasion. They went in the middle of the night and sprayed stinking heaps of garbage with the inoculant slurry and the stench disappeared in no time, much to the relief of the citizens.

And this is how Excel got involved with the Bombay Municipal Corporation. The story was recounted by Kantisen in an interview to *Humanscape*.

"It was Khairnar, Bombay's controversial Deputy Municipal Commissioner, who got us involved in garbage handling. He knew about our work in Kutch in converting agro-waste into fertiliser. So he raised the question: *Arey bhai agar ye aap Kutch me kar sakte ho*, can't you do it with Bombay's garbage? We had never handled urban garbage which is different from rural agro-waste. But anyway, I and the local ward officer did not mind and the first two trucks came to our site due to Khairnar, and we found that our microbes were as comfortable with city garbage, or even more comfortable. So we were working with two trucks a day. Then we went up to eight trucks a day – 20 tonners.

"Then the Babri Masjid issue came up; garbage was getting heaped up in Bombay at different places and again, one fine evening, on a Saturday, Khairnar gave a ring: *Bahut mushkil ho gayee hai, log bahut pareshan hai, kuchh karo.* So we said, let us try. We had never done this before. Khairnar said he'll give us whatever facilities we wanted. So he gave us trucks and fifteen of my colleagues worked throughout the night.

"The first heap was at Dadar and there were trillions of flies around. Next day the flies were gone. We found that even a heap of 500 tonnes could be handled quickly by our microbes. In January there were worst riots. And in Mahalaxmi there was a heap of 800 tonnes. Again we were called. If 500 tonnes was not a problem, 800 tonnes would not be a problem. Khairnar gave us more facilities.… at that time the Mayor was very fascinated. Using his own authority he gave us land at the dumping ground at Chincholi. At that time the place was stinking, it was horrible. It took us about 15 to 20 days to reduce the stink on the 100 acres and we got very solid support from the Municipal Department because they were to benefit. From then on, work has been going on. Daily we treat about 500 tonnes of garbage and deodorise it."

Flowers from Siddhi Vinayak temple being treated with Excel Technology of bio-conversion into organic soil enricher.

There was yet another time when Excel's services were desperately called for. This was during an all-India session of the Bharatiya Janata Party held at Mahalaxmi Race Course in Bombay in which lakhs of people participated.

Wastes of all kinds were apprehended and had to be taken care of. The wastes included kitchen left-overs and human excreta and urine. Excel designed special toilets and provided a special soil-mix that took care of the stench; importantly enormous heaps of waste were turned into effective manure. What is not so well-known is the fact that the Excel Technique (if so it can be called) was put to effective use in Surat when it was threatened by plague and in Orissa when a Super Cyclone played havoc in the countryside.

Many municipalities are now showing keen interest in setting up plants in their areas to deal with growing waste dumps. The waste generation in 100 Indian cities is of the order of 80,000 tonnes with Mumbai and Delhi between them each generating close to 6,000 tonnes a day. The facts are fearsome, but Excel has shown the municipal corporations a way out. For big cities, handling of garbage is a costly proposition. In the first place the garbage has to be cleared on a round-the-clock basis. Next the garbage collected has to be transported to some distant place where it can be dumped. And transport costs money. Thirdly, no matter where the garbage is dumped, it can still turn out to be a health hazard. In the circumstances, the Excel Technique has proved to be a boon to municipalities and small scale investors alike. It has been Excel's policy not to keep its discoveries well-guarded secrets. On the other hand, Excel has thought it proper to promote the concept of effective garbage-clearance by assigning franchise to any entrepreneur who wishes to get into the business. Excel has shown more than mere willingness to provide the know-how to willing entrepreneurs, giving them agencies to sell Celrich in their territories. And such is the reputation of Excel and Celrich that inquiries are pouring in at Excel's headquarters for buying the know-how.

But even as the fame of Celrich was spreading throughout India, Kantisen took another step of major importance. He asked microbiologists to thoroughly study

the variety of friendly microbes present in cow dung to see whether they can be isolated and possibly developed in cheaper, neater packets to be used wherever cow dung or urine was not available.

This has now been done and Excel has set up the necessary equipment to produce different kinds of cultures of microbes to serve different purposes which can be supplied to distant places. Thus, the problem of handling volumes of material has been successfully overcome.

Kantisen then set out to find microbes that can play some role in treating liquid wastes like sewage and even toxic industrial effluents. As expected he found that microbes can be quite effectively used for many diverse purposes. Trials were conducted at Excel's Bhavnagar and Roha plants and at a turn-key project in Ankleshwar with a noteworthy degree of success. But Kantisen wants fool-proof results before success can be published.

There is a story going round that when a chemist working on a bio-remediation experiment was despairing of success, Kantisen jocularly suggested that he try use of cow dung for a change. When the results were communicated to Kantisen he is reported to have said, "See, these microbes are like Mohammad Ali, the champion boxer! They can knock out any mighty adversary, if only one knows to use their strengths and to put them to right use!"

At one point Kantisen was asked why he laid so much store by cow dung and not by any other animal excreta. To prove this point Kantisen had elephant dung collected (luckily that was easily available thanks to a circus playing in Bombay City) and tested. It was established that the presence of microbes in cow dung was not only the highest but of quite a few varieties.

And it was left to Dr. V. V. Ranade, Director of Bombay Veterinary College to prove to a cynic how the rumen system in cattle worked and how microbes inside a cow's belly operated on the finely chewed feed.

And then there is the story of visitors from the West being shown round an effluent treatment plant in a chemical zone. When the guide was trying to explain the amazing role that microbes can play the westerner wanted to know how was it possible to get a continuous supply of microbes. From cow dung, said the guide. "Cow dung?" queried the westerner, "Oh, that stuff which you see scattered everywhere on Indian roads!" And then the gentleman went on: "You know what that stuff does? It releases methane in the atmosphere, man and that depletes the ozone layer which in turn causes global warming!"

The guide had to gently steer the gentleman into the discovered uses of cow dung as a source of friendly microbes the farm input of which could mean so much in improving the economic conditions of the farmer.

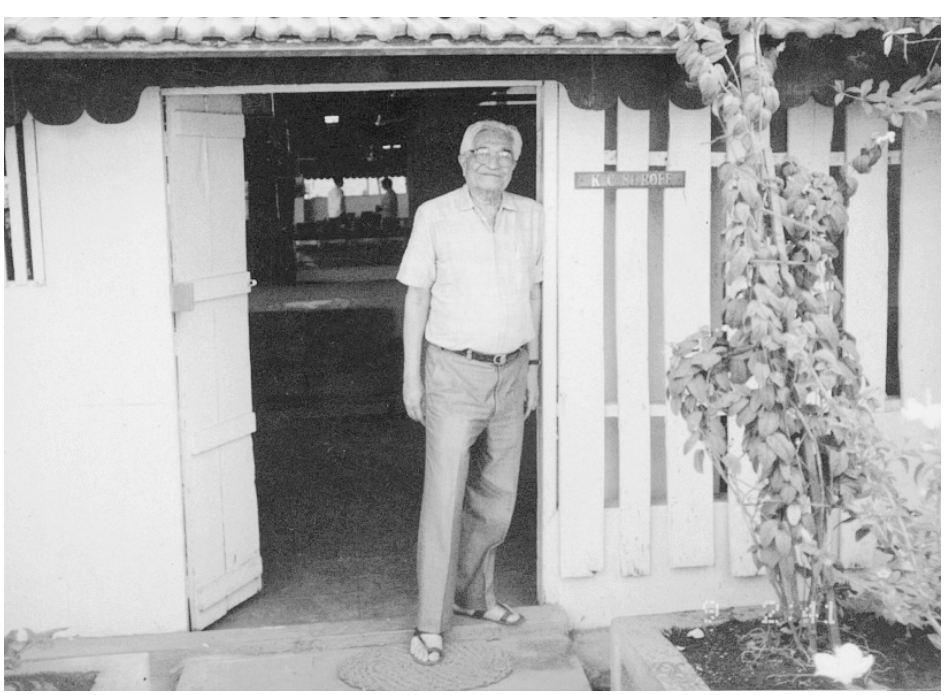
What is relevant to know is that while others see environmental management as a major emerging area of specialisation with large business potential in it, Excel, being conscious of its social responsibility, feels deeply concerned and has therefore set up a special Environment Division headed by a highly qualified and experienced executive to own up and manage it.

Urban Solid Waste Management is one such challenge where Celrich offers multipurpose solutions and opportunities. Eco-friendly bio-remediation approach to manage liquid waste streams and gaseous emissions may be taken up next.

What is so special about Excel is that it has ever been willing to transfer its know-how to other parties. Thus, way back in 1954 Excel had attained a significant technological landmark by not only developing new technology for manufacturing Mercuric Chloride but also by setting up a plant in the United Kingdom to produce it cheaply. Later the plant was sold along with the expertise to an English company.

In subsequent years, Excel was to transfer its know-how in regard to the production of several chemicals to other firms. Thus:

- to Rallis India Ltd. to make Dimethoate, an insecticide.
- to Sandoz India Ltd. to make Ekalux.
- to Transpek Industry Ltd., Vadodara to make Thionyl Chloride.
- to Transmetal Ltd., Vadodara to make Trichloro Acetyl Chloride.
- to Punjab Chemicals & Pharmaceuticals Ltd., to make Oxalic Acid and Diethyl Oxalate.



The genious emerges from within! The passion for photosynthesis and environment management is evident in the man who chooses to sit amidst his bio-remediation experiments, rather than the confines of an 'unnatural' air-conditioned cabin. That's Kaka!

• to Transpek Industry Ltd., Vadodara to make Sodium Hydrosulphide.

• to five companies to make Malathion.

• to Kalpataru Chemicals Ltd., Chennai to make Red Phosphorus.

• to Colour Chem Ltd., Mumbai to make Aluminium Chloride (Anhydrous).

The following is a list of chemicals produced innovatively by Excel down the years, starting from 1942 when C. C. Shroff first established the company working from a kitchen laboratory. The products are mentioned in the order in which they were processed (where the years are known).

Sr. No.	Products & Processes	Year
1.	Zinc Chloride	1942
2.	Zinc Powder	1942
3.	Sodium Sulphide	1943
4.	Copper Sulphate	1944
5.	Lead Acetate	1944
6.	Potash Carbonate	1945
7.	Celluloid – lacquers for pencils, etc	1946
8.	Crackers & Sparklers	1946
9.	Lead Sulphide	1946
10.	Butyl Acetate	1947
11.	Citronella oil purification	1949
12.	Silver Nitrate	1949
13.	Chemicals from Chlorine and Mercury	1951
14.	Preparation of Plastic Bottles	1952
15.	Mercuric Chloride	1953
16.	Mercurous Chloride (Colomal)	1953
17.	Phosphoric Acid	1953
18.	Cuprous Oxide Red	1954
19.	Titanium Tetrachloride	1954
20.	Mercuric Iodide	1956
21.	Phosphorus Trichloride	1956
22.	Sulfur Dioxide	1956
23.	Chlorinated Paraffin Wax	1957
24.	Ethyl Acetate	1957
25.	Camphor	1958
26.	Ethoxy Ethyl Mercuric Chloride	1958
27.	Phosphoric Acid (Thermal)	1958
28.	Plastic Cane	1958/62
29.	Ethyl Mercury Chloride	1959
30.	Plastic Monofilament	1959
31.	Zinc Phosphide	1960
32.	Dicalcium Phosphate	1961
33.	Toxaphene	1961
34.	Acrylics	1962
35.	Acrylic Plastic Sheets	1962
36.	Methoxy Ethyl Mercuric Chloride	1962
37.	Oxalic Acid	1962
38.	Aluminium Chloride	1962/63
39.	Phosphorus Pentasulphide	1963
40.	Micronised Sulfur	1963/64
41.	Aluminium Phosphide (Celphos)	1966
42.	Microniser (fabricated)	1966
43.	Methyl Bromide	1967
44.	Malathion	1969
45.	Phosphorus Elemental (Yellow)	1971
46.	Alpha Naphthalene Acetic Acid Technical	1972/73
47.	Celmone (Alpha Naphthalene Acetic Acid formulation)	1973
48.	Phosphorus Elemental (Red)	1974
49.	DTCL : Di-Thiophosphoryl Chloride – Ethyl & Methyl (E-DTCL and M-DTCL)	1975
50.	Endosulfan	1978
51.	Butene Diol	1983
52.	Glyphosate	1983
53.	HEDP	1983
54.	Celrich	1994
55.	Chlorpyriphos	1994
56.	Alum	
57.	Amyl Acetate	
58.	Borneol	
59.	Cadmium Chloride	
60.	Cadmium Nitrate	
61.	Cadmium Sulphate	
62.	Cadmium Sulphide	
63.	Calcium Phosphide	
64.	Chemicals for Electroplating	
65.	Colloidal Sulfur	
66.	Cupric Chloride	
67.	Cuprous Chloride	
68.	Ethylene Dibromide	
69.	Ethylene Dichloride	
70.	Ferric Chloride	
71.	Galena (fused)	
72.	High Vacuum Metallising	
73.	Lead Nitrate	
74.	Liquid Gold and other precious metal resinates	
75.	Mercuric Oxide Red	
76.	Mercuric Oxide Yellow	
77.	Mercuric Nitrate	
78.	Mercuric Sulphate	
79.	Mercurous Nitrate	
80.	Mercury Ammoniated	
81.	Metal Dye-casting	
82.	Mono Chloro Benzene	
83.	Monochloro Acetic Acid	
84.	Paint driers – Copper Napthanate, etc.	
85.	Phenyl Mercury Acetate	
86.	Phenyl Mercury Oleate	
87.	Phosphor-Copper	

Sr. No.	Products & Processes	Year	Sr. No.	Products & Processes	Year
88.	Phosphorus Pentachloride		96.	Sodium Acetate	
89.	Phosphorus Pentoxide		97.	Sodium Hydrosulphide	
90.	Plastic Injection Moulding		98.	Sodium Nitrite and Litharge	
91.	Potash Iodide & chemicals from Tin (Stannous Chloride)		99.	Sodium Phosphide	
92.	Production of pesticides from phosphorus and Sulfur used in Farming (Organo Phosphorus Compounds)		100.	Sodium Stannate	
93.	Purification of Sulphathiazol		101.	Stearic Acid	
94.	Removal of Silver from waste film		102.	Stearates	
95.	Serpina		103.	Sulfur (Crystals – Amalsar)	
			104.	Sulfur (Wettable Sulfur)	
			105.	Thirum, Zirum, etc.	
			106.	Tin Chloride	

There are several landmarks in Excel's foray into chemical industry which boosted the company's image and business and which set it apart as an innovative organisation, that was not afraid to take untrodden paths. Here are a few illustrative examples, in chronological order:

1963: Whereas the world over Oxalic Acid was made by using Sodium Format, Excel not only perfected the traditional process of using sugar or jaggery (gur), making it more economical, but even went to the extent of exporting the finished product to a company called KWCL in London, in competition with China.

1967: Excel was a pioneer in making Aluminium Phosphide for the first time in India. Until then it was manufactured by only two companies in the world, one of them in Germany. Excel sold it under the brand-name Celphos. It is an effective fumigant used for preservation of agri-produce in warehouses.

1969: Malathion is an insecticide widely used in Malaria control and in Agriculture. Cynamide of the United States was practically the only company which manufactured it. Excel developed the technical know-how in-house and later transferred its process technology to many other enterprises.

1971: Elemental Yellow Phosphorus as well as Red Phosphorus were until 1971 entirely imported in India and most users imported Red Phosphorus. Excel became the first to manufacture the product with its own in-house process development.

1975: Excel became the first to develop the know-how for the manufacture of Di-Thio Phosphoryl Chloride – Ethyl and Methyl (E-DTCL and M-DTCL) – in Asia. The relevance of developing its own process and products was to attain self-reliance in the range of Phosphorus-based agro-chemicals.

1978: Excel became the first in Asia and only second in the world to manufacture – Endosulfan – a broad-based spectrum pesticide molecule – on a commercial scale entirely through its own in-house efforts. Hoechst of Germany was a pioneer in this field. The manufacture of Endosulfan through in-house R & D effort was a significant turning point in boosting Excel's image and its pesticide image and also in making the country self-reliant.

1983: Excel became the second in the world to produce Glyphosate which is a globally accepted herbicide, strictly through in-house efforts.

1983: Till Excel came into the picture 1-hydroxy ethyledene 1 – diphosphonic acid (HEDP) used to be imported in small quantities for environmentally safe water treatment. The manufacturers were Monsanto of U. S. and Albright & Wilson in the United Kingdom. Excel made it for the first time in India.

1984: Again Excel became first in Asia to manufacture Butene Diol (BD), a basic raw material used in the preparation of Endosulfan. Till then GAF Corporation of the U. S. and BASF of Germany were the only manufacturers and India had to import it. Excel helped reduce the cost of Endosulfan through backward integration.

1986: Making of Aluminium Phosphide was hitherto done by using Aluminium powder and Red Phosphorus powder. To reduce the cost of production Excel developed the process and equipment to manufacture this product by substituting Red Phosphorus by Yellow Phosphorus.

1988-89: Imino Di-acetic Acid (IDA) is an essential raw material for the manufacture of Glyphosate. It was always imported. Excel decided to make it and tried out experiments first in the laboratory and later on a pilot scale. With success achieved, Excel then went on to make it on a commercial scale at Roha. Prior to that W. R. Grace of U. S. and YUKIGOSEI of Japan were the main suppliers on whom even Excel depended for its requirements.

1994: Chlorpyriphos is an important globally accepted broad spectrum pesticide and DOW Chemicals of the U. S. was its main manufacturer. Excel endeavoured to meet an emerging demand.

1996: Codex 551 an important Water Treatment Chemical was made for the first time in India. Till then only Bayer of Germany manufactured it.

Besides the key products listed above, which entailed intense efforts in development of high technology, Excel had from time to time developed processes for several compounds of Mercury, Phosphorus and Sulfur through in-house R & D, chiefly by way of its concern for import substitution, since in those days these basic elemental ingredients, namely, Mercury, Phosphoric Acid and Sulfur had to be imported, which small manufacturers

or traders could not manage, whereas Excel could conveniently do so.

These products were mostly tailor-made to meet customer requirements. Many of such products, however, were not added to Excel's own product range because the volume of market demand did not justify their regular production.

Much of the credit for the success of Excel goes to C. C. Shroff. On Dassehra Day, 21 October 1977 a laboratory in his honour was inaugurated at Excel Estate, Goregaon and named as the C. C. Shroff Research Institute.

Ten days later another laboratory was inaugurated at Bhavnagar. Together they marked the first two steps in the building of a research centre to delve into areas of urgent need and to come up with answers to those needs.

The Research Institute was the gift of "the Shroff Family" to the nation to help the country in its march towards technical growth and self-reliance.

However, it was made clear that by "the Shroff Family" was meant not the immediate relations of C. C. but "all those who lived and worked according to the shining example set by the late Shri C. C. Shroff, the founder of Excel Industries Ltd.

Over the years the people at Excel had consistently followed the guiding philosophy of C. C., namely, that of developing and utilising indigenously available resources to produce high value chemicals for use at home and abroad and augmenting the country's foreign exchange resources by import substitution and exports.

In October 1977 that philosophy was sought to be institutionalised by the setting up of the Research Institute with a core staff of fourteen scientists and technologists.

At that time the hope was expressed that the scientists would act as catalysts, providing the necessary technical backing to the company in its constant search for invention and self-reliance.

And the Institute itself was charged with the task of locating, developing and augmenting renewable energy sources and finding ways of pollution control and water management. And the hope was expressed that the Institute "will put on a parmanent and self-regenerating footing the same spirit of enquiry, dynamism and confidence in Indian scientists and technicians," as C. C. did during his short if meaningful life.

CHARTING OUT EXCEL'S GROWTH

1931-1932-1933 - - - - - - -

KITCHEN LABORATORY
Pain Balm, Face Cream, etc. Even refining of silver.

1941-1942-1943 - - - - - - -

START OF EXCEL, JOGESHWARI – in a buffalo stable!
Products: Zinc Chloride – Reclaiming Zinc from Waste of Brass Industry, Use in Battery Cells.

1951-1952-1953 - - - - - - -

PHARMACEUTICALS – Intermediates & extraction
Borneol, Amalsar Sulfur (Crystal) and Citronella Oil Purification, Purification of Sulfathiozol, Potash Iodide and Chemicals from Tin (Tin Chloride i.e. Stannous Chloride) and Silver Nitrate.

WASTE RECOVERY FROM USED FILM
Silver Nitrate, Cellulose Bangles.

INTERMEDIATES FOR LACQUER
(Such as Pencil and Car Lacquer)
Ethyl Acetate, Butyl Acetate, Amyl Acetate.

MISCELLANEOUS
Plastic Cane for Furniture, Camphor – from Camphene (Given to other Industries)

CHLORINE BASED COMPOUNDS
1. Ferric Chloride, 2. Mercuric Chloride – for a number of mercury compounds, 3. Aluminium Chloride – Catalyst for Synthesis and Dyes, 4. Chlorinated Parafin Wax – PVC Intermediate, 5. Know-how sold to Biddle Sawyer, London (for PVC compounding)

1961-1962-1963 - - -

AGRO CHEMICALS
Zinc Phosphide (Rat-killer) and others.

MERCURIALS – PRESERVATIVE & FOR PROTECTION FROM PESTS (like Phenyl Mercuric Acetate, Phenyl Mercuric Oleate and Methoxy Ethyl Mercuric Chloride).
1. Wood preservative, 2. In paint for protection against fungi, 3. Paper industry – protection, 4. Photography, 5. Dry cells, 6. Seed dressings (protection).

INDUSTRIAL CHEMICALS
1. Cupric Chloride – refinery, 2. Phosphoric Acid – soft drinks, sugar, etc. 3. Cuprous Chloride.

1967-1968-1969 -

PHOSPHORUS
Industry, Medicine, Food, Match Sticks, Defence, Agriculture, etc.

PHOSPHORUS BASED COMPOUNDS
1. Aluminium Phosphide – Celphos (grain fumigant),
2. Phosphorus Pentasulfide – Lubrication industry and Pesticide industry, 3. Phosphorus Trichloride.

FUNGICIDE
Wettable Sulfur – Plantations (rubber, coffee, tea) and Orchards (grapes, etc.),
Cuprous Oxide, Methyl Bromide, Ethylene Dibromide – fumigant (grain storage).

ACRYLIC AND OXALIC ACID
Pharmaceuticals, Textile and Tanning

1971-1972-1973 - - - - -

MULTI-PRONGED PLANT PROTECTION
Range – Acaricide, Pesticide, Insecticide, Fungicide
Products – Malathion, Endosulfan, etc.

SALE OF PROJECTS & ENGINEERING KNOW-HOW
1. Punjab – PUPCL, 2. Hindustan Insecticides Limited, 3. Transpek Industries, 4. National Chemicals 5. Gomati Chemicals, 6. Shyam Chemicals and others.

BIO-ENGINEERING FOR EFFLUENT TREATMENT
Use of toxic residual effluent of products to grow botanical species.

THE FUTURE

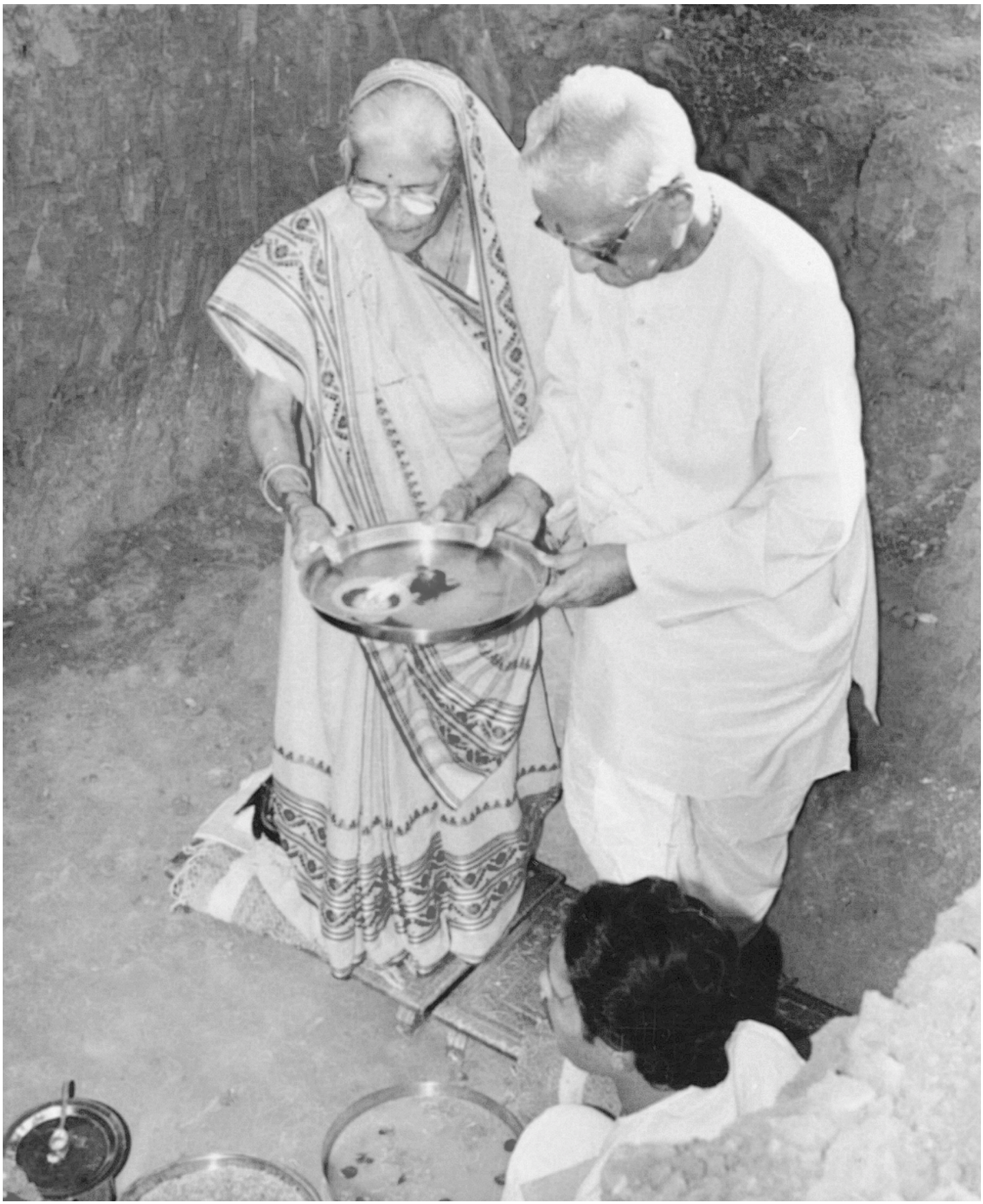
1979-1980-1981 - - -

WIDENING PRODUCT RANGE
1. Weedicide, 2. Chemicals for oil industry, 3. Further Organo – phosphorus intermediates such as Dialkyl Thio Phosphoryl Chloride.

SALE OF MORE PROJECTS

1985-to-2000

SOLAR ENERGY, AFFORESTATION, WATER MANAGEMENT, LAND MANAGEMENT AND MANAGEMENT OF CITY WASTE AND SEWAGE AS FERTILIZER, ETC.



Govindjibhai and 'Chachi' performing the Bhoomi-Pujan of the Kalali Hospital, Baroda in 1990.

4

Govindjibhai: Man with Native Wisdom

When Govindjibhai took over the reins of office at Excel in 1968 he must have felt a bit over-awed by the job confronting him. Excel had mastered the Phosphorus chemistry but Phosphorus was still being imported. Few believed that Excel could set up a plant to make Phosphorus products. But Govindji excelled in leadership. The key to his success was nurturing talent, especially of the young. And the plant was built. And successfully, too. His brother, C. C. Shroff would have been proud of him.

It was Govindjibhai who decided that Excel should become a public limited company to demonstrate his faith in the public at large and to demonstrate that honesty and transparency in public life is possible and essential. He was the most accessible Chairman of a Corporation.

He never derived any unfair business advantage in the time of shortage. He firmly believed in sharing business prosperity with all stake-holders, including employees. So they were made shareholders in Excel, Transpek and Punjab Chemicals & Pharmaceuticals.

He had the courage and convictions to withstand unethical pressures of local or multinational vested interests very firmly – many times.

When Excel completed 40 years and when it was suggested that we should give some gift to the shareholders he readily responded by saying that he will give as a gift something that can be cherished for a life-time. So he commissioned a special book: *Quiet Hour*, selected sayings of Swami Vivekananda. He was convinced that in the then world of short-sighted greed, he can remind his shareholders of the great heritage that was theirs in Swami's wisdom.

He had personally opted to help Jayaprakash Narayan and others during the Emergency with physical and material resources.

But his real conviction lay in serving the country as an industrialist, enhancing our managerial capabilities beyond the four walls of the industry – extending to rural areas, relevant science, technology and managerial skills for enhancing the effectiveness of rural people.

It was his conviction that money alone did not count, that equally important was his personal involvement in every project, to maintain his closeness to people. Simple in dress and habit he would insist on eating at the general canteen with factory workers and others partaking of the same food as everyone else.

Govindji C. Shroff – the leader showed the way towards managerial excellence.

His motto as always was the Upanishadic saying: *sahaviryam karavavahai*. Together we will achieve prosperity.

He was *Bhai* to everyone, including his family. As his daughter-in-law Shrutiben was to say he was everyone's father and friend. Nobody ever feared him.

A new daughter-in-law, according to Bhatia custom was to appear decked in flowers. Shrutiben was not comfortable in that mode. Her mother-in-law, 'Chachi' (Shantiben) was keen that she should follow custom. She told her blushing daughter-in-law: "Please follow tradition. And if you do, I would make you a present of a sari and jewellery".

Govindjibhai heard it and understood Shrutiben's embarrassment. So he told her, with a twinkle in his eyes: "If you follow custom, Chachi will give you the presents. If you don't, I will"! Shrutiben says that almost brought tears in her eyes.

When the day came to make purchases of jewellery for the wedding, Chachi told Shrutiben: "I know you have no fancy for jewellery. But if Bhai asks you to make your choice, please don't say No. ! This is the one occasion that you should not miss ! Buy now for the rest of your life!"

But, she says, Bhai told her: "Amma wants to give you a lot of jewellery and diamonds. But I have only one diamond to give and I have given it to you!"

It was his son Atul!

Bhai had his sense of humour. Shruti did not fancy herself as a cook, but she had learnt how to make a *dosa* and when he came for lunch and asked what was it that she was serving him, she said: *dosa*. Bhai ate it with great relish and then, to show his appreciation, said with a smile: "Now give me your bill!"

Bhai would often tell stories and when he had finished would ask: "Did you get the point?"

Once, after the story telling session – he was telling Shrutiben of Akbar and his *navaratnas* – nine jewels – Bhai asked her; "You aren't afraid of me, are you?"

"No" replied Shrutiben, "but why are you asking me?"

So Bhai said: "I have set up this Shroff Foundation Trust and if I am to run it as Akbar ran his empire, I have to depend on

Govindjibhai and 'Chachi' with their beloved grand-daughter Vishwa, his son and daughter-in-law – Atul and Shruti.

my *navaratnas*. Now who are they? I have so far collected six.

Shrutiben got the point.

On another occasion Bhai was relating the life and times of Ahalyabai Holkar and how she took care of her farmers, weavers and artists. She instinctively understood that that was the role Bhai wanted her to play.

And then there was the time when they all went shopping. Shrutiben wanted to buy a sari. Bhai asked her: "What do you have in mind to buy?" Shrutiben replied: "Swiss cotton."

Bhai said: "You know when you buy a Swiss product, the money will go to Switzerland. If you buy an Indian sari, the money will go to a mill-owners and if you buy a handloom sari, the money will go to an artisan.

Now decide where you want your money to go!"

When the Bhavnagar factory was being built Atul was sent there to work. Shrutiben wanted to accompany him. Amma sought to dissuade her. "What will you do the whole day? Atul would be at the site and you'll be alone. And where will you eat?"

But Shrutiben had only one ambition: to be with her husband. Bhai was listening to her argument with Amma. He said nothing. But he must have talked over the matter with Amma at night or next morning. Amma told her: "If you want to go, go. But remember what I told you."

But Bhai said: "I am here to see how you are faring. If you have any problem, feel free to let me know."

So Shrutiben accompanied her husband to Bhavnagar. All went well for a few days. They ate at the canteen like all workers. On a couple of occasions they were invited out. How could she repay that hospitality? So she told Atul: "Can I spend some money?" "How much?" he asked. Shrutiben said: "A thousand five hundred rupees." That was a lot of money in those days. Atul said: "What for?". She answered: "I want to set up house for you and cook for you. And you are always fond of having people around you. If we have a home, you can invite them."

So that was done and soon, Shrutiben said, their house was like a Guest House. People were always visiting them and she was cooking for all of them.

Only once did Bhai flare up at her and that when she innocently suggested that cousin Dipesh and his wife should have a separate home when they too were living in Bhavnagar. Why should Dipesh and his wife Preeti stay in a Guest House?

At that, says Shrutiben, Bhai flared up. He said: "What makes you and Preeti think you are *Shethanis*? When you went there, it was your training period. You went on your own. Now Preeti is going on her own. It is a period of training for her and Dipesh. Who are you to interfere?"

That silenced Shrutiben. She had been shown her place.

She was to raise her voice again when she went to Roha with her husband and found that she was expected to cook for sweepers, gardeners and workers at all levels. She protested. She was told gently that Atul had taken a project on hand, that it had to be completed in one hundred days flat, that he had no time for luxury and if she wanted to leave she could do so, but he had to stay back. Shrutiben gave in. She had learnt another lesson in inter-personal relations.

In the Excel family, no one was superior or inferior. They all worked for a common cause.

Shrutiben had a child, who had some difficulty in reading because of an eye problem. It distressed her. There would be argument between mother and daughter. Bhai was aware of it and one day called Shrutiben and said he wanted to tell her a story.

There was a priest who had a very good gardener to take care of his garden. But the gardener was illiterate. The authorities decided that unless he learnt to read and write, he would have to go. But the gardener had no desire to learn and he was sacked.

He took to smoking but found that no cigarettes were available in his vicinity. So he decided to run a shop selling cigarettes and one thing led to another and soon he was selling many things to a demanding clientele. His business grew and he was advised to put his money in a bank.

As his bank account also grew he was asked to sign cheques but the gardener confessed to the Bank Manager that he can't. Why not, asked the Manager. "Because" said the gardener, "I am illiterate!" "Illiterate?" said the Manager, "then how on earth did you come to make all this money?"

"Because I am illiterate" answered the gardener, smiling. "If I was literate, I would still have been a gardener!"

Bhai told Shrutiben this story and said: "Now, do you want to pressurise your child to do what she obviously cannot? Why don't you just provide her the atmosphere in which she can grow naturally?"

Shrutiben says she never again forgot that sound advice. It turned out to be right.

She saw with her own eyes how Bhai would solve not only the personal problems of his workers but there were occasions when union leaders would come to see him, sounding very agitated. He would give them a good hearing and tell them what he thought was right.

"I have seen these leaders touch his feet reverentially and leave, totally changed in their attitude and approach" Shrutiben says.

Now, she adds, as she herself functions like a Manager, she remembers what Bhai had so often told her about inter-personal relations. His words come back to her with added force. She wonders what Bhai would have done in similar circumstances. And she gets her answers.

Bhai, she adds, was never in politics. All that he wanted to do was to be in the right and if he felt that something was going wrong, he felt it his duty to help set things right.

It was the same philosophy that Bhai exercised in his role as Chairman of Excel. He was a friend, a counsellor, always to be trusted because he had no axe to grind.

In November 1981 Excel completed forty years of brilliant service to the chemical industry. The Commemorative Issue of Excel's house journal took note of the fact in an editorial. It said:

Forty years in a human's life is a time when a person has matured, has generally settled in life, moving towards establishing himself in professional and personal life. In a majority of cases, it is also a time when from growth and activity, life is generally directed towards stability and latterly a gradual decline in activity.

What does a period of forty years reflect in the life of a business organisation? Many would have settled at a size and a growth they can bear. Still some more continue to expand – grow large and huge. And some are like the ever-green youth, ready to shed the old and accept the new, alive and brimming with zest and enthusiasm, youthful and active with the receptivity to look into the new with its ever-widening challenge ahead.

Forty years is a time to plan a change in pace and direction without bringing a discontinuity. For a sense of continuity is the strongest influence on the decision-making process of any growing company. It is a time to sit back and take stock of the situation. To take the lessons of the past as guidelines for the course of the future.

Three messages sum up Excel's approach to life and industry:

- A durable value system
- An immediate faith in future deriving from the legacy of the past and as a continuity of present and
- A capacity for hard work and inspiration, combined with creativity.

The picture of a young, ever-green sapling – smiling against the back-drop of the sun is very symbolic of these messages. It symbolises the very future of the world, which ultimately depends on the survival of greenery and vegetation, and the sun – sol – which is the source of all energy from times immemorial and will be more so in

An impressionable age! Shruti and Atul under the tutelage of their beloved father – Govindjibhai.

the future of mankind. Equally forceful, it symbolises direct relevance of Excel: its great love for green; its operations in agro-chemicals; its investments in future; its new frontiers.

We plan and look forward to a future as ever-green, as progressive as this young sapling rising with the risen sun!

That pretty well summed up Excel's philosophy. But Govindjibhai sent his own message from the Chairman's desk. Claiming that his heart was filled with gratitude when he looked back to four decades of eventful career of Excel, full of success, Govindjibhai laid emphasis on how an array of products, never before produced in India had been indigenised. He said people educated in schools and universities in India played a pivotal role in the growth of Excel. "We were never much impressed by Ph.D.s, nor by "foreign-returned" students merely for their degrees" he said. Confidence was built around the "substance" within the person, and wherever necessary, the requisite educational background. Excel, he said, had developed 110 processes, not so much to be one-up as to be of service to customers and "more to prove a point that India as a country had capabilities and talents to match the world standards in chemical technologies". Govindjibhai also added that equally Excel also wanted to prove "that technologies could be developed with simple methods, ordinary equipments and inexpensive buildings and plants". And what was essential was "clarity of objectives and honesty of purpose".

Govindjibhai then traced the landmarks in Excel's growth and development, mentioning all that happened in the past forty years and noted that exports had begun to pay dividends and within four months in 1981 the company had an export sales of nearly Rs. 1 crore. He said: "These forty years have been rich with experience. Each new step has taught us something and has emboldened us to go further. Our customers, our friends, our well-wishers, have played no less a role in this story of growth – unceasing and upward. The large Excel family (2600 strong) has stood as one all through".

The successor! Govindjibhai held the reins of Excel during the years 1968-1985.

Govindjibhai paid tribute to his elder brother C. C. for his "enterprising spirit, devotion to God and honesty in all acts" in addition to his technological genius. "His patriotism was more pragmatic than emotional. He worked all his life towards achieving economic and technological independence of India" he added.

What made Excel excel? Govindjibhai proceeded to provide the answers:

- Service to the customers is our principal function. Profit is a by-product.
- Our major step in being successful has been winning the confidence of all with whom we have to deal or work with.
- The confidence of our customers has been our major concern. And though many opportunities came our way to dictate terms or demand a price of our choice, we have never misused that opportunity. In days of shortages we have tried to distribute equitably the available products to all.

Govindjibhai said that Excel had a clean record on the industrial relations front and that management had a "family-like relationship" with all workers, understanding their roles and their contribution and extending appreciation of the good work done by them. The Chairman also stressed that Excel enjoyed the confidence of its suppliers, its investors and its shareholders.

He continued:

Abiding by the laws of the land and keeping promises in terms of production targets and performance for the licence procured have helped us win the confidence of the authorities and build credibility during these years.

Absolute honesty and non-corrupt practices have stood us in good stead all through this period.

Equally important is the judgement of the environment and envisaging the coming events. To be a little ahead of the times – to foresee a situation and 'be prepared', has helped us often in the past both in catching an opportunity in time and tiding over an adverse situation.

Adaptability to the changing times without compromising on the basic principles is yet one more management tool of great importance. For many years Excel insisted on indigenous technologies. That was to prove our own capabilities as also to establish an industry which was very small.

Chemical and pesticide industries in our country have taken great strides since then and have covered major areas in their fold. Time is of essence these days. Discreet use of available resources is an equally important factor. It would be prudent to procure a technology if developed elsewhere, in a fair exchange for others that we can give them. The entire world has become a market place. Excel

will not hesitate to import a technology as and when needed.

Govindjibhai then discussed another equally important matter that had radically changed. That was the borrowing policy. There was a time in Excel's life when it could operate within its own resources, a period of twenty years. Then Excel managed for another fifteen years to borrow "very little". But around 1981 Excel's borrowings compared to the past had become substantial, though "it has never tilted its balance with its equity".

Excel also had succumbed to another change: acceptance of new class of professionals, the young graduates of Business Management who had brought with them "a new style of management and better tools to face the complexities of present-day business".

And how did Govindjibhai see the future? He said:

It would be unlike Excel if it does not go searching for new products and even new 'lines'. From a simple industrial chemical made in a wooden tray in 1941 to toys, to plastic cane, to an impressive array of industrial and agricultural chemicals, we have come a long way. The products of forties looked old and seemed out of place in fifties. And in sixties, products of yesteryear were rather old for us. Products of seventies would certainly loose their glamour in the eighties. The sights are already trained in new fields and regions.

Our thrust is going to be in the field of knowledge in those areas which have complex chemistry and technology, and in the area of sale of technologies. The concept of an entire world as a market place will have to be followed.

We have specialised in simplification of complex and sophisticated technologies. We can offer these to third world countries. We have, at the same time, products and technologies to offer to the industrialised nations on par with what they manufactures – the range which is generally a preserve of a select few. And continue to do research in difficult chemicals . . .

And Govindjibhai added: "In the words of Robert Scott: to strive, to seek, to find and not to yield".

For once, however, Govindjibhai erred! The words are from Lord Tennyson's *Ulysses* in which the hero Ulysses says:

> *We are not now that strength which in old days*
> *Moved earth and heaven; that which we are, we are;*
> *One equal temper of heroic hearts*
> *Made weak by time and fate, but strong in will*
> *To strive, to seek, to find and not to yield!*

But Excel whether in 1981 or later was never weak though it may, like any other business or industrial venture, have had its ups and downs. But in "will" it was certainly strong, as Govindjibhai said and the entire industrial world in India would surely have testified.

Manchhu Soma Warli, the Adivasi boy who accompanied C. C. Shroff as a plant operator in the Mercury Chloride plant set up in the U.K.

In his message Govindjibhai had spoken about the "family-like" relationship which the management had with all workers at all levels. That has always been true as the workers themselves would happily testify. There has never been a strike in any of Excel's factories in all these years.

Quite early in its sixty-year long life Excel decided to give annual awards to outstanding members of its work force. The Government of India itself had initiated what were at first called *Shram Vir* Awards but which later came to be known as Vishwakarma Awards.

The Prime Minister's *Shram Vir* Awards were meant for workmen in Public Sector Undertakings (PSUs) and were given in recognition of the workers' outstanding contributions to production and for showing exemplary zeal and enthusiasm in the discharge of their duties.

Excel picked up the idea very quickly. It was entirely in tune with its own philosophy.

Vishwakarma in Hindu mythology is God's architect. Brahma, according to Vedic lore created this earth but it was Vishwakarma who gave it a shape. Everything stationary and moving was shaped and formed by Vishwakarma. Hence the naming of the Award for Excellence after him.

At Excel, Vishwakarma Day is celebrated with great enthusiasm and involvement. It has been Excel's pride that it instituted the Vishwakarma Awards some time around 1950 or so, much earlier than the Government of India.

One of the earliest winners of the Vishwakarma Award given by Excel is Manchhu Soma Warli who joined the company way back in 1949. Manchhu was an Adivasi boy, straight from the jungles, so to speak. He had little or no education, but his courage was matchless. He combined in himself the jobs of an administrator, mechanic and general factotum, a "rescue man" as many endearingly called him because he could always be summoned when there was a tricky problem to handle. As SOS was invariably sent to him in case of a ticklish mechanical or process problem. Nine times out of ten Manchhu came out with a workable solution.

His seniors have testified that on his own he had often put forth several suggestions to improve processes, all to meaningful advantage! One of his ideas increased the production of Phosphorus Pentasulphide and reduced the reaction time as well!

Of Manchhu it was said that his "nonchalance with which he handled hazardous chemicals and risky reactions" was a daily wonder.

He was a man of very few words. Once while he was in England, Mr. R. D. Shroff

who found Manchhu always tied down to the factory decided that he should be given time to explore London on his own. Mr. Shroff gave Manchhu Sterling Pound 2 and told him to see London at his leisure.

Manchhu ventured out, promptly lost his way and returned several hours later. He had not asked a single person for directions nor had he spent a single penny. He returned with the two pounds in his pocket intact.

On an average Excel gave between twenty to twenty five Vishwakarma Awards every year that works out to about 1 per cent of the total work force. The worker who did his best was honoured. The assessment was done on the basis of the entries received from various departments and scrutinised by a Committee of workers and managers. Performance was assessed for the entire year. Decisions were unanimous.

In addition to giving Vishwakarma Awards, Excel also gave a "Man of the Year" Award. The one selected naturally had to surpass everyone else in performance.

A random selection of awardees would show the kind of people they are and the nature of their achievement. The Man of the Year Award for 1974 was given to Prakash Shringarpure, then barely 30 years old.

Shringarpure, hailing from Bhavnagar was a mountain climber and had scaled two peaks over 20,000 ft. A mechanical engineer by qualification at the time he won the Man of the Year Award, he had hardly been in Excel for eight years. Having spent a short time with the expansion of the Oxalic Acid plant in Bombay he had been chosen to serve at the Bhavnagar Plant when it was set up. Very silent by nature, Shringarpure's forte was action and perfection in whatever he set out to do. Starting as a Project Manager, Shringarpure was to become Joint Chief Executive and then General Manager of the Bhavnagar Plant, all in eight years.

Among those who won the Vishwakarma Awards that year were Lallubhai Mangabhai, Bhiku Laxman Enjale, Subhash Raghoba Mahajan, Jaysingh Shankar Mandlekar, Chandrakant Rulekar, Ramanbhai Lad, Nanu Madhu and Laxman Dattatray Tari.

Seated from L to R: B. L. Enjale, S. R. Mahajan, P. A. Shringarpure, G. C. Shroff, P. V. Kango, R .G. Lad and C. Y. Rulekar. Standing from L to R: L. M. Lad and L. D. Tari.

Mahajan had spent all his eight years in the laboratory and though he had never stepped into a college he showed an immense capacity of carrying out any routine analytical work.

Lallubhai Mangabhai's talent lay in fabrication. Fabrication and erection were his specialities and wherever he was sent, he was remembered for his superb work.

Year after year Excel picked up its best men for honouring. The list would be long even as the bio-data of the chosen is exciting!

But would Excel now produce a man like Manchhu Warli? Hardly. An explanation was given by a senior executive, who said: "The times change rapidly. What we could do in the forties, fifties and sixties in Bombay and in late sixties in Bhavnagar has now become more difficult to do because of many constraints. The laws of the land, the employment regulations, the trade union activities etc. have imposed a number of constraints on us, but not on the spirit of service. We still try to look into the 'man' beneath his looks and his qualifications. In the majority of cases, in our selection system, especially at senior positions where we are very strict and choosy, we have seldom had occasion to fail or repent".

At Excel one can hear several stories of excellence in the discharge of one's duties from the lowest to the highest.

One Saturday night in 1978, around 9.00 p.m. there was an accident in the Mercury Plant at Jogeshwari. An explosion had occurred and some equipment had been damaged.

One of the plant operators was staying in a *zopadpatti* close by and he got the news around midnight. Very much concerned, the man rushed to the factory to check out the undamaged parts of the plant to ensure no more explosions took place and was at work till 6.00 a.m. along with the duty officer who was, of course, also at work. The workman did this entirely on his own without being summoned or any intention of claiming overtime!

Later in the morning he reported to duty as if nothing had happened. He didn't even talk of his midnight rush to the plant until word spread of his utter devotion to his job and his loyalty to Excel.

But undoubtedly the most touching story is that of Magan Hira who in the seventies was called Maganbapa by everyone at the Excel factory in Bhavnagar.

Magan Hira, a father of seven sons and three daughters, was in a class by himself, even amongst the Adodias, a notorious criminal community in Saurashtra. He was an acknowledged thief who stole crops. The legend about him was that not one

farm in all of Saurashtra's districts had been spared by him in his nefarious activities.

Listing by police of scores of his crimes did not scare him. Neither had beating and imprisonment any effect on him. The Maharaja of Bhavnagar then had to intervene. He ordered Magan Hira to stay in Mahuva Town and was given all facilities there. But old habits die hard. Magan Hira continued his thefts of crops. Finally, the whole community of Adodias was asked to stay outside the city limits of Bhavnagar in the land provided by the Maharaja.

For a decade and a half, this hutment colony was the home for distilling illicit liquor and riots, quarrels and beatings. Magan Hira was the mastermind behind all these. Finally, a permanent police posting had to be established in the colony.

It was at this point that Kantisen thought of adopting the entire hutment colony and rehabilitating the Adodias – what seemed to many a foolish step to take. But Kantisen was adamant. He would take a calculated risk in employing Magan Hira in the Bhavnagar plant.

But the idea, to everybody's surprise, worked! The Adodias and Excel got along quite well with each other. And Kantisen became the first one to smash with his own hands the illicit distillery in the colony.

Says Excel's house organ in its issue of April 1976: "Today, the Adodias have become a part and parcel of Excel. The same Maganbapa with more than twenty convictions and countless cases to his credit at one time, is an Excelite today – honest, hard-working, sincere. All the police cases against him have been either withdrawn or settled. He is a free citizen now. The last of Maganbapa's sons got married last year. He fulfilled all the tasks of his life. His sole joy today is to earn an honest bread and to play with his grand children . . .".

Maganbapa is now no more, but his legend persists.

On Excel's fortieth anniversary, a distinguished Management Consultant, Dr. H. N. Nanjundiah prepared a critical assessment of Excel's management philosophy bringing to his job his rich experience of other organisations and countries where he had served.

As he saw it, Excel had in the course of its long career chosen to make not merely an economic impact, but also a social one. As he put it:

Excel is a business enterprise. In the process of attaining assured economic performance, the desire to make the expected social impact is self-imposed by wanting to become and be an integral part of the innovative development efforts of Indian Chemical Technology on the one hand and marketing low cost acceptable quality agricultural and industrial chemicals on the other.

The eyes are always focussed concurrently on the productivity of knowledge, capital, management and labour. The art of deliberately choosing the most appropriate technology and inducing changes for growth and betterment has been mastered over the years by knowing how to convert technology into performing skills within the framework of Indian socio-economic development environment. Excel thus has chosen to make not merely an economic impact but also social impact.

As Dr. Nanjundiah saw it, the social purpose of an organisation is evidenced by its continuing efforts to be kept informed of the changing environmental realities, by being enlightened and responsive to the changing needs of society and by being rational in balancing the mutually exclusive and often conflicting claims of the different segments of a society such as India, which is characterised by scarcity of resources and under-development.

Its enterprisehood lay in being aware of and sensitive to the realities, being related to the relevant other socio-economic institutions and having an adequate sense of futurity in all its dealings. Rooting the institutional goals in the national purpose and cultivating a sense of shared interests with the sponsors and the beneficiaries of the institution were the hallmarks of institutional legitimacy and credibility. Said Dr. Nanjundiah:

Measured by these standards, Excel comes out in flying colours like a 'blossom in the dust', so much unlike a whole lot of other Indian enterprises, both in the public and private sectors, which are yet to even make a beginning after 35 years of our national independence.

The urge to become and be better than the best has pervaded the spirit of Excel Organisation all its 40 years of service-oriented business life. Even Japan has had to learn this lesson the hard way, only after being hopelessly defeated and humiliated in World War II.

Govindjibhai visits Behrambaug slums, to assess the Housing Rehabilitation Programme for the workers' homes that were destroyed during the monsoons. Seen in the picture are Sri Ramdhan Pawar and Sri S. S. Ogale.

THE ECONOMIC TIMES

and

THE HARVARD BUSINESS SCHOOL ASSOCIATION OF INDIA

Citation

for

1992 Corporate Performance Awards

Private Sector Mini Giant

EXCEL INDUSTRIES LIMITED

In recognition of:

YOUR excellent financial performance during the year ended March, 1992 through effective management of operations in all spheres,

YOUR successful thrust in increasing exports, and

YOUR continued emphasis on R & D and achieving significant technological improvements,

A panel of judges consisting of Dr.S.A.Dave, as Chairman and Mr.Y.C.Deveshwar, Mr.U.V.Rao, Mr.P.R.Krishnamoorthy and Mr.Swaminathan S.Anklesaria Aiyar as members has selected you,

Excel Industries Limited

for the 1992 Corporate Performance Awards from among 150 mini giant companies in the private corporate sector in India. In token thereof, these presents are made on 7th June, 1993 at Bombay by

The Economic Times

and

The Harvard Business School Association of India

at the hands of

Dr. C.Rangarajan, Governor, Reserve Bank of India

ESTD 1838

HBS
AI

Dr. Nanjundiah said that "the tendency to reduce the standards of quality and service has always been strongly resisted by Excel" and yesterday's achievements were treated as too inadequate a level for tomorrow's excellence. And he added: "By going to places where the resources are, especially the human and renewable resources and fully exploiting them for the benefit of society at large, Excel has proven that there is no real shortage of entrepreneurial or Managerial opportunities and talents in India today, but that there exists a real mismatch of institutional purposes and goals on the one hand and the national needs on the other".

As Dr. Nanjundiah put it, a better India was possible only through such of those socio-economic institutions which were prepared to accept society as their real life laboratory and also the source and sink of commendable contributions and public service. The gap between the need for such institutions in India ever since it became politically independent and their growth in quality and numbers was fortunately ever widening. Said Dr. Nanjundiah: "Even in this setting, Excel passes the severest test of an acceptable Indian socio-economic institution in all respects. By having the courage and capacity to be different from others, Excel has, indeed, become a pocket of negative entropy as it were in the amorphous and volatile body politic of India".

Excel, noted Dr. Nanjundiah, had also successfully endured the onslaught of the unhealthy practices of corrupt institutions, notwithstanding their innate capabilities to vitiate the ideals of good institutions, just as bad coins drive out the good ones out of circulation. He asked: "What then, makes Excel excel others?" He provided the answer.

The answer lies in its courage, capability and preparedness to strike new and unfamiliar paths to progress. Power, prestige and perquisites of office are not the goals of the top management of Excel. Glamour, authority and status are tailored to be in consonance with 'Indianness' in letter and spirit. To be sure Excel seeks its due share of rewards and profits, but only as the means to serve its clientele and Indian society well, by cheerfully embracing its load of problems and converting them into business opportunities, seen in the context of a large, growing, poor and rural, newly developing society."

According to Dr. Nanjundiah a development mentality is first created by Excel in the people. The liquidity of knowledge is exploited in full by sponsoring mobility and 'brain drain' to places and projects where they count most. The experience of Excel was resoundingly positive in encouraging creativity and initiative, small group effort, not seeking final victories with its clients for project know-how or with customers for its products. As he put it: "Openness, honesty and integrity, warmth, trust and credibility, humanity and compassion and not being manipulative or exploitative, have produced over the years rich dividends, both within and outside the organisation." "Excel thought *for* itself and not *of* itself, with a well-prepared and well-trained collective mind of its own.

Dr. Nanjundiah further noted that Excel was not afraid of the risks of failure or the consequences of unsettling the organisational arrangements to match with the changing societal needs in the total perspective. It tried to bequeath a more dynamic, virile, innovative, adaptive, humane and socialised form of organisation to its succeeding generations of managers than what obtained in the present.

And to that, he added: "Being steeped in the above tradition, the skills of transcending the narrow technological or economic view only of business performance has come naturally to Excel. It has demonstrated what an Indian company can do, within the framework of the Indian environmental constraints of managing a large, established and growing business in socially acceptable terms. Above all Excel has believed in the fact that the mistakes need not always be of others. This has enabled Excel to now being in a position to plug itself into the network of international industrial activity through technical collaborations and turn-key projects in such newly developing countries as Tanzania and Nigeria, in competition with other developed countries, with confidence".

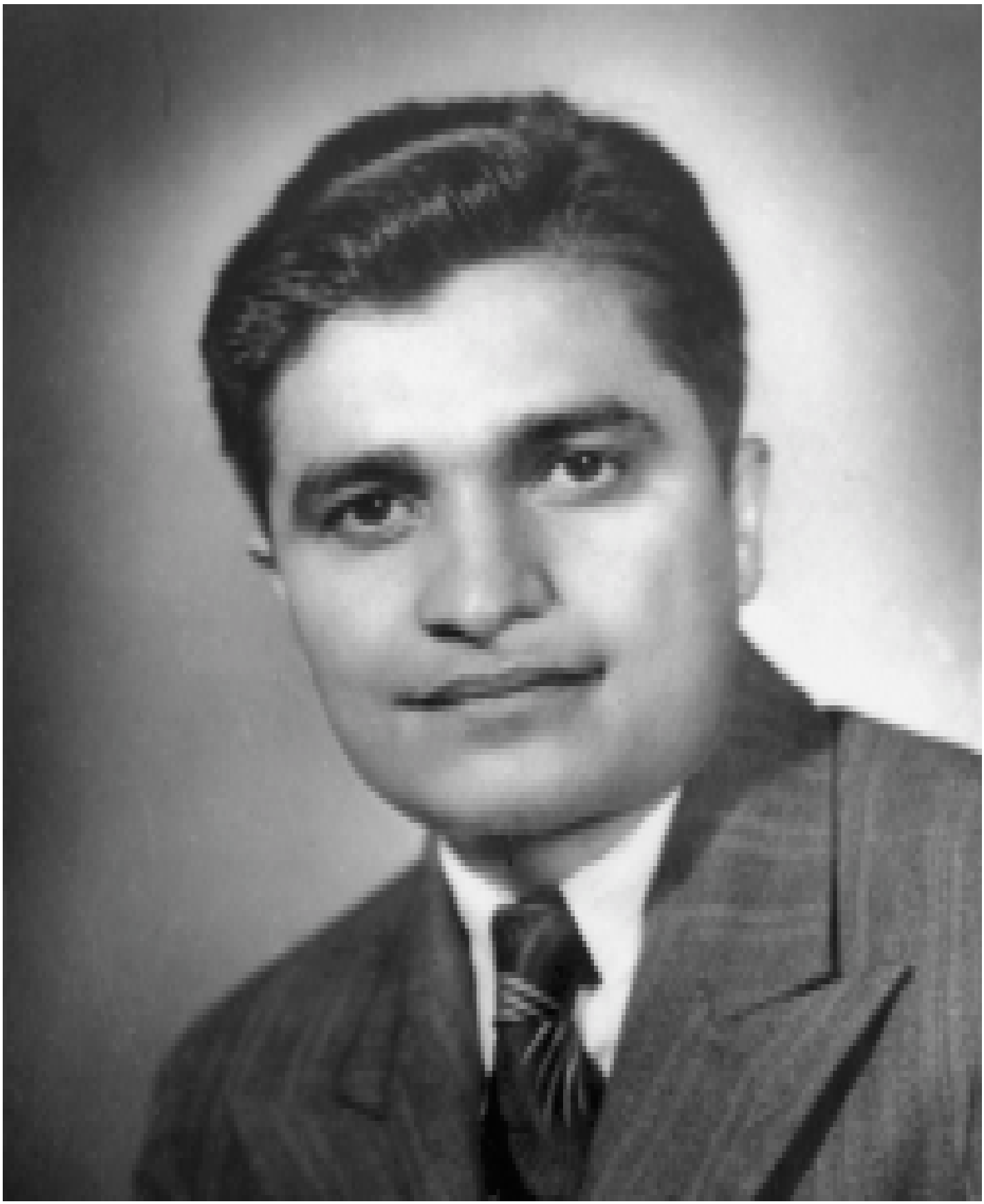
In the end Dr. Nanjundiah said that the strengths of any given individual or institution are not only necessary, but are also essential. They were, however, not sufficient for assured built-in self-renewal capability. The attendant weaknesses had either to be removed or made irrelevant to make the strengths fully productive for the conditions to be sufficient as well. And he added: "Excel has already sown the seeds of self-renewal within its human organisations. The leadership given to the cultivation and enrichments of self-renewal of capability is indeed heartening. It comes naturally to Excel in the flush of its pioneering work over the last 40 years. That only requires to be nurtured, maintained and enriched over the difficult decades ahead. In Shakespeare's words: 'Ambition must be made of sterner stuff'. Excel has not only ambition, but also what it takes to succeed in achieving it".

All through the years from the day C. C. Shroff, the founder-chairman of Excel passed away in January 1968 till 1985, it was Govindjibhai who guided the company. For seventeen long years he was the man who gave to Excel the leadership it needed. In 1985 Govindjibhai retired and moved over to Vadodara to help nurture the Shroff Foundation Trust (although he continued on the Board of Directors of Excel until June 1994). In February 1996 he passed away, aged 85. Kantisen says that Govindjibhai left his body magnificently – just leaving it smiling in the midst of his relatives.

He had told his daughter-in-law when she was worried about his health: "Look, we all have to leave some day. Let us accept it and go on serving others. Death is nothing but changing our dress. Let God help us do it correctly".

Kantisen says: "He did it correctly".

In the history of Excel, another era had passed.



Kantisen Chatrabhuj Shroff youngest child of Chatrabhuj and Gokiben.

5

Kantisen Leads Excel to New Heights

With the passing away of Govindjibhai a new Chapter began at Excel. The mantle of leadership fell on the already tried and tested shoulders of his younger brother Kantisen.

In the course of the next few years Excel under his leadership was to make many technical breakthroughs in the Indian chemical industry. Kantisen himself was to win many Awards.

During his tenure as Managing Director, Excel was to be adjudged for some of the most prestigious awards such as the Economic Times – Harvard Business School Award and Good Corporate Citizen Award. Many industries in different parts of India came up due to his technical guidance.

The remarkable thing about him is that like Govindjibhai he had no degree either in chemistry or engineering. If he had any training, it was in Arts at Shantiniketan.

But what he had in excess was the guidance under C. C. during the time he ran Excel. Once he told an interviewer: "You can describe me as one who devotedly worked with my late scientist brother C. C. Shroff in developing over 100 processes. Of late I am working on the so-called unwanted human beings. Working with chemicals is challenging, but working with 'problem' people is more so."

What made Kantisen the way he is? He told the same interviewer: "We were five brothers and one sister and as the only sister she was very special to all of us. But if there is one common question that each one of us was asked at some time or other, it was: 'Why are we the way we are'?"

He said his answer was: "The one common answer to it from all of us was that we were like five fingers attached to one single palm – each one with a specific function and purpose to serve and yet collectively having a common bond – the collective strength of togetherness, which should be directed to serve the greater good of the larger society."

Kantisen attributed this characteristic to one person, his mother, who was 'Ma' to everybody, and who, according to him instilled into all her children the desire to serve the country selflessly.

As he put it: "It only reflects the special care she took in our up-bringing, where she made no distinction or discrimination towards her five sons and one daughter. To her all were equal and alike."

When the daughter, Nandini, expressed her desire to become a doctor and thus serve people, Ma decided that since the Shroff family resources were limited, her youngest son, Kantisen himself, will have to give up the idea of

Medicine Woman! The only daughter of Chatrabhuj and Gokiben set her sights on healing. Nandini C. Shroff.

Ramesh and Nandini Gandhi – the Independence Movement was their meeting ground.

becoming a doctor too as the family could afford to educate only one member and that will have to be the daughter.

What is remarkable is that nobody cavilled at the decision, not even Kantisen himself. Nandini, born on 7 August 1919, and four years Kantisen's senior was to become the second woman doctor among the Bhatia community, after Laxmiben Thackersey.

Nandini went to a municipal school as a child, then joined the Hansraj Pragji Thackersey School for Girls which had just been set up and did her matriculation from the same school.

She then joined Bombay's Elphinstone College and after passing the Inter Science examination was admitted to the G. S. Medical College. This was in 1940. She had finished two years of medical study when the Quit India call was given by the Indian National Congress under Gandhiji's leadership. The entire Shroff family instantly joined the independence movement. Now past eighty, Nandini told her interviewer: "It was the most natural thing to do!"

It may have been the most natural thing to do but it entailed a lot of sacrifice. To give up medical studies to do propaganda work for the independence struggle often in remote rural areas may sound romantic but Nandini had to pay a price. It interrupted her studies.

She was constantly moving. Unfortunately the Quit India movement was to peter out not long after and something had to be done.

About this time she met the man who was to marry her, Ramesh Gandhi, who was a dentist by profession. The Shroff family knew Ramesh very well so there was no question of the alliance being challenged. With Gandhiji and most Congress leaders in jail, Ramesh and Nandini decided to take up teaching at a school that had been newly set up in Broach. Ramesh had to change his name to Ashok Desai as there was a warrant of arrest against him. The marriage took place in 1944 when both Ramesh and Nandini were "underground".

The couple taught at the school till 1946 by which time the politics of the country had completely changed. The war by then was over, Gandhiji and all his colleagues had been released, the Congress Party had resumed power in Bombay as elsewhere and Ramesh and Nandini returned to the city. At that point Ramesh felt that Nandini should resume her medical studies that had been so badly interrupted.

But G. S. Medical College would not have her. Luckily, the Topiwala Medical College, a nationalist institution which had been newly set up accepted her and she became the one to belong to the first batch to graduate in 1950 with an L.C.P.S.

Independence had been won but not all Princely States had agreed to integrate with India. Among them was Hyderabad under the Nizam. He was holding out and a communal body, the Razakars was inflicting harm on the people. It had to be fought. Ramesh knew the leaders of the Hyderabad Congress who had put up a radio station at Kandivli, not far from Bombay city and understandably he was asked to run it. As he saw it, the independence struggle was not yet completely over. But with the Nizam surrendering to Delhi after the Indian Army marched in, Ramesh had at last to seriously consider his plans for the future. Instead of deciding to take up practice as a dentist, Ramesh decided to go into business. It was Nandini who started her medical practice by setting up a Nursing and Maternity Home. That was in 1957.

Nandini ran the Maternity Home from 1957 to 1976 when it was decided to enlarge the scope of medical service which resulted in the setting up the C. C. Shroff Memorial Hospital. It began with 36 beds but now has 80 and has four operation theatres, two for major operations and two for minor ones. Now old and frail, Nandini still runs the hospital with a firm hand but with one clear aim: to serve the middle class. "Those only live" she says, quoting Swami Vivekananda, "who live for others. Rest are more dead than alive".

Ramesh passed away some years ago in 1994. Nandini carries on bravely, still living up to the high ideals that moved her from her childhood, still interested in social service, rural uplift and tackling the problems of water, air and environmental pollution, firm in her unchanging faith in God. "Have faith in God, speak the truth and do not hurt anyone" she says matter-of-factly when asked to define her personal philosophy.

Octogenarian Nandini – her courage and convictions still stand tall.

And like Kantisen, she attributes the strength of her convictions to her mother.

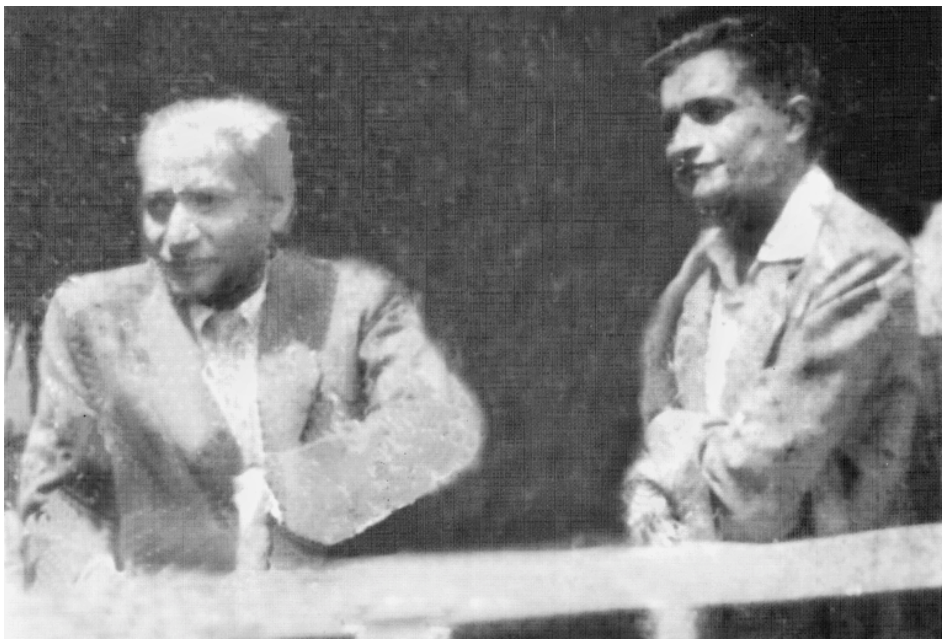
When Kantisen took over the reins of management at Excel he could not have foreseen what awaited the fortunes of the company. It had been doing quite well having entered the export market towards the end of the fifties. Excel had strengthened its role as the major chemical exporter throughout the world by its quality, pricing and punctuality. Excel had become a by-word for excellence.

But then Kantisen had to face some difficult times. The eighties were to test his patience and his endurance.

While Excel's sister companies, Punjab Chemicals and Transpek Industry were zooming in the estimation of the investors, Excel was lagging behind, failing to bring any sparkle in the market.

The reason was partly in the nature of business Excel was involved in, namely, the pesticides business which depends primarily on the monsoons which compel farmers to plan for the next season's harvest.

At the same time, during the early eighties, the synthetic pyrethroids suddenly appeared on the pesticide scene, promising to be a panacea. Excel's product was then only Endosulfan and it had no pyrethroids to offer.



The inspiration and the inspired! Champraj the elder brother with the youngest of them all Kantisen, seem headed in the same direction.

Coupled with this were poor rains for three years. Naturally enough, pesticides which accounted for around 65 per cent of Excel's sales found few takers. Excel was in a spot of trouble. Looking back one of the company's executives says if Excel could still manage to perform better than its counterparts in this industry it was because of the enormous clout and acceptance of Excel in the Indian market. Its credibility was very high. Its products enjoyed a high reputation both for their quality, price, not to speak of promptness of delivery.

But soon the scenario was to change. Over-use of pyrethroids produced the expected consequences. Most pests became increasingly immune to them. Opinion moved in favour of proven pesticides, though with a new awareness that they would have to be used judiciously. And with that Excel's fortunes improved.

And then over a period of time, Excel began looking at products which would help reduce its dependence on pesticides. Thus began Excel's interest in water treatment chemicals and flame retardant chemicals. Since Excel had to do a lot of water processing before producing the items it manufactures, going in for water treatment chemicals was a logical step. Already in its attempts to discover new water treatment chemicals, Excel had discovered some good sequesterants which promised good market results. So far as flame retardant chemicals were concerned, dealing with flamm-

Director K. C. Shroff, Chairman, G. C. Shroff, Ramilaben and Kailash Ramesh Modi (L to R).

able chemicals like Phosphorus and Aluminium Phosphide had already made the company work on chemicals which would retard flames.

Until the seventies Excel was able to abandon processes and develop new ones, seemingly at will. The speed at which this was done enabled Excel to grow till the sixties with extreme flexibility. The bias was import substitution. Understandably Excel had the monopoly over the indigenous supply of the products it was manufacturing. As soon as Excel would realise that it was losing its monopoly it would be ready with a new product that was on the anvil.

With the shift to Phosphorus and Endosulfan, a lot of research facilities were concentrated on products with gestation period longer than just a few months and with relatively high turnover value. This inevitably had its impact on marketing personnel and finance.

But in terms of R & D strategy there was a clear shift to high value, high volume, long gestation period products. This required careful market analysis and tremendous foresight. The need for planning increased.

Kantisen had to face some difficult questions: How does one judge which of the new techniques must be adopted? How does one judge what traditions should be retained and which jettisoned?

After much discussion it was found that the only way to sort out the problem was to have a multi-disciplinary group that represented all divergent thinking. This group, the Technical Directorate, assessed projects, determined their priorities, assigned key manpower and monitored all projects, process development efforts and new product developments. The Directorate met every week to consider various projects in turn and brought to every issue a greater clarity and sense of direction. Further a close cooperation was developed between marketing and finance to fit the R & D efforts into the total scheme of the organisation.

As long as Excel had a near monopoly over indigenous manufacture of its products, selling finished goods was never a problem. Furthermore, there was a steady stream of new processes to sell Excel's product line. That explained Excel's early success. But the switchover to products with long gestation period was proving to be more expensive. This had to be turned profitable. To recoup investments Excel could not carry on abandoning processes as it had done in the past. The company had to achieve greater returns for longer periods, but that was something new to Excel.

One solution was to enter the export market. That was what, in the end, done and a separate Marketing Division was set up for marketing agro-chemicals. Branches were opened in Delhi, Calcutta and Hyderabad. Customer service was also expedited.

Contribution to Growth of Agrochemical Industry: *The Pesticides Formulators Association of India (PFAI), on the occasion of its Silver Jubilee Year, honoured Shri K.C. Shroff, the Managing Director of Excel for his long and significant contribution to the growth of the Indian Agrochemical Industry.*

At first Excel could manage its affairs with its own finance, thanks to simple and labour-intensive processes that it had developed. But soon it was found that working capital requirements were skyrocketing. Clear guidelines from the top and financial discipline on the part of operations and research were called for. This was where Kantisen's leadership came in handy.

Through the years, as the company kept growing larger and larger the market was changing from a seller's to a buyer's market. The relatively uncomplicated environment in which the company existed was getting to be more complicated and competitive. That was when the Marketing Division was first established.

At Excel, since the very beginning, some basic truths about the market had been firmly established. On that Kantisen was firm in following them. They were as follows:

- Service to the customer is the principal function of any organisation. Profit is a subsidiary function necessary for its sustenance and smooth running.
- Use one's strength to fulfil this function.

And based on these two principles the company laid down four guidelines:

- Keep prices reasonable and consistent.
- Retain consistency in quality.
- Assure regular supplies to customers, and
- Provide technical services wherever and whenever needed to inform and educate the customer.

Actually, for years Excel had used its strength in technology to serve its customers. What the guidelines were meant for was merely to stress the obvious.

Throughout the years Excel had ample opportunities to amass wealth through forcing a price it wanted from the customers. There is, for example, the case of Standard Vacuum Refineries in 1956. Cupric Chloride, a product imported for removing sulfur from crude oil, went suddenly out of stock. Imports would have taken a long time and the refinery came to the point of having to be closed. Excel was asked whether it could help. It was willing to, and insiders say that the chemists at Excel "burnt the midnight oil to research, develop and suggest a process" to manufacture a chemical never before made in India and what is more deliver it to the Refineries *in four days*!

The American manager of the Refinery thought it no less a miracle that the Refinery was kept running. Excel at that point could have asked for any price and what is more, got it. In fact, it is said, the Manager wanted to pay several times more than the price of imported Cupric Chloride which Excel had charged. From C. C. Shroff the reply was simple and to

the point. He told the Manager: "How can we fleece you when you so badly need our service? Where is the service element left in it if we charge you a high price ?" There is something beyond profit, C. C. told the astounded Manager, that an organisation needs which is the goodwill of its customers !

Aluminium Phosphide (Celphos) was being imported and the foreign exporters were charging a fabulously high price for the product. Excel decided to produce it. In 1967 the samples of Celphos made by Excel were formally approved and accepted by the Government as equivalent to the imported material for large scale use.

The Government which was willing to offer a price of Rs. 110 per kg against the price of imported material at Rs. 90 per kg was totally taken by surprise at the price of Rs. 50 per kg quoted by Excel. Again, C. C. Shroff's explanation was to shock even Government authorities. C. C. said to queries: "I would be quite happy and content with a reasonable profit which any industry or business needs for its smooth running. Science is to serve the people, not to make profits".

Again, Phosphoric Acid had always had a fluctuating market. Not for Excel, though. For months on end in 1973-74 when the market price ruled at Rs. 12 to 14 a kg, Excel sold it to its clients at its fixed price of Rs. 4.50 per kg.

As a spokesman for Excel was later to say: "We had insisted that we owe it to our customers to maintain a price line corresponding to our costs and not to take undue advantage of shortages or market fluctuations. It has paid us rich dividends in the long run. The trust and confidence built between us and our customers is very strong and none of them have left us under adverse market conditions".

Throughout its long life of sixty years, Excel has observed one rule and followed it strictly: maintenance of quality. Indeed, insistence on top quality has been one of its strongest points.

In the industrial range Excel products have been used as intermediates by other reputed manufacturers who just cannot afford to use below-quality products if they have to maintain the quality of their own products. Indeed, in agro-chemicals to supply anything short of quality products to the farmers would have been nothing short of crime – the damage being to the crops, in the first place, to the farmers next and to the nation in the end. Excel had never let down the farmer.

1969-70 – The first ever Gold Shield for Import Substitution for Developing Indigenous Know-how for manufacturing Methyl Bromide, Aluminium Chloride, Phosphorus Pentasulphide and Aluminium Phosphide, presented to K. C. Shroff, with Ashwin Shroff, Usha Shroff beside him.

Once Phosphorus Pentasulphide suffered a period of severe shortage. Excel had a leading company as its customer for this particular product. It so happened that at that point in time Excel itself wanted the product badly for one of its in-house chemicals. Excel had to make a choice: either deny the customer a product then in severe shortage or deny itself its use. Excel chose the second alternative. By foregoing short term profits it built long term relations with its customer of repute. As the Excel spokesman was later to say: "We at Excel are justifiably proud that we won the faith of our customer in this department". And he added: "We take pains to do it. Even when we have severe resource constraints we have even bought raw materials at the most unfavourable terms just to keep supply lines to our customers alive and open".

Solving technical problems faced by customers has always been an important feature of Excel's customer service.

Thus, when the use of Phosphoric Acid for anodising was developed, Excel invited many small anodisers to its laboratories to teach them how to improve their anodising process to get optimum results.

Throughout the seventies and eighties and later Excel's sales representatives roamed the length and breadth of rural India meeting farmers and educating them. Excel besides has held special classes for its own dealers and retailers for training them in the proper use of pesticides and in the best way to handle them so they could thereafter pass on the knowledge to farmers – the ultimate users of the products.

After studying Excel's business practices in great detail, an academician was to write: "Excel pursues a stable pricing policy and does not exploit the scarcity situation to make more money. Though the export prices are substantially higher than the domestic prices, the company gives priority to meeting the needs of the domestic market. As an employee put it: 'The company is not money-minded. Profit is treated as a reward for the services rendered' ".

But most significant of all, Excel has an unbelievably clean image in its dealings with government authorities in an industry which is tied down by regulations and there is a temptation to jump regulations for a gain in the short run.

The Good Corporate Citizen Award for the year 1993-94 awarded by the Bombay Chamber of Commerce & Industry.

Excel announced its mission for the next 50 years on 19 November 1990. It identified the concern of the management as that of instilling the "concern of the mother" in the organisation. It rededicated the company to further fulfil the vision of its founders to make "humble contributions to the country, industry, rural society and our company through technological innovation and through individual and collective endeavour".

The Mission Statement said:

"We, the members of Excel family, pay our respects to the memory of our founder, Late Shri C. C. Shroff, our dear Pappa, on this 19 November 1990, marking the commencement of the 50th year of what is now Excel and rededicate ourselves to further fulfill the vision of our founder to make humble contributions to country, industry, rural society and our Company through technology, innovation and through individual and collective endeavour.

Satisfaction of our shareholders, customers, our own people, suppliers, institutions, investors, society and community is paramount to us. We will make whole-hearted efforts for the fulfilment of this objective through our interactions and inter-dependence with them.

India, our country, is blessed with abundant natural resources in terms of soil, sunlight, rain, ocean, rivers, minerals, underground resources, forests, mountains and snow. We are fortunate to have a background of thousands of years of culture and civilisation where values, principles and respect for nature are key factors. We, the members of Excel family, will follow the path of imbibing our cultural spirit, harmoniously working to preserve, utilise and protect our natural resources and to continue to base our practices on values and principles.

We have a responsibility towards industry and community. Rural community is heart of India. We will be friends and contributors to well-being of both industrial and rural community. Not only through our products and services, but also through our knowledge and

Mission for next 50 years
Excel Industries Limited

We, the members of Excel family, pay our respects to the memory of our founder Late Shri C C Shroff, our dear Pappa, on this 19th November, 1990, marking the commencement of the 50th year of what is now Excel and rededicate ourselves to further fulfill the vision of our founder to make humble contributions to country, industry, rural society and our Company through technology, innovation and through individual and collective endeavour.

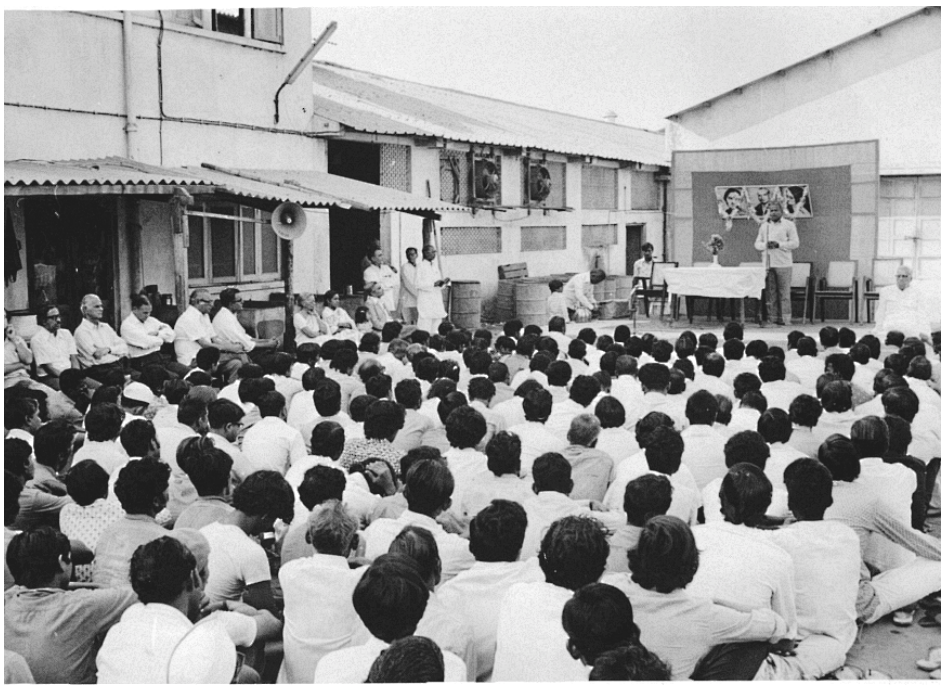
Satisfaction of our shareholders, customers, our own people, suppliers, institutions, investors, society and community is paramount to us. We will make whole hearted efforts for the fulfilment of this objective through our interactions and interdependence with them.

India, our country is blessed with abundant natural resources in terms of soil, sunlight, rain, ocean, rivers, minerals, underground resources, forests, mountains and snow. We are fortunate to have a background of thousands of years of culture and civilisation where values, principles and respect for nature are key factors. We the members of Excel family will follow the path of imbibing our cultural spirit, harmoniously working to preserve, utilise and protect our natural resources and to continue to base our practices on values and principles.

We have a responsibility towards industry and community. Rural community is heart of India. We will be friends and contributors to well being of both industrial and rural community. Not only through our products and services, but also through our knowledge and expertise, we will be of assistance to community and industry.

Company is togetherness. We will work and contribute, learn and grow together in the spirit of "Saha Viryam". This is our resolution and we resolve so. We pray to the Almighty that we be granted the strength to fulfill our this mission.

MEMBERS OF EXCEL INDUSTRIES LTD.
50 YEARS OF EXCELLENCE



Pappa's Punyatithi.

expertise, we will be of assistance to community and industry.

Company is togetherness. We will work and contribute, learn and grow together in the spirit of *'saha viryam'*. This is our resolution and we resolve so. We pray to Almighty that we be granted the strength to fulfill our this mission. "

That a company with fifty years of service behind it should issue a Mission Statement for the next fifty years is itself innovative, as Prof. Deepti Bhatnagar and Prof. Mukund R. Dixit of the Indian Institute of Management, Ahmedabad noted in a case study of Excel.

The academicians noted: "This act of defining the mission of the company in terms of the contribution to the nation and building a culture of the company itself is innovative. Its time horizon is long. It is unlimited in scope in the sense that it does not confine the company to any product market combination, but is challenging in terms of creative use of the potential of its employees".

And they added: "The act of articulating the mission of the company is the first step in corporate development. The other steps are operationalising the mission in concrete terms, mobilising resources, setting up a system of review of progress vis-à-vis the mission and reminding oneself again and again of the perspective of the mission. Excel has done these in an innovative way".

That Excel had done well in its Golden jubilee year is clear from this table:

Performance At A Glance
Year ended March 1992

Rs. Million

Company	Sales	Gross Profit	Net Profit
Bayer India	2184.3	227.4	91.6
Cynamide India	1004.7	130.8	60.8
Excel Industries	1756.5	322.4	186.2
Hind. Ciba-Geigy	3341.3	386.8	158.5
Khatau Junker	268.5	26.5	12.2
Montari Industries	576.0	31.7	19.5
Paushak	121.0	8.2	6.1
Pesticides & Breweries	49.7	–	–
Searle India	743.6	71.4	41.9
Sumex Chem.	72.0	6.3	4.4

Source: **Business World** (10-23 February 1993)

The case study made by the academicians as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation itself is very revealing.

The academicians were curious about one issue, and they raised it in their study. They said: "Often in companies with visionary founders, an important concern is: 'What after him?' Excel's is the rare story of an organisation where the efforts to realise the dream have been sustained long after the departure of the founder. The absence of the founder has not created a void as the company keeps remembering him through anniversaries, rededication efforts and reminders of what has to be done to scale higher goals and work harder".

And then they asked: "How does the company keep renovating again and again? What are the internal organisational processes and mechanisms that drive Excel towards innovating and improving? How is it that the founder's dreams and visions are kept alive as inspirations?"

What follows is the academicians' own appreciation of the Excel brand of administration and management. This is what they had to say:

The Report

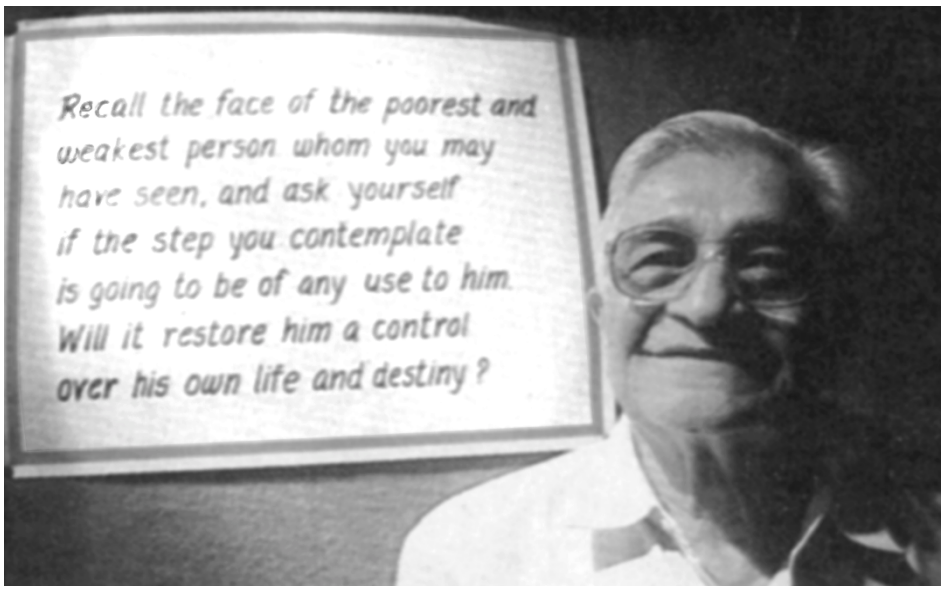
Culture: The company's growth has been made possible by the development of a company culture that believes "in the dignity and capability of every human being and an environment where everyone is motivated to realise his or her own full potential".

Team work, a school-like internal environment and family feelings are some dimensions of this culture.

Team Work: Excel has created a work environment where people can contribute in teams without recourse to rivalries, petty jealousies and leg-pulling. There are opportunities for cross-fertilisation of ideas. Brain-storming is extensively used as a problem solving technique.

A senior executive explains the brain-storming process as follows:

A group is created by drawing members from different functions and different levels. Even operators and workers are involved. A problem is explained to them and suggestions of all members



An idealist's motto: Kaka and his guiding principle.

are taken note of. Then they are divided into sub-groups for further discussion of the ideas. The sub-group's recommendations are presented to the larger group and discussed and evaluated. Based on the final choice, an action plan is developed. There is a periodic review of the progress. There are no water-tight compartments in decision-making processes, no hindrances because of hierarchy.

Through processes of broad-based participation and group discussions, new ideas are developed into products and process innovations. The outcomes of such meetings and events are widely talked about. The invitation to individuals to participate in brain-storming sessions is itself considered as a recognition of everyone's ability to contribute to collective tasks.

Learning Environment: The company has created a school-like environment where there is continuous sharing and learning. Every office has a blackboard. It is a well-established practice at the company to go to the "board" to explain or develop a point. According to Mr. K. C. Shroff, the Managing Director, the blackboard eliminates hierarchies and against the blackboard the person is more expressive. The blackboard culture of the company is an innovation that has not only developed new ideas but also cross-functional teams.

Excel consciously involves as many people from as many functions and as many levels as possible in solving the technical and process problems of the organisation and this is used as a source for developing ideas for new technologies as well.

The company does not keep a suggestion box. There is no need to write suggestions. The concerned employee can meet anybody higher-up and give his creative suggestions any time. If his idea is picked up, he becomes a member of the team working on the implementation of the idea.

Opportunities for interaction and free exchange of ideas are created through a common canteen where all the employees, including the Managing Director eat the same food.

Family Feelings: The company believes in simplicity. It de-emphasises status symbols or designations that connote authority and power. In fact, the usefulness of designations is limited to interactions with outsiders. Internally, everybody is addressed by his name with the suffix 'bhai' (brother) or 'ben' (sister). The Managing Director is addressed as 'Kaka' (uncle).

Members of the Shroff family mix freely with the employees and do not distance themselves from them. The top management, particularly members of the Shroff family, take an active interest in the personal well-being of the employees. They make it a point to share employees' joys and sorrows by attending weddings, anniversary celebrations and visiting families at the time of sickness or death.

The older employees still remember the days when the mother of K. C. Shroff used to make and serve tea for the people working in the night shift. Hence the clause of instilling the concern of the mother in the Mission Statement acquires significance.

Engineer's training programme at EITEM-Bhavnagar.

Down Memory Lane. Kaka as 'Deepak Chacha', with Dinanath 'Appa' Masurkar, his wife and children in a poignant pose.

Celebrations and Rededications: The founder's birthday and death anniversary are celebrated and the company uses both the events to rededicate itself to its mission. Long service awards are given to those completing 20 years, 25 years and 30 years. The family members of the recipients are invited to attend the functions.

The company's achievements and mission are embedded in the organisational memory and are recalled again and again in group meetings and celebrations to sustain commitment.

The innovative aspects of Excel's culture, especially the team work ethics, the family and school environment can be replicated. It contributes to management development continuously and not at discrete time points. The new employees experience the Excel culture, observe others and adapt themselves to become a part of that culture.

Management of Human Resources: Excel has grown on the strengths of its people. Where do they come from? How are they developed, sustained and retained?

Recruitment: The recruitment system is both formal and informal. The company receives applications for positions in the company in response to advertisements and through references from people known to the company.

The candidates are selected on the basis of their proven competence in the past and demonstrated potential to develop multiple abilities and not academic records alone.

As Mr. K. C. Shroff, Managing Director points out: "Excel looks for evidence of achievement orientation as reflected in participation in extra-curricular activities".

Excel believes that the academic discipline pursued by an individual in India reflects one of his several abilities and interests. Even the pursuit of the academic discipline may not be of his own choice. In a country where the demand for seats in academic institutions far exceeds availability, an individual tends to take up the pursuit of a discipline or a profession where access is available, or based on what everybody feels is worth pursuing, and puts in his efforts to do well. Building an individual only on this may not lead to a proper utilisation of an individual's abilities. Excel therefore tries to explore other potentials of an individual before assigning work.

The profile of an Excel employee is described by a senior executive as follows:

He has job satisfaction. He is versatile. He has grown personally. He is a team member. He is entrepreneurial in his approach. Old employees treat new employees as brothers and sisters.

Once selected, the employees go through an induction programme where they are exposed to technical subjects, and talks about the organisational history and culture, team work, innovativeness etc. by senior people. Talking about the history and culture of the organisation helps in socialisation of new entrants.

To develop teams right in the beginning, assignments are given to the recruits in teams. They are assigned responsibilities not necessarily related to their past training and experience. The idea is to discover as many talents and capabilities of the employee as possible.

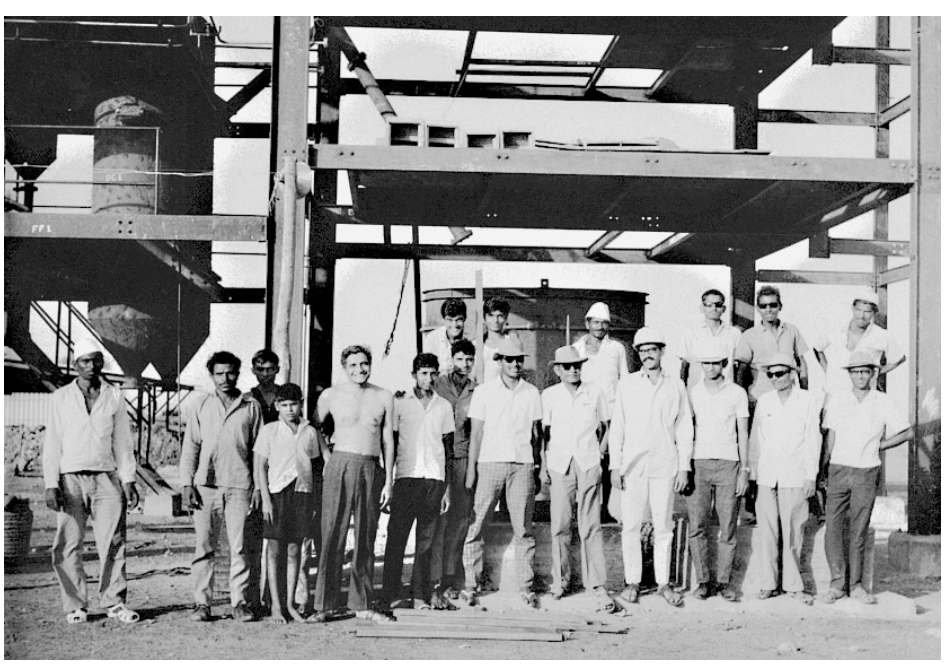
Excel provides security of employment. Nobody is sacked. Employees leave on their own if they find the culture unconventional. However, the employees seldom leave the organisation. Most of those who leave, return to work again.

Developing People: Discovering the potential of its people continuously and developing and utilising them to meet the developmental needs of the company and the country is a major concern of the Excel management. The practices in the organisation respect the creativity and contribution of employees irrespective of their designations, qualifications and background. It is a common practice at Excel to rotate employees through various jobs with a view to develop their overall competence and discover hidden potential. In one instance, a project manager was made the H.R.D. Manager because while implementing a particular project, the company found that he was very skillful in dealing with people and had a high concern for their development. The practice of continuous discovery of the potential of employees is an innovative one. In a majority of organisations, the potential identification exercise takes place at the beginning of one's career or at fixed intervals.

The Senior Stalwarts at H.O. in absolute control! Prakash Shroff, Jagdish Nayak, Dipesh Shroff, G. Narayana, Ashwin Shroff, P. R. Sarma and S. R. Potdar (sitting L to R). Manoj Gohil, P. D. Thosar, S. R. Maley, S. P. Iyer, J. S. Gosalia and B. Jambunathan (standing L to R).

Excel believes in continuous learning and training. It has set up a separate institute called Excel Institute of Technology, Environment and Management to organise in-house training programmes. The setting of this Institute to focus on the concerns of technology, management and the environment simultaneously, is a unique act. In addition to the in-house courses, the employees are sent for training courses conducted by the leading technological and management institutions in the country.

Total development of the employees is ensured through courses like Yoga and Meditation. It has been observed at Excel that attending such courses often changes a person's habits and lifestyle.



Bare-bodied Kaka with his team-mates on the job together tackling the Phosphorus Project at Bhavnagar.

Employee Development: Excel takes a view of efforts to augment one's capabilities. People are deputed for short-term and long-term courses. Employees are encouraged to pursue their academic interests. The company often bears the cost of such courses.

There have been cases where employees were granted paid leave to go and complete their doctorates. Excel does not ask for signing of a legal agreement that the employee would serve the organisation for a specific period after the completion of the course.

So far, none of the employees who have enjoyed paid leave, organisation sponsorship or other support from Excel to pursue higher studies has left Excel on completion of the course.

In deserving cases Excel provides financial support for the education of employees and their family members, like brothers, sisters and children. The children of the employees are honoured when they do well in their examinations.

Salary, Designation and Hierarchy: While the salary structure at Excel does not match the best in the industry, the pay

The Roha site team in a striking pose with Site Manager B. V. Gandhi in his top hat.

is, as reported by the employees, sufficient to provide for a comfortable living. The gap between the salary structure at the top and the bottom level employee is not wide. The top managers have designations like Vice Presidents and General Managers.

The head of a department in the company is expected to act and be treated like the head of a family and is expected to have an all-round interest in the employees' well-being.

Only an individual who, in addition to being competent, is acceptable to the subordinates, seniors and colleagues becomes head of a department.

Promotions: Promotions are based on a formal appraisal by the Appraisal Committee consisting of the Vice Presidents. Three types of rewards are possible: a cash award, multiple increments and promotion. Normally the employee is tried on the next job before announcing the promotion. Feedback obtained during the trial period forms one of the inputs for promotion decision.

Selection of People for New Sites: Whenever the company set up a new division, it tried to recruit local people. The corporate philosophy emphasises taking local people and developing their competencies. The top man, however, is sent from the Excel corporate office to ensure continuity of the company culture. Existing people are moved to new locations only on a voluntary basis.

Research & Development: Research and development plays a critical role at Excel. One of the employees points out that Excel does not get excited about a project unless it is difficult and challenging. Exploring "possibilities of impossibilities" is seen as one of the driving forces. The company believes that there is no reason to complicate the technology. Instead it is worthwhile to develop simple and indigenous processes. Excel has found that at times the indigenous technology costs one-third of the cost of foreign technology and provides a lot of flexibility in operations.

The company has its own design team and it fabricates its own equipment. In the initial years, the entire fabrication was done by the company. Over the years it has developed sub-contractors to do fabrication according to the company's designs.

For most products in line of its specialisation, Excel strives to be the first manufacturer in the Indian market. It wants to compete on the basis of quality and services and not on the basis of price.

The ideas for new products are developed in various brain-storming sessions and in the marketing conference where the members discuss the competitors' products and imports. The conference has representatives from all functions like packaging, quality control and operations.

R & D assignments are given to groups and not individuals. Normally the R & D team stays with its project right through the implementation. To ensure continuity in operations some of the R & D people stay back with the project. There is a constant review of the successes and failures of the production processes. Task forces are appointed at different time intervals to do a thorough re-examination of the processes.

In promoting the spirit of R & D, anybody at Excel can suggest ideas for the improvement of any function. Attempts at leg-pulling and credit stealing are criticised.

R&D Training Programme at Excel.

If inappropriate products are selected for manufacturing, they are dropped when the mistake is realised. However, the technology developed in the process is not dropped but retained as a part of the organisational repertoire and used elsewhere. Groups are appointed to think of alternative uses of the technology developed in the process.

Planning Systems: The company has a formal annual planning system and informal long-range planning system. The annual operational plan is reviewed once in three months and rolled over.

The operational planning group consisting of the Heads of Marketing, Accounts, Personnel and Materials functions meets every month and prepares detailed plans for the next two months.

The long-range plan is not very accurate. It defines the scope of the company's operations in terms of broad targets. It suggests volume to be produced and new lines of business to be entered.

Challenging targets like doubling the production or halving the costs are set before the employees. If these targets are not achieved, people are not blamed but an analysis of the factors leading to non-achievement is carried out by a group and recommendations are developed for the future.

What is to be noted in the planning system is the flexibility it provides to strategic thinking.

Based on the study of Excel's experience, the following can be identified as major innovations in management of people and ideas with implications for management development.

1. Institutionalisation of brain-storming is a process. Many companies have used brain-storming as an event. Excel uses it as a process. This has built multi-level and multi-functional teams and an open-mindedness in addition to new ideas.

Brain-storming is normally used as a technique for developing new ideas. By making it almost a routine, the company has derived other benefits. The Excel experience shows that if carried out as an on-going group process, brain-storming can help build team culture in the organisation.

Team spirit acquired through such experiences becomes more sustainable than one-time team building exercises.

2. Processes developed in the organisation like rotation, involvement in cross-functional teams to discuss solutions to problems that are not directly related to one's area of operation, setting challenging targets, analysing failures so as to derive lessons rather than to pin down someone, result in all-round capability search and development of individual potential.

The premise that employees should be given opportunities to explore their capability beyond what is reflected in the academic achievement itself is innovative. The implication is that the management can gain by creating opportunities for surprise discoveries. It is not enough to generate surprises but a company should continually strive to build on the discovered potential.

Excel shows how it can be done.

3. Running idea development at a conceptual plane and experimentation hand-in-hand provides high flexibility for development of not only new ideas but also new processes.

Parallel experimentation makes it possible to test out one's ideas and also to build a base for generating new ideas. Creating such a laboratory-like environment further supports the achievement of the objectives of the company.

4. Giving a message that resources are not a constraint for development of good idea reinforces the laboratory-like environment.

5. Adoption of national concerns as concerns of Excel is an unusual way of identifying larger-than-business goals for the company. Commitment to national concerns becomes a super-ordinate guiding star for managing the processes and practices of the company specially for resolving conflicts and building teams.

6. Another innovation with implication for management development is the practice of committing key events into the organisational memory and evoking inspirations from them at the time of the common gatherings and celebrations.

7. Recollection and rededication may sound as rituals. But Excel's experience shows that they have the effect of re-charging the organisation if used with sincerity.

Stressing multiple abilities and continuous discovery of the potential of individuals and groups by the management in a school and family-like environment has important implications for management development.

Significantly, a random check among Excel employees corroborates the findings of the two academicians in a variety of ways, and in various degrees. Some have not hesitated in saying that as a young man Kantisen had an awful temper; on the other hand, at a staff meeting one member broke down as he recollected the manner in which Excel stood by him when he was in dire straits. He was referring to Kantisen's understanding and generosity.

To some, Kantisen is God and they say so matter-of-factly. There is Ganpat Mahadeo Khanvilkar who recounts how often when he had problems at home Kantisen came to his rescue. When Kantisen, for example, learnt that Khanvilkar's wife had fallen sick – she was diagnosed to have tuberculosis – he saw to it that she was admitted to a hospital in Bhavnagar for treatment and kept there until she was certified to be out of danger. Says Khanvilkar now: "I will ever be grateful to Kaka for what he did to help me". Khanvilkar had studied only up to Standard VI but Kantisen put him through his paces and as he now says: "Kaka made me an all-rounder".

Narottam Rathod joined as a carpenter. But Kantisen arranged for him to learn drawing and was presented with a Drawing Board. Subsequently he learned to operate machines. Rathod says: "At Excel there is no barrier to learning. If one has a desire to learn something new, one is given the opportunity to do so." Rathod in fact was the one who made for Excel its first submersible gear pump to use for transporting Sulfur in the Phosphorus Pentasulphide department. Rathod says: "It is easy to work with Kaka. I have now worked with him for thirty-three years. You cannot hide anything from him". Rathod was often sent to work with

Excel teams for relief work in different parts of the country.

Saifeebhai Degani joined Excel in 1942 as a clerk in the administration department. In the years that followed he had occasion to work as a cashier in the finance department and as a purchasing officer responsible for purchasing a variety of goods like old iron nails, copper, zinc, tin, aluminium, lead, silver and gold. At different times he also worked as a sales officer and as a liaison officer. At one point it was suggested to him that he should get into the fireworks business under his own name: Degani Fireworks. "That is the kind of regard the Shroffs have for their employees" says Saifeebhai now. He worked for Excel till 1990 – a period of 48 years and only left when he had to take care of his ailing wife. Of the family he says: "They gave me everything I wanted".

Vijay Bhatt is the son of C. R. Bhatt who was a contemporary of Excel's founder, C. C. Shroff. Vijay has worked for Excel for over 27 years. The Bhatt and Shroff families were living as close neighbours in Matunga. Vijay says that at the time of his birth, his mother fell ill. Mrs. Shroff was there to help. She told Vijay's mother: "Now stop worrying. Till you get well, the responsibility of taking care of your family is mine!"

Vijay swears that at no time in his life did Kantisen (Kaka) ever made Bhatt senior feel small, "though Kaka was the boss".

Vijay himself often felt diffident and lacking in self-confidence. He was therefore sent for Home Guard training at Dhobi Talao. When he finished his training he had become a different man, "thanks to Kaka".

Then there is the case of Sudha G. Tendulkar who was interviewed by Kantisen when she applied for a job as a telephone operator. She was very nervous but Kantisen quickly put her at ease. She (herself a handicap due to polio) had said at the interview that she was interested in helping handicapped persons. Kantisen arranged for her to work at *Asmita*, an organisation for the handicapped, after office hours. She was encouraged to visit slums and provide treatment for those ill and had no one to look after them.

Saifeebhai Degani – a record forty-eight years at Excel!

C. R. Bhatt, Contemporary of C. C. Shroff.

When she herself was ill and had to be hospitalised, he would visit her to see that she received the fullest attention. Her leg was in plastercast when she had to appear for an examination. Excel saw to it that a car was sent to her to take her to the examination centre and back. Sudha now says: "Kaka is like a God to me".

Among those who won the Vishwakarma Award at Excel is Jayrajbhai Chapper. Jayrajbhai went to work at Excel's at the age of 23. At age 60, he is still working for the company, and is full of praise for the company for giving him an opportunity to learn many things, from stock taking to make smokeless *chulas*. What always impressed Jayrajbhai was the family feeling prevailing in the company and its ability to draw the best from every worker. When he wanted a loan of Rs. 20,000 for his sister's marriage, he was asked to procure the amount from the Shroff Charitable Trust.

Narendra C. Shah retired as Excel's 'Key Person' and has nothing but praise for Kantisen (Kaka), and his talent for turning "raw" individuals into "skilled" persons over a period of time. As he saw it, Kaka was always there on the frontline in times of a crisis. Kaka was not the one to duck responsibility. When he wanted his son, studying chemical engineering, to get some exposure at Excel's he was told there was no need for him to make any formal application. "Send the young man in and he will be taken care of " was the answer he got from Kaka. In order to make it easy for the son to see Kantisen, the latter told Shah that the young man could walk in anytime after his classes were over and he would be received. And so he was. Shah says: "That shows Kaka's concern for his staffers and their families. No one is too small for Kaka to give him his time."

Himanshuben N. Mehta joined Excel in 1994 as a part-time internal auditor. She had a problem with her child to whom she had to devote her time and attention and could not therefore work full-time anywhere. When Kantisen heard of this, he told Mehta that she could work part-time from 2 p.m. to 5 p.m. "A parent's duty is to take care of the children. Everything else must come second in one's priorities" Kantisen told Mehta.

Mehta had done her post-graduate degree in Hindi literature. And she was very good at translation from Hindi to Marathi and vice versa. Mehta says that Kantisen encouraged her to accept translation work to supplement her income in her spare time and even gave her assignments.

One of the youngest to join Excel was D. B. Mehta who came to work for Excel in 1967. He had a B.Sc. with a third class as his sole qualification but since he had no experience in industry, he was put to work in the laboratory. Two days later he was summoned by both C. C. and Kantisen and asked whether he felt comfortable in his job and would like to share in a big dream that Excel had in agri-chemicals. Would he like to receive training in that area ? He says his answers were somewhat brash but he was tolerated in a good-natured way and subsequently first sent to Hapur to a Grain Storage Institute and then to Hyderabad for training in crop protection work at the Central Plant Protection Institute. He stayed with Excel for four years, left it but rejoined five years later to find that Excel's overall culture remained unchanged and at Excel Human Relations remained a plus point.

Mahendra L. Shah similarly worked for Excel for a brief period between 1962 and 1967 when he was transferred to Tata Fisons. But during that period Shah says he was witness to the transparency, family bonding and liberty to try new ideas that attracted him. He was primarily a trouble shooter. On one occasion he remembers a problem that arose at the Thane Belapur factory which he was summoned to attend around midnight. Kantisen accompanied him, as he invariably did during a time of crisis. Together they resolved the problem to everyone's satisfaction. Says Shah: "It was mainly the culture of the company and the bonding which made me stay with Excel for five years. It treated me as an important family member and I was given enough opportunity to explore my talent and attend to problems fearlessly".

When M. L. Shah moved over to Tata Fisons in 1967, he carried with him the traditions, values and culture of Excel. But upon his retirement from Rallis India Ltd., as Director-Agro-chemicals he returned to Excel in February 1998, bringing in his rich knowledge and experience. He currently occupies a very senior position in Excel as the President – Environment & Biotech Business.

Sudha G. Tendulkar, Kaka's love and concern shines through.

Yogesh H. Pandya is presently General Manager in the Environment Department of Excel at Jogeshwari. He had joined Excel in October 1973 and has been with the company for some 27 years. What always impressed Pandya about Kantisen was the latter's ability to take quick decisions and to be innovative. Importantly, Pandya is most appreciative of Kantisen's concern for the environment and issues concerning national interests. Besides, adds Pandya, Kantisen had a remarkable talent to maximise production with whatever facilities were available and improve profit margins with uncanny insight.

Dr. S. R. Maley joined Excel in April 1992 as Vice President (Bio-technology) a department specially created and he was assigned the task of Waste Management, support for which was not easily forthcoming from the staff. On all such occasions says Dr. Maley, it was Kantisen's patience that helped him cross many hurdles. The values that attracted Dr. Maley to Excel were, as he put it, "simplicity and honesty" though he adds with equal honesty: "Many of the old Excelites deliver miraculous results when ad hoc emergencies occur but not under normal conditions!"

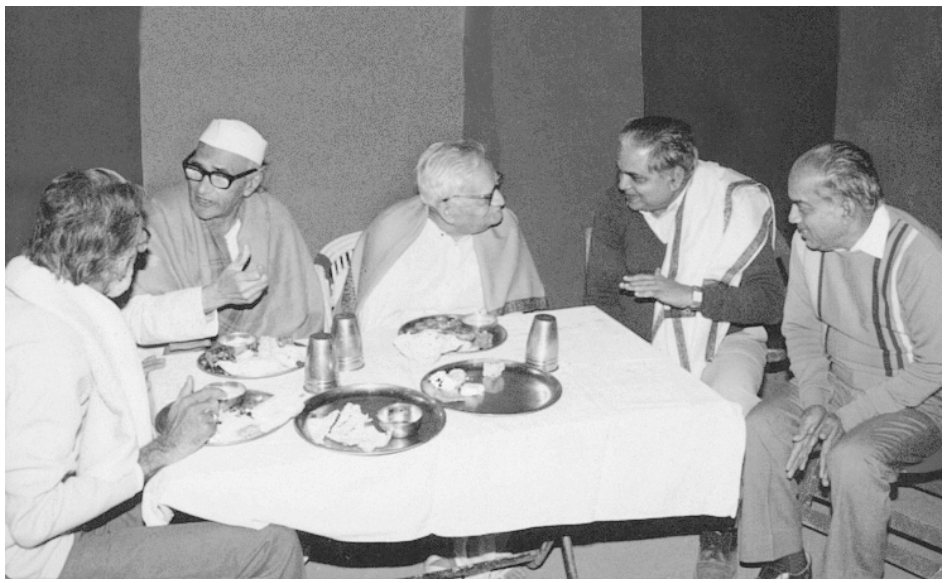
Kantisen would sometimes resort to odd ways to make a point as Siddharth Shah recounts. Siddharth was working in the company's R & D Department and was once busy tackling a rather difficult problem when Kantisen dropped by entirely unexpectedly. He wanted to know how Siddharth was proposing to tackle that particular problem relating to improving yield levels of a certain process to make it cost-effective. Then, says Siddharth, Kantisen suddenly asked: "Do you know cooking?" Somewhat non-plussed Siddharth replied: "Yes, I do". Kantisen said: "Will you cook a full meal for me if I come calling on you some day?" "Sure" replied Siddharth again, not knowing what the conversation was all about. But then, he said, Kantisen did visit him and he did cook him a good meal. Siddharth was still trying to understand

what it all meant when, in the course of the evening Kantisen told him: "You know, there is so much to learn even from a housewife! She knows how to make the best use of available resources and cope with guests who come in unannounced. She does not panic, nor grumble, nor run around in search of what is not available in the house, but would rather focus on serving the guests the best menu out of what is readily available. There is so much similarity of skill a housewife shows in her kitchen and a researcher in his lab! The job is how to make the most of what one has!" Siddharth says he got the point.

Dalpatbhai Danidharia is a graduate in agriculture from a rural university near Bhavnagar in Gujarat. For some years now he has been working for Excel's Kutch-based Non-Governmental Organisation, Shri Vivekanand Research & Training Institute (VRTI). His job required him to keep in touch with farmers and village artisans, inquire about their problems, the condition of crops, the health of cattle etc. and to guide them or advise them or bring their problems to the notice of the VRTI for action to be taken. To facilitate his work Dalpatbhai had been provided a small office near a bus stop in a village called Ramania where people could come and unburden their problems to him.

Dalpatbhai was expected to keep his office spotlessly clean and do the cleaning himself, which he normally did. One morning, however, Kantisen apparently decided to make a spot-check and drove by quite early in the morning. What he saw must have shocked Kantisen. The place was littered with *bidi* butts carelessly thrown. Dalpatbhai waited for an explosion. Kantisen was known as a stickler for cleanliness, not to speak of a bad temper. But, Dalpatbhai says instead he got a pat on the back. Kantisen told him: "I see you do have a lot of visitors coming to tell you of their difficulties and problems. These *bidi* butts show that! I know that you clean up the place but evidently I came a bit too early! Talk to people! They are important!" Saying that, Kantisen left, leaving Dalpatbhai dumb-founded.

Kantisen would often check-out young people who came looking for jobs in his own inimitable ways. There was a time when a young man with degrees in Physics and Electronics had come to him with a recommendation from a friend. Kantisen asked him what kind of job he had applied for. "Oh" said the young man, "I can do anything!". "Anything?" Kantisen queried. "Yes, anything!" came back the instant reply. "Think it over and come and see me tomorrow" Kantisen advised the young man.



Govindjibhai Shroff in conversation with G. Narayana and P. V. Kango.

The young man returned the next day. Kantisen again asked him what he could do and the youngster repeated his answer: "Sir, anything!" "Very well!" said Kantisen, "wait". And he summoned the man in charge of the Carpentry Section and told him: *"Iske hath safa karvao!"* meaning "test this man and train him for his skills!".

Devenbhai Unakar, a senior staff member, was present at that meeting. When the young man left with the carpenter Devenbhai asked Kantisen: "What is this? That young man has a degree in Physics and Electronics and you have sent him to the carpentry shop?"

"You do not understand!" Kantisen began to explain. "Carpentry is one area where all one's faculties are assessed. One must know what one wants. A design has to be made, individual parts conceived in correct proportions, one must know how to fit them in so that the planned piece stands up to wear and tear. One false move and one wastes a whole plank of wood. Both material and labour is wasted. An error cannot be mended. What is done is done!"

Devenbhai says this particular young man failed in his test. But there were many others who came out with flying colours and who got absorbed in the Excel work force.

G. Narayana joined Excel as Corporate Advisor in 1986 and was appointed Director and Corporate Advisor on 17 July 1989. A decade later he was appointed Executive Vice-Chairman in July 1999. In September 2000 he assumed charge as the Executive Chairman of the Company, succeeding Kantisen C. Shroff. Today he is regarded as a *Guru*. And for all practical purposes he has turned out to be Excel's Poet Laureate because of his poetic bent of mind and a talent for breaking into poetry.

Narayana has worked with Govindji-bhai, with Kantisen, the company's Board of Directors, Chairman Darbari Seth, and the company's new leaders and staff. His relations with all of them have been excellent. He is indeed held in great reverence.

Comfortable as a member of a team, Narayana found great pleasure first working with Govindjibhai and later with Kantisen and indeed, the entire Board which, according to him, plays a "key role

in generating direction". At the working level Kantisen was a beacon light. And in community service, he insists, it has been "a joy to join brains with Kaka and Kaki".

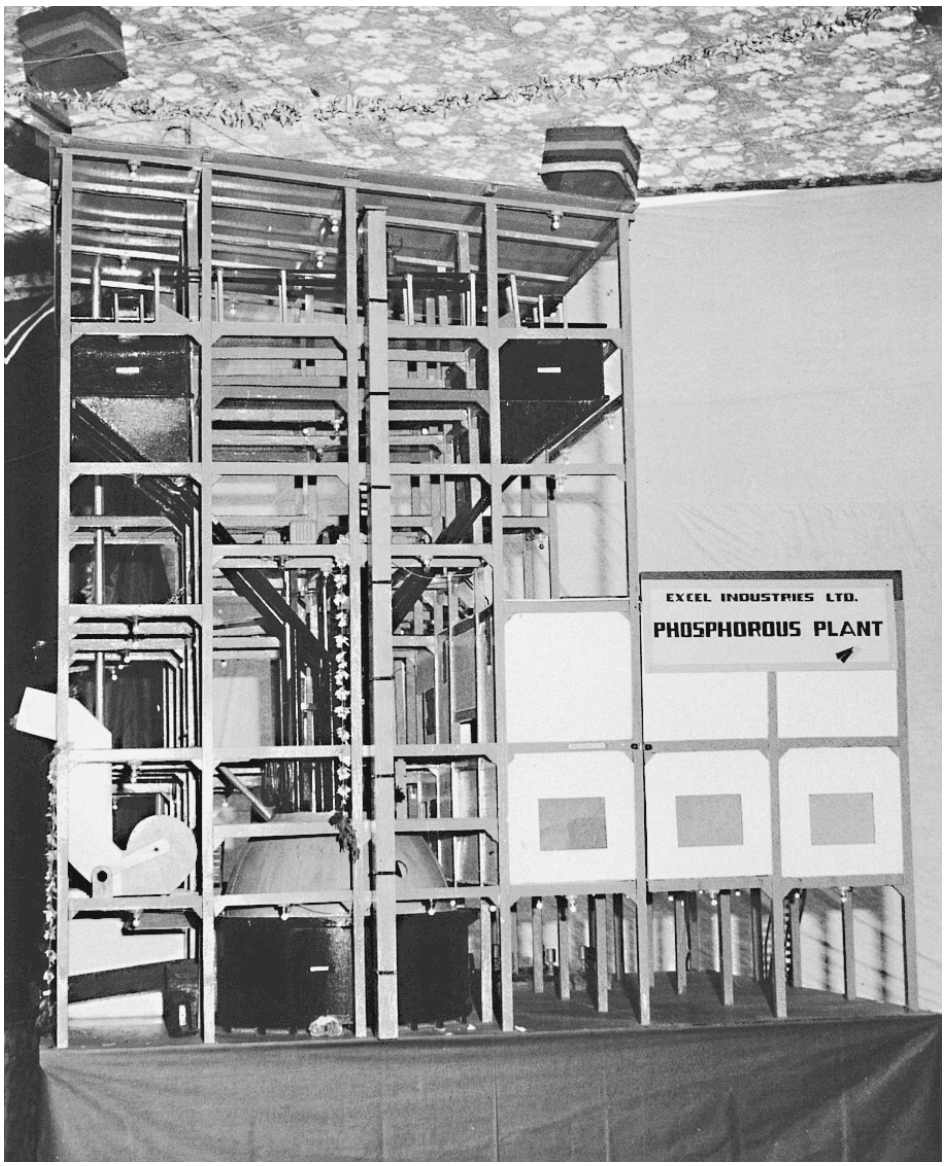
Narayana recounts how when it was decided that Excel workers should become 'co-owners' of the company by purchasing shares, the idea was quickly welcomed by both Govindjibhai and Kantisen. The idea had occurred spontaneously at the Board level and not as a result of pressure from the workers themselves. A scheme was thereafter worked out. The Board recommended for the approval of the Annual General Meeting (AGM) the offer of Excel shares to workers at par value which was Rs. 10 per share. At that time the share price was Rs. 600.

Everything went off well. Resolutions were printed and circulated in balance sheets. But one day before the AGM the question of the propriety of the idea came up for discussion at a meeting between Kantisen, Narayana and two other members of the Shroff family. Was it right, to offer shares at Rs. 10 when shareholders had to pay Rs. 600? More to the point, was it morally sound to take away something from the shareholders to be given away to the workers? Was it *dharmic*?

The matter says Narayana was discussed threadbare and finally the group came up with a solution. It was agreed that giving away anything below net asset value (book value) was not *dharma* whereas offering shares at Rs. 60 was acceptable. And so it worked out. Excel workers did make a gain but without a 'loss' to shareholder value.

Narayana is a great stickler to Excel values which he describes in five words: Ethics, Energy, Excellence, Economy and Ecology. Nobody, he says smilingly, leaves Excel, but then Excel did not leave anyone either.

Broadly speaking Excel has gone through five phases: First, the Start-up Phase (1941-1968), second, the Growth Phase (1968-1985), third, the Stagnation Phase (1985-1987), fourth, the Consolidation and Development Phase (1987-1991) and last, the post-Consolidation Phase (1991- . . .).



Model of Phosphorus Plant.

In the first phase many of the products were manufactured from industrial wastes for specific needs of a few customers. Having figured out a way to make a product, C. C. Shroff would pass on the technology to other Indian entrepreneurs and move on to something else. By the time C. C. passed away, in 1968 he had made over a hundred breakthroughs – in itself a remarkable feat.

The second phase saw phenomenal growth. From a sale of Rs. 50 lakhs to Rs. 40 crore, the growth was 80-folds. Excel became a force to reckon with, especially in the Indian pesticide scene. The period from 1979 to 1983 could be termed as the first rapid growth period of Excel.

The take-off began when Excel made a public capital issue of Rs. 50 lakh in 1971. That had become necessary in order to arrange for the purchase of one arc furnace to manufacture 2,500 tonnes per annum (TPA) of Yellow Phosphorus, from locally available cheap rock phosphate, mainly for its captive requirement. That gave the company's products the additional edge by way of higher value addition.

With the demand for Phosphorus compounds continuously increasing, Excel was to set up another furnace with a similar capacity in 1976.

The Table on the following pages indicates Excel's financial performance from 1967-68 to 1999-2000.

Excel's Financial Performance :

Financial Year	Sales of Products and other income	Exports	Profit before tax	PBT as % of Gross revenue	Profit after tax	Return on Shareholders' Funds (%)	Earning per share (Rs.)	Dividend per share (Rs.)
Oct-Sept								
1967-68	175.83	–	17.42	9.91	8.77	17.48	3.51	5.00
1968-69	221.00	–	25.66	11.61	13.44	23.07	3.58	2.00
1969-70	306.00	2.29	39.72	12.98	18.89	26.76	5.04	2.50
1970-71	358.00	5.98	42.30	11.82	19.56	14.57	2.06	1.60
1971-72	394.66	6.39	36.31	9.20	30.76	19.96	3.24	1.60
1972-73	413.44	7.98	39.45	9.54	24.85	15.18	2.62	1.60
1973-74	594.57	21.36	77.66	13.06	39.86	21.16	4.20	1.20
1974-75	883.01	40.84	168.18	19.05	95.08	30.69	10.01	1.60
1975-76	905.47	22.53	153.84	16.99	104.44	23.66	6.11	1.80
1976-77	1123.12	17.62	155.87	13.88	112.57	25.58	6.58	1.80
1977-78	1316.62	112.98	169.05	12.84	128.05	24.34	4.99	1.80
1978-79	1557.00	59.72	190.77	12.25	138.77	22.32	5.41	1.90
1979-80	1970.51	49.33	37.60	1.91	37.60	5.99	1.47	1.00
1980-81	2182.11	126.89	78.24	3.59	78.24	11.73	3.05	1.60
1981-82	2870.54	222.62	154.35	5.38	154.35	20.06	6.02	2.00
1982-83	3899.75	365.54	317.05	8.13	282.05	28.76	11.00	2.50
1983-84	4200.95	411.96	122.99	2.93	108.49	10.63	2.35	1.50
1984-85	4579.79	328.25	145.22	3.17	129.22	12.01	2.80	1.50
1985-86	4480.64	319.81	53.78	1.20	47.78	4.19	1.03	1.00
1986-87	4679.71	581.97	78.00	1.67	60.50	5.16	1.31	1.00
Apr-Mar								
1987-89 (18 months)	11137.73	1812.28	927.05	8.32	717.05	44.50	15.53	5.00
1989-90	10668.30	1174.70	1222.87	11.46	922.87	40.68	19.99	5.00
1990-91	12907.22	1532.75	1554.08	12.04	1004.08	34.08	21.75	7.10
1991-92	17861.60	2515.17	2811.77	15.74	1861.77	43.08	40.32	10.10
1992-93	22229.62	4039.05	3048.32	13.71	2148.32	36.41	31.02	8.00
1993-94	23677.29	3903.77	3129.65	13.22	2279.65	29.28	31.36	8.00
1994-95	26178.62	4213.01	3348.69	12.79	2473.69	25.42	34.02	7.00
1995-96	30934.23	4843.02	3527.09	11.40	2552.09	22.20	23.40	7.00
1996-97	36592.31	5899.06	3732.50	10.20	2782.50	20.87	25.51	7.50
1997-98	37455.96	5786.77	2496.16	6.66	1896.16	13.12	17.39	6.00
1998-99	40653.08	6404.30	3288.81	8.09	2363.81	15.11	21.68	7.50
1999-2000	43010.53	8579.60	2719.52	6.32	2119.52	12.64	19.44	7.50

1967-68 to 1999-2000

Rupees in Lakh

Gross Block	Net Block	Share Capital	Reserves	Net Worth	Borrow-ings	Capital Employed	Debt-Equity Ratio
68.52	36.85	25.00	25.17	50.17	44.14	94.31	0.88
89.49	45.40	37.50	20.77	58.27	36.01	94.28	0.62
123.28	60.71	37.50	33.08	70.58	75.53	146.11	1.07
156.41	73.54	95.00	39.29	134.29	102.58	236.87	0.76
261.66	151.47	95.00	59.07	154.07	135.09	289.16	0.88
282.17	145.10	95.00	68.72	163.72	127.13	290.85	0.78
330.14	160.87	95.00	93.37	188.37	147.42	335.79	0.78
433.99	225.73	95.00	214.85	309.85	129.75	439.60	0.42
601.51	341.35	171.00	270.51	441.51	211.00	652.51	0.48
698.79	374.74	171.00	269.00	440.00	267.43	707.43	0.61
780.12	409.73	256.50	269.54	526.04	186.16	712.20	0.35
873.22	433.48	256.50	365.35	621.85	380.44	1002.29	0.61
1192.28	664.14	256.50	371.43	627.93	646.71	1274.64	1.03
1234.73	621.23	256.50	410.26	666.76	645.40	1312.16	0.97
1338.77	634.98	256.50	513.07	769.57	607.12	1376.69	0.79
1841.03	995.19	256.50	724.31	980.81	1156.57	2137.38	1.18
1916.12	1008.66	461.70	558.79	1020.49	1749.51	2770.00	1.71
2259.88	1176.51	461.70	614.22	1075.92	1602.14	2678.06	1.49
2321.34	1136.71	461.70	678.33	1140.03	1836.71	2976.74	1.61
2380.80	1307.21	461.70	711.54	1173.24	1666.23	2839.47	1.42
3173.77	1605.01	461.70	1149.80	1611.50	1799.51	3411.01	1.12
3931.38	2211.06	461.70	1806.88	2268.58	3467.20	5735.78	1.53
4680.64	2694.41	461.70	2484.48	2946.18	3941.90	6888.08	1.34
5632.47	3237.77	461.70	3860.23	4321.93	4682.91	9004.84	1.08
7137.93	4240.71	692.55	5207.05	5899.60	6370.41	12270.01	1.08
8500.81	5243.69	727.04	7058.32	7785.36	8174.28	15959.64	1.05
9280.54	5611.69	727.04	9005.76	9732.80	8731.56	18464.36	0.90
11654.61	7509.47	1090.56	10407.57	11498.13	10361.06	21859.19	0.90
13684.82	9735.53	1090.56	12244.92	13335.48	12229.04	25564.52	0.92
14838.27	10260.76	1090.56	13360.74	14451.30	14619.12	29070.42	1.01
16605.54	11431.31	1090.56	14556.15	15646.71	14933.32	30580.03	0.95
18928.02	12942.30	1090.56	15681.77	16772.33	17420.60	34192.93	1.04

During the seventies, destruction of cotton and sugarcane crops by pests was proving costly to the Indian farming community. Endosulfan was a broad spectrum insecticide.

The basic chemical was then totally being imported and was only formulated locally. In 1974 Excel decided to develop a process to manufacture Endosulfan and thus indigenise it. After four years of hard work Excel set up a pilot plant in 1978 to manufacture Endosulfan. It enjoyed a prestigious position among Excel's list of breakthroughs.

With the emphasis on petroleum production, Excel developed Flowcel through in-house research and active cooperation of Oil India, Assam. Flowcel, a pour-point depressant for crude oil was a major breakthrough in the field of sophisticated chemicals for the production of crude oil.

Flowcel was a polymer which improved the fluidity characteristics of crude oil, high speed diesel and other waxy materials by inhibiting the tendency of wax crystals to interlock and set into age. This pour-point depressant was custom manufactured by Excel to suit specific characteristics of various crude oils.

Manufacturing facilities for these two major products were set up in two stages between 1979 and 1983. In the first stage, over Rs. 300 lakh were invested in plant and machinery.

In the second stage, over Rs. 400 lakh were spent in the expansion of the Endosulfan plant from 4 TPD to 10 TPD and creation of a 2000 tonnes per annum manufacturing facility for Flowcel to meet the demand from ONGC, Bombay High and Oil India.

By 1983, direct sale of agro-chemicals formed around 65 per cent of Excel's turnover. A further 18 per cent of the turnover was from the sale of intermediates for pesticides manufactured by others in the industry. Among them were Bayer India Ltd., United Phosphorus Ltd., Gharda Chemicals Ltd., Rallis (India) Ltd., Hoechst Schering AgrEvo Ltd., Pesticides India, Hindustan Insecticides Ltd., Lupin Agrochemicals Ltd. and De-NOCIL Crop Protection Ltd.

Production of Basic Pesticides in India

Year	Production in tonnes/annum
1955-56	2,836
1960-61	8,448
1965-66	13,951
1973-74	32,745
1978-79	52,528
1988-89	61,100
1989-90	65,800
1990-91	74,300
1991-92	72,809
1992-93	76,933
1993-94	83,428
1994-95	90,758
1995-96	96,500
1996-97	102,740

Source : S. C. Mathur, "Pesticide Industry in India", *SAKET Industrial Digest*: December 1999.

Drought hit the Indian sub-continent in 1984 and the agro-chemicals market suddenly turned adverse. The pesticides market registered very little growth, besides which, as has already been noted, there was competition from Synthetic Pyrethroids.

In 1984, one of the imported inputs of Endosulfan, namely Butene Diol, which had high unit cost was taken up by Excel for indigenisation. Accordingly, R & D studies were taken up, process development completed and a 2 TPD plant with an investment of about Rs. 100 lakh was erected in record time of nine months with highly hazardous inputs such as acetylene and hydrogen gases.

Investments of this amount had to be made, even as the regular operations were facing severe internal resources fund crunch. Since installation of safer gas generators involved high cost and more importantly, longer gestation periods, the gaseous inputs were managed through delivery of trucks. This resulted in controlling the increases in input cost, and the bottomline could be saved from further deterioration.

Then tragedy struck. On 6 July 1986 an explosion of gas cylinder brought the production of Butene Diol to a grinding halt. Imported Butene Diol was costing more due to further erosion of the rupee value. The sudden stoppage of Butene Diol production had its effect on Endosulfan production since import orders were placed only for marginal quantities for the 1986 season and any material under the import order placed in August 1986 could be made available for production only in January 1987. The Excel plant could be recommissioned only after a year, after all the safety measures relating to installations and practices were incorporated in the plant.

Even as the majority share of the agro-chemical business was facing rough weather, the industrial chemicals business share had to be substantially increased. This brought to focus industrial products such as Flowcel and Oxalic Acid. The latter, being a commodity, was produced by many small scale ventures at cheaper cost due to concessional excise facilities. In the case of Flowcel, the purchasing pattern of ONGC, the single largest prospective customer, could not be matched with the corporate policy and manufacturing programme of Excel, resulting in a very low capacity utilisation of the 6 TPD plant. Interest cost of the plant investment as well as the raw material stocked for Flowcel further eroded the profits.

For a time Excel toyed with the idea of making tiles from solid waste generate from the Phosphorus furnace. Excel had the raw material, including the fuel required in the form of carbon monoxide, but the required plant and machinery was not available in India and for Excel to design and manufacture it would have taken years. A leading German manufacturer was willing to provide both the plant and machinery but it would have cost Excel Rs. 800 lakh, a large part of which had to be paid in Deutche Marks (DMs). Getting the necessary import licence for capital goods in the eighties was a time-consuming process and Excel did not want to get involved in dubious ways of expediting matters. Worse still the DM strengthened against all other world currencies but particularly the Indian Rupee. The parity shot up from Rs. 3.50 per DM to Rs. 8.00 making the project not

commercially viable. The project was therefore given up.

Excel, meanwhile, had other headaches to take care of. As a sequel to the gas leakage accident in the Union Carbide Plant at Bhopal on 3 December 1984, the Government of India ordered the various State Pollution Control Boards to thoroughly look into the environmental aspects of the chemical manufacturers within their jurisdictions. The Maharashtra Government commissioned the Garg Committee to look into the environmental aspects of all the industries in the State.

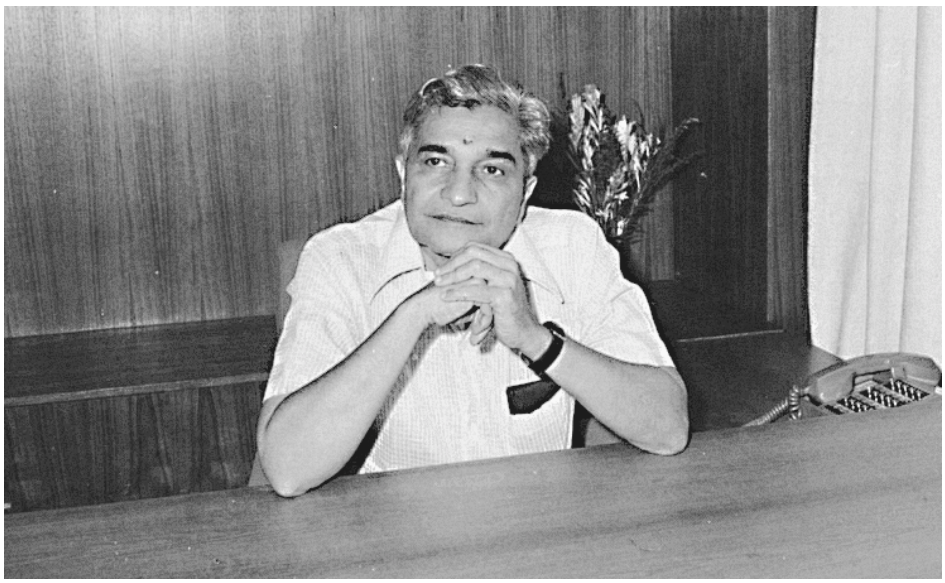
The Garg Committee listed seven industrial units manufacturing chemicals within Bombay city and declared them as most hazardous industries. Excel's factories were on the list.

The Committee suggested that the hazardous industries either shift their plant away from Bombay, or improve the processes to make them hazard-free or face closure. Inevitably, the strict in-plant measures on safety and pollution control from within the company forced all the sites to cut back production levels to follow additional safety procedures and practices.

Excel which had posted over 33 per cent annual growth rate from 1980 to 1983 could increase its product sales from Rs. 38 crore in 1982-83 to only Rs. 42.4 crore in 1985-86, a mere 3 per cent annual growth rate during the period. This included an actual decline in sales during 1985-86 by 3%, i.e. from Rs. 43.6 crore in 1984-85 to Rs. 42.4 crore in 1985-86.

Similarly gross profit declined by over 50 per cent through the period 1982-83 to 1985-86 while the net profit declined to a nominal Rs. 54 lakh in 1985-86, from Rs. 317 lakh in 1982-83, Rs. 123 lakh in 1983-84 and Rs. 145 lakh in 1984-85. A case study conducted on Excel by Mr. J. S. Gosalia and Mr. V. Gopalakrishnan of this period notes that "the morale of everyone associated with Excel (at that time) was at its lowest".

Kantisen took charge over Excel when it was going through a bad phase. He became Managing Director in 1985 after having been Joint Managing Director since 1968. Not many know that he really had no formal training either in Chemistry or Engineering but had learnt painting under different teachers between 1937 and 1942 when he quit Shantiniketan to participate in the Quit India movement. Interestingly, he was in the Territorial Army from 1949 to 1956 and was also associated with the Scout Movement and had done such exceptionally good work as a District Commissioner that he had been decorated in recognition of it by the President of India in 1950. It was left to him to turn the fortunes of Excel which he set about to do in right royal earnest.



Kantisen C. Shroff – Managing Director, Excel Industries Ltd., 1985.

To start with employees at the top echelons decided voluntarily to skip their annual pay rise. The executives of Excel family brain-stormed critically to analyse each of the inputs, decisions and process details. A re-charging exercise was initiated in 1986-87, the strategy focussing on the thrust areas of quality, safety, cost-reduction and exports.

The R & D structure, methods and activities were reviewed and reorganised. R & D manpower was classified into two teams: one, which would look into the development of new products; the other, to work on process modifications and cost-reduction exercises on current products. Priority areas were specifically laid down. As a result, the scientists were able to develop three main products in non-agro areas as well as several formulations of water-treatment chemicals.

At that point in time Di-ethyl Thio Phosphoryl Chloride (DETC), a critical intermediate for a range of organo Phosphorus pesticides was ready on a bench scale and pilot plant scale-up work was in progress. Full efforts were made to stabilise the process and prepare a quality product, acceptable to the customers. This product had been earlier imported and was much in demand. So it was decided to increase plant capacity. Unfortunately, during this period no new additional capital expenditure was possible. Flowcel plant capacity was lying idle since there was no demand. This was now modified with addition of some equipment to manufacture DETC. Excel's DETC price was less than that of imported material and so it could sell more. Brain-storming had helped greatly.

At the same time a wide range of water treatment chemicals and formulations were also developed. The market grew. Also, another chemical wood preservative was developed and a full-scale plant to manufacture it was set up. Out of 600 TPA that was produced about 250 tonnes were exported.

Excel, meanwhile, found itself faced with some problems concerning Endosulfan, namely,

- About 10 to 15 per cent of the production was of non-saleable quality and needed further processing and purification.

• Physical appearance of the product did not match with international standards, and

• Solvents and raw material consumptions were high.

The R & D staff got into action and in four months' time solved the problem of non-saleability. This reduced inventories and increased sales. Similar efforts on raw material efficiency improvement and energy saving helped towards cost reduction.

After the explosion of an acetylene cylinder in the Butene Diol plant in 1986 all the process steps were re-examined from the safety angle. One of the major problems was that explosive acetylene and hydrogen which were available only in high-pressure containers had to be transported from Bombay to Bhavnagar, a distance of 650 kms. To meet this problem a low-pressure acetylene generator was put up before restarting production. The generated gas was used without any storage, thereby avoiding any explosion possibilities.

Then the hydrogen manufacturing plant was designed in such a way that no high-pressure storage was required, thus avoiding major hazards. Low pressure hydrogen was utilised in the process, without affecting product manufacture.

So well-executed was the planning that in 1990 Excel bagged the prestigious Sir P. C. Ray Award from the Indian Chemical Manufacturers Association for the development of low-pressure Butene Diol technology indigenously and innovatively as compared to high pressure technology only available with two other manufacturers in Europe and the United States.

Kantisen was working like a man possessed. Safety committees were formed at all manufacturing sites. Internal safety audits and risk analysis of all products became routine. Productivity of every resource was critically looked into and improvements effected. Kantisen saw to it that manpower levels which were supporting a turnover of around Rs. 45 crore in 1986 could well support an increased turnover of Rs. 136 crore. Only requisite additional staff at managerial level had to be employed to further strengthen the revitalised R & D teams. Material productivity norms were met almost every month in each of the products for about 50 running months. In consequence there was less effluent to be treated and thrown out.

K. C. Shroff was awarded the prestigious Silverstar Award by the Hon'ble President of India for his personal contribution to the Scout movement in Maharashtra.

On the managerial level, company-wide organisational restructuring was undertaken. The marketing department was substantially reconstituted. Technical personnel was strengthened. A younger and energetic senior management team was formed. Greater functional authority and accountability were assigned. And the company also instituted a voluntary retirement scheme which facilitated the departure of surplus, older, less qualified employees. Excel was moving with the times. The days were gone when an illiterate tribal lad originally employed only to clean glass utensils etc. could be promoted to take charge of a plant, because he was found capable. No longer.

The nineties belonged to the specialists and trained personnel. The change had become inevitable as production processes called for greater technological sophistication beyond the capacity of

"raw" recruits. Kantisen – Kaka as he was always affectionately referred to – could still move around the factory and find workers smiling or waving at him, but everyone was conscious that certain perceptible changes had occurred in recruitment of staff.

What continued was the family concept extended to human resources management practices developed on the advice of Mr. G. Narayana who had been appointed Director and Corporate Adviser. An engineer by profession, Narayana had worked with Voltas and other companies, before setting up his own companies in Baroda. Narayana had formulated his own management structure. Instead of the traditional pyramidal structure of organisation, Narayana's suggestion was to adopt the circular structure of a *'chakra'* or wheel where the leader was not at the top but at the centre, powering the spokes and the outer wheel. Narayana saw in it the basic structure of the universe. That was also the structure of the military formations noticed in the great Indian epics, the *Mahabharata* and the *Ramayana*.

The stress was on group working. As those who made a case study of Excel put it: "The corporate, general management, operational management and supervisory staff met at regular fixed timings, discussed and jointly decided on all inter-functional matters. Thus the harmony of thoughts, feelings and actions was maintained through mutual support and inter-dependence."

At the recruitment level, a candidate was recruited only when he was approved by the entire group with whom he was to work. The interview was conducted by all of them together!

A person was appraised by all the juniors, in addition to his seniors. And even increment decisions were made jointly by the entire group!

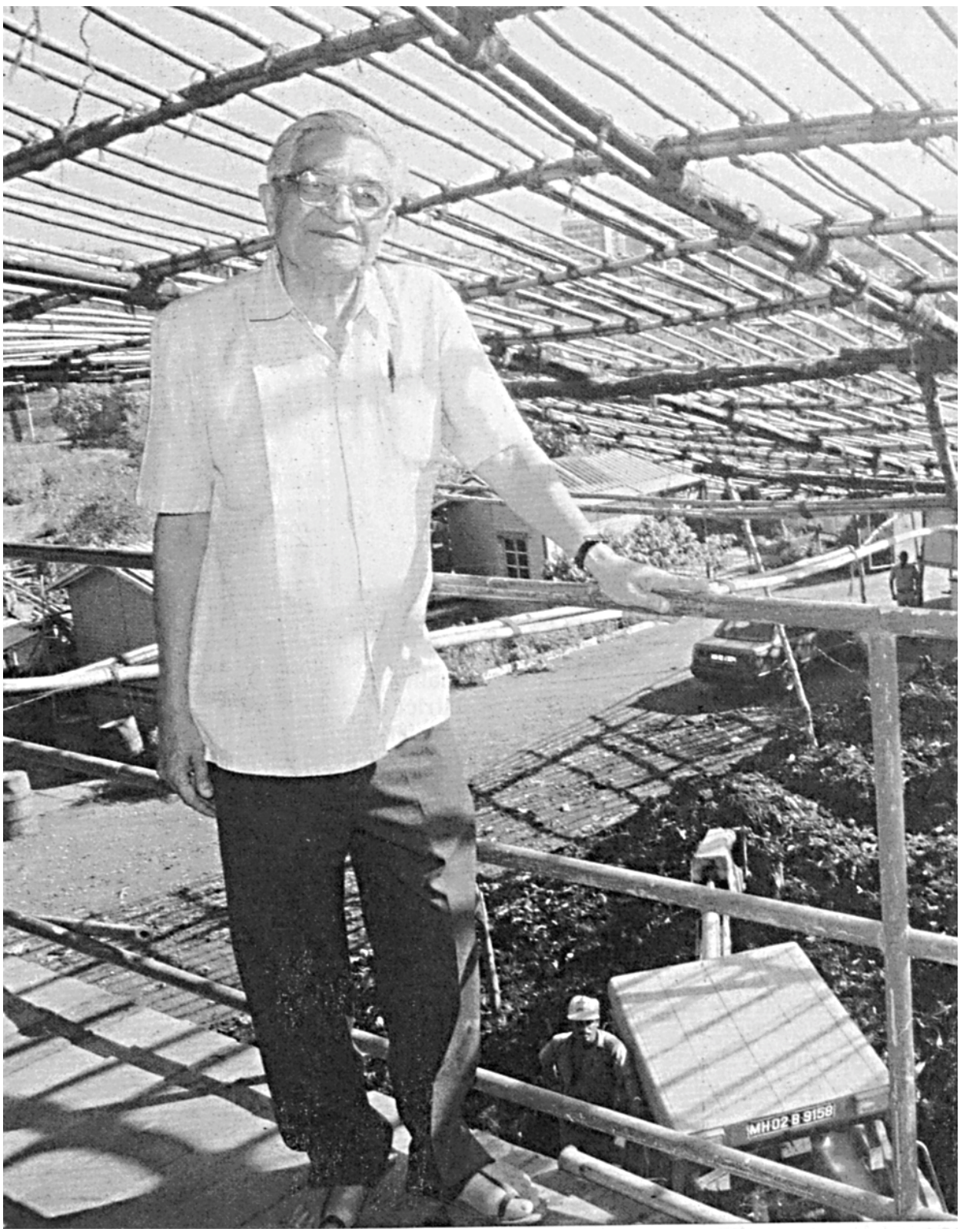
There is something inexplicable about how Excel functions. The case report by Messers Gosalia and Gopalakrishnan says: "When Excel started a new unit, about 25 persons from among the existing personnel were selected to form the nucleus, to start the unit. As far as possible, the persons belonging to that area were chosen. All of them were then out together through a training programme for three months. The seniors and juniors, the Ph. D.s and the unskilled workers were all together. They decided to call each other by first names, sometimes even by nicknames. In the first few days, all of them visited everybody else's home and got to know the family. Training classes began with prayers. Yoga and Karate formed a part of the course. Groups were formed so that they could impart knowledge to others in the area in which others were unfamiliar. The groups were given names like *Ramaban, Janani, Vikas* and *Sethu* evocative of role models in the Hindu epics. The whole team was called *Kalpavraksh*, the mythological tree of plenty. By the end of the third month it was expected that this nucleus group would be a healthy, cohesive team and also familiar with the total operations of the new unit, ready and competent to train the new local recruits."

G. Narayana – the Corporate Advisor.

In 1992, Excel's Corporate Management Group consisted of the following:

Name of Member	Field of Expertise
1. K. C. SHROFF (69) Managing Director	Scientific Innovation, Human Unfoldment, Rural Development, Environmental Technology
2. A. C. SHROFF (47) Jt. Managing Director	Global Business, Scientific Innovation, Situation Analysis
3. G. NARAYANA (51) Director & Corporate Advisor	Corporate Management, Human & Orgn. Dev., Leadership & Team Bldg., Turn-around Management
4. D. K. SHROFF (32) Chief Executive	Factory, Crisis and Project Management
5. N. D. Gupte (38) Vice President, Marketing	Business Strategy, Global Business, Marketing Management
6. P. K. Shroff (45) Vice President, Operations & Technology	Operations Management, Technological Innovation, Research & Development
7. S. R. Potdar (38) Vice President, Materials and Projects	Business Strategy, Materials Management, Project Management, Chemical Technology
8. P. D. Thosar (49) Vice President, Personnel, HRD & Administration	Industrial Relations, Win-Win Negotiations, Administration, Management Author in Marathi
9. K. S. Bhukhanwala (41) Vice President, Finance & Accounts	Funds Management, Innovative Corporate Finance.
10. S. R. Maley (47) Vice President, Biotechnology	Agricultural Technology, Seed Business Development
11. A. Veeramoney Company Secretary	Government Liaison, Human Relations

Corporate Management Group 1992



Kantisen C. Shroff: A true leader at the 'Centre' of his team, facing each challenge headon.

Kantisen's passion for knowledge was evident as early as 1978 when under the auspices of the C. C. Shroff Research Institute, a workshop on the Economic and Technological Aspects of Chemical Processes was organised in Bombay. The Course was conducted by nine of Excel's scientists and two from the United Kingdom. There were 29 participants. The Course had as its philosophical basis the Gandhian approach that one does not get the benefit of sunshine or fresh air if one keeps the doors and windows firmly shut.

There was really nothing new which the participants had not known or heard before. And yet the Course proved to be a landmark and a milestone on the path of Excel's progress in the development of its own technological and managerial manpower.

The Course was a synthesis of relevant knowledge segments in chemistry, quality, costs, engineering and management as applied to chemical manufacturing processes. The aim was to provide a total perspective arising out of a synthesis of known basic knowledge into applicative knowledge.

The Course focussed on precision, systematic efforts, commitment, depth of knowledge, practical skills, proper attitudes, high standards, recording data and total perspective. In sum, it was pragmatic and yet idealistic in the use of R & D techniques and methods to serve as a self-renewal process to the participants.

The Course gave insights into the gaps which need to be made good and the potential and the promise yet to be attained. It triggered the process of treating work as worship at the altar of truth and the chosen mission in R & D.

There was no place for half-truths, compromise, second-rate thinking, wishful thinking, parochialism, pet theories and the like all through. It was both a quest and realisation. "From ideas to worthwhile business opportunities and results" was the common thread in presentations and discussions and experimentations.

Called the Eco-Tech., the Course gave a new sense of direction and pace to both the R & D efforts and the educational programmes of Excel. It brought a 'discontinuity' in this sense. The Course gave an opportunity to re-think on the role and place of the CCSRI.

One of the participants, S. P. Iyer later made an eloquent comment on the Course. He said:

"It would be erroneous to call it an excellent Course. It would be dishonesty too. The terms of reference, while using high-sounding adjectives to flatter or praise the workshop, must be critically examined and understood. It is very easy for me to begin by saying: 'A long-felt desire of Chemist and Engineer was fulfilled in the fifteen-day workshop, which was the rarest ever held …' and so on.

> *I have found that human resources are our most important assets. . . when products are made by people who find meaning in their work, it is good for the products, good for the business and good for the people.*
>
> *— Pehr Gyllenhammar in 'People at Work'*

For an organisation like Excel, training is not unusual. Free mixing at all levels is also not something out of the way.

Yet, in spite of such a blunt opening remark, I must admit that something unexpected has really happened.

A sort of complicated bridge has been built. A bridge between ideas and methodologies of an ingenious indigenous thinking group of people and the ideas and methodologies of the 'Space Age' group of people. This was, in fact, a complicated bridge and I feel that the task was fairly well accomplished in a short span of fifteen days.

Excel has been a great believer in simplicity. It has shown that the needs of the day will not hamper the company from changing its ideals of simplicity to which it has steadfastly stuck for the last 35 years that the company can as well adapt to a blend of modern sophisticated instruments and simpler human skills in forming a technology to serve the needs of its customers as successfully as it did so far through simpler technologies.

The group of people attending was a well-mixed group. There were those sold to the 'fancy' dreams of the computer age in industry and those experienced, rugged scientists who, with simple, age-old kitchen type arrangements, made things possible.

At no time did Course even tend to go, on any one-track idea. There were times when one had a sense of confusion and boredom or 'what have I got to do' type of feeling, but all in all it was an excellent blend of chemistry, mathematics, management, engineering and a whole lot of common sense techniques, all rolled into one".

In a sense, it was Excel all the way!

The Course had shown that Excel was not a stick-in-the-mud company but was quite open to new ideas and innovatory techniques. In fact the Course merely reflected its basic philosophy.

But the basic faith was in people. It was always people. Kantisen was pleasantly surprised when a friend pointed out to him what Pehr Gyllenhammar who took over the reins of Volvo, Sweden in 1971 had written in his book *People At Work*. Gyllenhammar had written:

"People, not machines, are the real basis for the spectacular growth of industry during the 20th century.

Technology can strangle people. On the other hand, if it is designed for people, technology can also be a liberator.

I have found that human resources are our most important assets … when products are made by people who find meaning in their work, it is good for the products, good for the business and good for the people.

True leadership builds from an awareness of other peoples' dignity. Good leadership is the ability to co-operate and delegate without losing time or momentum.

B. Y. Suvarna (extreme left) along with his co-workers and 'Ushabhabhi', 'Mummy' and 'Kaki'. The Excel culture is evident.

We are still in the era that Adam Smith described so many years ago, where a worker gives up his ease, his liberty, and his happiness when he goes into industry.

If we can give him back his ease, his liberty and his happiness or at least give him conditions under which he can find them for himself, I believe we will come closer to a 'post-industrial' society".

Kantisen was quite touched by Gyllenhammar's work. He wrote to his friend:

"What you notice (in Excel) is that it has invariably banked on its human resource, on its capacity to delegate, its ability to cut across hierarchical barriers and speed things through. By giving man his dignity, Excel has provided a leadership to inspire confidence in the common man to do uncommon things. The Excel of today has founded its growth on ordinary university graduates, on men with just basic school education, picked up from various walks of life, cobbler women and wayside labourers from local Jogeshwari and a whole team of mostly unlettered farmhands, migrants to Bombay. Excel discovered latent talents. And today they too have grown – into highly confident and competent members of our organisation. For talents utilised make for happiness.

Excel has contributed its bit in designing technology as a 'liberator rather than a strangler'. Rather than just developing processes, Excel has also concentrated in simplification of technology. Simplification so that the ordinary people of a developing nation can operate them successfully – without the unnecessary use of sophisticated equipment or automation that has so often been the stumbling block in starting up new plants and technologies."

In Excel people always mattered. Long before Kantisen had been introduced to the Norwegian's writings, he had been applying his theory in the day-to-day functioning of Excel, from its earliest days and especially as Excel began to grow. In a paper submitted to *Dye-Chem Sphere* in the seventies, Kantisen had provided some examples of Excel's approach to people. Thus:

- Once Kantisen met one Mr. Thomas from Kerala. Thomas had a brilliant academic career, but he could not find a job in Kerala. So he came to Bombay, lode-star for all job-seekers. He had no friends or relatives living in the city. He had no place to go. He was staying in a Church organisation. Kantisen met him accidentally and got into a conversation with him. As Kantisen put it: "I saw his willingness to work; to learn more and slowly I could see in him the making of a good theorist – a good design engineer. He is now one of the design engineers of our multi-million Phosphorus project. He is happy. We are happier. A bright career has been launched".

- There was the case of Mr. Suvarna. Suvarna had to come to Bombay in 1951 and was working in a big workshop and was involved in labour movement. He was courageous and was a natural leader. He would not tolerate what he thought was injustice and had developed the capability to organise strikes. He created problems for quite a few companies. But essentially he was a man of high integrity; he was beyond corruption. But he was financially in a bad shape.

Kantisen chanced to meet him and invited him to join Excel. When some of Kantisen's friends came to know about this they were perturbed. What did he think he was doing, hiring a known trouble-maker? Didn't he know that Suvarna could organise a strike? But Kantisen was sure of Suvarna's integrity and felt he should be given a chance to see how a well-managed company worked. Suvarna was hired. But things were not always easy. But Kantisen had patience and over the years the two began to understand each other. At the time Kantisen wrote his paper Suvarna was president of the labour union and saw how workers grow into good team mates, good citizens.

- Patrick and Rockie were young boys engaged in the business of smuggling foreign liquor. Inevitably they got into trouble, were caught and because they were around 15 years old, they were sent to a reformatory. Luckily for them they had a good superintendent who had real interest in helping the inmates. When their term was over the superintendent sought Kantisen's help. Could he give the boys jobs in Excel? Kantisen agreed. As always things did not necessarily go well. But in the end they worked out. Patrick was appointed head of the carpentry section and Rockie became his assistant. Both became good citizens.

Kantisen had other examples to show how people could be an asset. As he put it

'Working harmoniously towards a common goal' – the Management and the Union in a quiet conversation.

in his paper: "We have organisations in different parts of India. From Calcutta to Bhavnagar. We have no labour problems, no quarrels, no redundancy of manpower due to changing technologies. Our people grow. They grow because they are involved. They know it is their organisation. They grow because they are getting opportunities to work in the field they love. They work harder than expected because they want to create, they want to prove themselves. In every place where we work, we keep in touch with educational institutes. We invite the teachers and students to visit us. We explain our philosophy and thus a greater faith in one another is generated. We are neither faced with a generation gap nor with communal, caste or language problem. We work together towards a common goal".

The story of Mahesh Bhatt who is currently (June 2000) working at Excel (Jogeshwari) in the capacity of General Manager (Life Sciences) in its own way reflects Excel's approach towards its employees and their reaction to the same.

Bhatt has now been with Excel for 27 years. He joined the company in January 1973 as a chemical engineer. He had been initially associated with the company as a trainee chemical engineer from the University Department of Chemical Technology (UDCT), Mumbai. Such was Excel's standing that as many as 20 students of UDCT had applied for the trainee posts when just two were available. Bhatt was one of the two who got selected.

After Bhatt graduated he was recommended for a job at Excel which, to his great joy, he got. He even was offered a special starting salary of Rs. 450, a hundred rupees more than what was normally offered. But on the day Bhatt reported for duty he was told by Kantisen to work on improving fuel efficiency of the boiler at least to the tune of Rs. 15 per day so that the pay hike he received could be justified!

Kantisen told him that in future what would matter was not the rank he received in his University examination but what his 'performance' rank would be at Excel.

Early in his career Bhatt found it hard to work under middle level management and Kantisen heard of it. Bhatt was summoned and expected he would get some sympathy from the boss. Nothing like that happened.

Kantisen discussed a variety of matters with Bhatt that had no relevance to his immediate personal problem, but towards the end, Kantisen came to the point, in his own inimitable way.

"Look, my boy" he told Bhatt, " in India there has always been a bit of tension between the mother-in-law and the new daughter-in-law. The former just has no time to understand the feelings of the new entrant to the family. When you in due course become the mother-in-law (senior) kindly remember this!" Bhatt now says that he remembers it fully well!

For full one year Bhatt worked in the Boiler Department in Jogeshwari and Amboli alongwith the Phosphorus Pentasulphide plant. This plant needed a huge amount of furnace oil-energy during the distillation process.

Bhatt requested Kantisen for permission to work in the P_2S_5 plant rather than in the Boiler Department. Permission was given. Lubrizol (India) Ltd., an American company with a Joint Venture with the Government of India was intending to buy 50 to 60 tonnes of the product every month, but it had set its own standards. Excel standards were different. Bhatt had to work out new procedures working in the second and third shifts, shoulder to shoulder with plant operators, supervisors and others to identify shortcomings.

In the end with the help of two other engineers Bhatt could come up with a product that fully met the standards of Lubrizol (Cleveland, US) while at the same time stepping up production from 3 tonnes per day (TDP) to 4.5 TDP within 45 days ! Kantisen was impressed.

Bhatt's own explanation is that the success was largely due to effective inter-personal relations at different levels and his own commitment.

While he was working at the Amboli plant, Bhatt found out that he had lost a lot of weight. Medical tests showed that he was suffering from lung tuberculosis (Kochs) and was in the third stage. It was alarming. A complete bed rest for two months was recommended. And there was the question of treatment and sundry expenses which his father, an old pensioner was in no position to bear.

The matter was brought to the attention of the management and he was promptly told not to worry, the expenses would be taken care of, he could get leave with full pay and even the cost of medicines would be fully met. Bhatt has never forgotten that to this day.

Subsequently he was transferred from Amboli to Jogeshwari and appointed as Works Manager where he succeeded in raising production of Oxalic Acid from 3 TPD to 5 TPD and of Phosphoric Acid from 6 TPD to 12 TPD with existing facilities thus raising the turnover from Rs. 2.5 crore to over Rs. 3.5 crore. Bhatt says that he could do that after line balancing, of production processes, raw materials and utilities like cooling tower, refrigeration, etc. That was a turning point in Bhatt's career.

During his nearly thirty year association with Excel Bhatt saw a record established for the production of a new chemical: Sodium Pentachlorophenate – Biocel (SPCP). That was achieved within a period of 8 months from an idea.

It began with an 8 kg R & D charge which was turned into a commercial success with a production of 800 kg/day. Subsequently the Lote site could utilise and expand the SPCP technology for large-scale production both for the domestic and export market.

A contribution to the success of this effort had been made by Dipeshbhai Shroff, Kantisen's own son but then he was at that time only an engineering trainee under Bhatt. Dipesh, however, had been told by his father to do as he was told. "If Maheshbhai (Bhatt) tells you to swing on a tree upside down, do so; he would have a reason to make that request!" was Kantisen's advice to his son.

Bhatt was constantly in demand to meet various project requests which he dutifully – if at times reluctantly – met. One day, says Bhatt, he was being driven home by Kantisen who suddenly turned round to him and asked: "Son, over the last twelve years of yours in Excel I have been giving you very difficult assignments to fulfil some of which would have daunted any person. What on earth made you take those challenges?" To which, Bhatt says, he replied: "Kaka, if 99 people had accepted those challenges and had failed, and if I too had failed, I'd only be the hundredth to fail. But fancy if I succeeded, I'd then be one out of a hundred who succeeded!" Bhatt says Kantisen was delighted to hear that reply.

Bhatt admits that in the course of his long association with Excel he has indeed come across failures, accidents and losses. But Kantisen, (Kaka) he adds would accept them philosophically saying one had to learn from failures.

As Bhatt sees it, it is the constant job rotation in Excel that makes for the development of individual skills. Besides, there was always a happy recognition of good work done not necessarily monetarily, but in other subtler ways. Each staffer felt he was a partner in the business enterprise.

At one point Bhatt was dispatched to Kutch where he spent 100 days in the desert and later some 9 months in Bhavnagar. It was then that Excel could turn around the Bromine Plant which till then had not been commercially viable.

Bhatt had earlier worked in Sales and Marketing Department. He now says: "Today, when I look back I feel that it was a big assignment with a great challenge". It was.

Bhatt could succeed in part because there was always the Research and Development Resources Department to rely on. It had its duties specifically laid down. They were as follows:

- To be aware of the state of Science and Technology the world over.
- To be in touch with research institutions and bodies.
- To work in close co-ordination for business development with marketing and projects.
- To build capability to develop processes and products to match market requirements.
- To suggest products to marketing function in an effort to extend and enhance Excel's business areas.
- To carry out process research and development.
- To build pilot plants and work out experiments.
- To help examine existing products/ processes and to find out alternative and better processes.
- To build a team of innovative people to make R & D into a vital vibrating function of Excel.
- To develop a knowledge-based information reservoir to help in technological progress at Excel.
- To participate, interact, contribute and consolidate in G.M.'s team.
- To develop at least three new solid, contributing marketable products every year.
- To make R & D into an excellent organ.
- To undertake any other function/ task/assignment/job that may be required to be undertaken, and finally
- To coordinate with the CCSRI.

Ms. Gaynor Pais is presently Senior Manager : Advertising – Marketing (Agri Business). She has been with Excel for years. She had work experience of five years before she applied for a job at Excel; she was interviewed, was selected, but fate intervened and for a couple of sound reasons that had nothing to do with her, she could not be immediately employed and had to wait for a year at the end of which the man who interviewed her, Babubhai Karani, called her and apologised profusely for the delay. "The job is still open, would you like to join us?" was his query. She was only too happy to do so. The day she was interviewed she had been struck by the easy informality prevailing in the Excel office, of everyone from the Managing Director to the junior-most clerk eating in the same canteen and most impressed by the fact that the receptionist was a handicapped person. Any office, she thought, which would dare to hire a handicaped person as receptionist had much to speak for itself.

Much to her annoyance she found, again due to some unforeseen circumstances that she had no work on hand which was very disturbing when she was summoned by Govindjibhai and asked to bring out a house magazine on a shoe-string budget. That was very much in her line and she got to work on it with redoubled energy. It had to be a workers' magazine and the workers were all Maharashtrians who could only read Marathi. She didn't write a single word for it – not even an editorial. The workers did all the writing.

Shubhani C. A. Mehta, a charming voice and memory to match!

There were times when she would run foul of the Personnel Department which did not often see eye to eye with what was being published. But Govindjibhai stood by her. If she reported that a worker was engaged in some kind of commercial activity in his off-duty time, it wasn't considered illegal. Govindjibhai wanted to encourage private enterprise. As Ms. Pais put it, as long as one did his 9 to 5 job diligently and well, Govindjibhai was ready with his encouragement and guidance to help a man add to his income. That, Ms. Pais found, was just wonderful.

She noticed that the company really cared for its workers. She wanted to give prizes for a lottery that she had introduced in her magazine. Excel gave her the prize money to distribute, though there was flak again from the Personnel Department.

She was given ample opportunities to travel. Once at a company meeting in Goa where she was the only woman among 40 men and was asked to make a presentation on a rather technical subject, she did it so well, having previously studied the subject that Ashwinbhai told her in front of everybody: "I would like to confer an M.Sc. – Agri. on Gaynor for the wonderful technical knowledge that she has picked up and presented". And then, turning to the scientists in the hall went on to add: "If anyone of you would like to go on leave, I am sure she can replace you!". Was she thrilled to hear those words, especially in the presence of her colleague who had once treated her as an ignoramus!

And then there was the time when she was talking to Kantisen looking somewhat distraught and absent-minded. Kantisen noticed it.

He said: "What's the matter?"

Ms. Pais replied: "Nothing".

Kantisen knew she had a nine-month-old baby at home. So he asked.

"Is your baby unwell?"

At that straight question, Ms. Pais could not hide her tears. She said: "Yes".

Kantisen thereupon picked up the phone and called up his brother-in-law who was a doctor and told him: "Please wait for me at seven in the morning tomorrow. I am bringing Gaynor and her baby with me. The baby is unwell".

When Ms. Pais recounted the event to her husband, he was aghast. "He is the Managing Director and he is asking you to bring our baby to his brother-in-law's home to be treated? Who do you think you are ?"

Ms. Pais has not forgotten that to this day. As she sees it at Excel there is personal care and commitment.

Excel's reputation was for excellence. Says Ms. Pais: "You go to the far-flung areas of the market and say you are from Excel and the trader will stand up to you!" She would then feel that she owned Excel. And if she asked whether the trader had any problems with Excel product, all that she would get by way of reply was: *"Nai Madam kuchh nahi!"* Ms. Pais adds: "It is a matter of pride that your company is so highly valued, your products are so highly valued!"

> *"At Excel we remain what we are. We don't change jobs, only our roles expand ! It is a flowering of oneself and that is really what it amounts to in the end !"*

After 20 years service, at the age of 42 she decided that she would do her Marketing Management. And she did, all on her own, and paying her own fees. It was only when she was told by the head of the Personnel Department that she could ask for reimbursement that she submitted her bill. But she had done well at her studies and received her Certificate.

Now she says: "I go to Ashwinbhai and I tell him that this is what I think we should do and he says, yes, this is exactly what I have been saying for so many years!" And then she would go and do what she had in mind. Ms. Pais asks: "Where else can such a thing happen?"

What she has found most appealing is the 'family feeling' prevalent in Excel. People would leave, looking for better prospects elsewhere but would return after a couple of years because at Excel the management cared. One employee who had left returned after a few months. Asked why he had returned, he told Ms. Pais: "You know, the opportunities are there, the systems are there, everything is great in a multi-national, but values you don't find. You don't find the human touch. You don't even know who your boss's boss is, forget about the management, the M.D. of the company; you don't even see your General Manager, you just see the man you are reporting to! Here you can go and see the M.D. and your immediate boss won't feel threatened!"

Listening to Ms. Pais makes one understand what loyalty is all about. But she is no wide-eyed devotee and can tell her listener what is wrong with Excel without mincing words.

Then there is Shyam N. Pathak who had been taken as a replacement to someone who had been appointed but had left for other pastures. Pathak got his job, he says, "by accident". But he stayed on. He had been hired as an Electric Engineer but over the years he served as a Mechanical Engineer, a Civil Engineer, a Project Engineer, a Chemical Engineer before being taken on as a Training & Development Engineer only to be transferred to Personnel and then to Marketing!

Says Pathak: "At Excel we don't find that funny. We remain what we are. We don't change jobs. Only, our roles expand! There is some problem somewhere and you are on the spot and you solve it right there! There are no restrictions on using one's talents. It is a flowering of oneself, that is really what it amounts to in the end!"

When he was on one job for five years he was told that he should switch to something else. That was contrary to his middle class values which said that if one starts as an engineer, one must end up as Chief Engineer, nothing less. At Excel, however, things were different. Nobody was allowed to stagnate. Says Pathak: "That is why at Excel you will find a lot of people doing and carrying out functions and responsibilities which

have nothing to do with their academic qualifications!"

There was a sense of working for a family. Pathak has been with Excel for twenty years and every year he had been observing *Ganesh Utsav* at home, and every year, all the Shroff family would come to his home to attend the Puja. He didn't even have to invite the Shroffs. They came on their own because they knew it was the right thing to do.

Pathak sometimes felt he could not quite understand Kantisen. The day he had been hired he was busy supervising laying of cables when Kantisen walked by. Noticing Pathak, he asked: "Are you an Electric Engineer or a human being? If you are only an Electric Engineer, go and do your engineering!" Pathak got down to talking to Kantisen. For full 45 minutes! And he jokes about it.

Over the years Pathak saw how people grew in their jobs and how they were helped to grow. In the long run it paid.

Govindjibhai also taught his men how to handle corruption. He would say: "Corruption starts only if you are in a hurry. Just ask the government clerk when you should come next. Don't submit your files".

Another advice Govindjibhai gave was to treat a factory inspector as a friend, not an enemy. "Take him to the worst spot and explain your difficulties. Ask the Inspector to help! Be open with him!" That always paid!

Indeed, says Pathak, at Bhavnagar, Gujarat's Chief Factory Inspector would send his men to Excel factory with a request: "Please train him; *isku jara achchha train karo".*

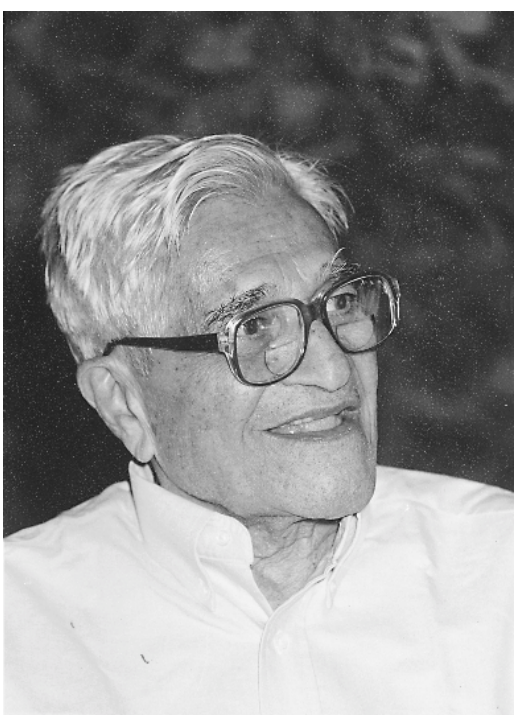
Pathak has great regard for Dipeshbhai who is now Excel's Joint Managing Director.

Dipesh joined Excel at its Ankleshwar project. Of those days Pathak says: "We were staying at the same place and there we had to take turns as to who will sweep the house, who will make the beds, who will make tea and who will get the breakfast from the market. We were ten people staying together and we all took turns with different jobs. There were ten people and there were ten jobs to do and everyday our job changed. Dipesh was never treated as the son of the Managing Director. He had to sweep the house when his turn came or make tea or do the shopping as did everyone else". Working with his Gujarati colleagues, Pathak learnt his Gujarati pretty fast.

But Pathak's favourite story is one concerning Mahendra Trivedi. Trivedi joined Excel in 1988 as a supervisor in the Aluminium Phosphide plant at Bhavnagar. He worked in shifts. He was a social worker, was active in organising blood donation camps, family planning camps, etc. in his area. In recognition of his work he was given a ticket by a political party to stand for election as a Corporator for the Bhavnagar Municipal Corporation. Trivedi sought the company's permission and it was given. The philosophy was that as long as he did his job well, what he did in his spare time was nobody's business.

Trivedi won, not once but twice. His working hours were adjusted so that he could function comfortably as a Corporator. Nobody complained.

Then, as Fate would have it, Trivedi was given a ticket for the Gujarat



Kantisen who was Managing Director, had another philosophy to teach. He would tell Pathak: "Your workplace is wherever the sun shines, where photosynthesis takes place, microbes work, whether it is in Africa, Sri Lanka, Vietnam, Malayasia, anywhere. We are in agri-business and we are here to serve the farmer to grow more food. Excel observes no borders in the service of humanity". And he would repeat the Vedic shloka:

Saha na vavatu, sahanau bhunaktu,
Saha viryam karavavahai
Tejaswinavadhitamastu,
Ma vidvishavahai.

Assembly. This was something different. It was one thing to be a Corporator but quite something else to be an MLA. How could he work as a supervisor at the Bhavnagar plant and as an MLA at Gandhinagar at the same time? So poor Trivedi who had won the Assembly seat came and gave his resignation.

Pathak brought this matter to the attention of Govindjibhai. Govindjibhai said: "So he has become an MLA? What's your problem ?"

Pathak replied: "But how can he discharge his duties as a supervisor? Doesn't he have to work in his constituency?"

Govindjibhai then asked Pathak: "Do you know what Trivedi's income would be as an MLA?"

"No, I don't know".

"Well, go and find out!"

When Pathak found out that Trivedi could hardly make an honest living from what he received as an MLA, Govindjibhai told him: "Now you see why politicians become corrupt? You want them to serve their constituencies, you want them to do social work, you want them to make laws but you don't pay them! How are they to support their families?"

Pathak continued to remonstrate. So Govindjibhai told him: "Promote Trivedi. Make him a Public Relations Officer. *Aisa ek letter dey do usko*. He need not then come to work as a supervisor. He can then work in his constituency!"

When Pathak still looked unconvinced, Govindjibhai dropped a bombshell. He told Pathak: "Do you know what Sunil Gavaskar does for Nirlon? Do you know what Ajit Wadekar does for State Bank? Why are they paid their salaries? They play for the country! If Nirlon can pay Gawaskar a hefty salary for no work done and the State Bank can likewise pay Wadekar hefty salary for no work done, what's your problem with Trivedi? He is going to serve his constituency!"

So Trivedi was retained as Excel's PRO even if he did not do a day's work for the company; but he got his salary. Trivedi remained as MLA for two terms. During his third term he became Home Minister of Gujarat!

The humane and approachable Govindjibhai.

As Minister, however, Trivedi was getting a salary. So he told Excel: "I now get a salary, so I won't take any salary from you. But keep me on your payroll!" So they kept him on the payroll, and simply gave him five years' leave without pay!

Whenever Pathak would have visitors in Trivedi's company, he would introduce the latter as: "This is Mr. Trivedi, Home Minister of Gujarat. Incidentally, he is also an Excel employee".

At one stage Trivedi protested and said: "Please never introduce me in that fashion. Say I am a PRO for Excel and only incidentally the Home Minister of Gujarat!".

And that was how he was introduced. When the government fell and Trivedi lost his Ministership he simply became an MLA and then Excel started paying him his salary.

As Govindji told Pathak: "They are social workers and serve the country. What's your problem?"

Kantisen who was Managing Director, had another philosophy to teach. He would tell Pathak: "Your workplace is wherever the sun shines, photosynthesis takes place, microbes work, whether it is in Africa, Sri Lanka, Vietnam, Malayasia, anywhere. We are in agri-business and we are here to serve the farmer to grow more food. Excel observes no borders in the service of humanity". And he would repeat the Vedic shloka:

Saha na vavatu, sahanau bhunaktu,
Sahaviryam karavavahai
Tejaswinavadhitamastu,
Ma vidvishavahai.

Like Ms. Pais, Pathak feels his life has been made by Excel. He sees no boundaries where life, work, education and service are concerned. The world is his family. *Vasudhaiva Kutumbakam.*

P. D. Thosar, the Senior Vice President: Personnel, HRD & Administration, talking about Excel culture remembers a couple of occasions when it came under severe strain, when differences arose between management and labour. But, he adds: "Neither side stretched to an extent where one could say it would break".

The first occasion was in Bhavnagar when workers and staff presented their Charter of Demands in Gandhian way. They just deprived themselves of food provided by the company for as long as a period of six weeks. It was their non-violent way of protesting. As Thosar put it: "Militancy can be dealt with, but this type of agitation puts one in the box!"

Excel wanted a "win-win" solution. Discussions were arranged. Labour and management "got together, sat together" until a mutually satisfying and amicable solution was arrived at.

On another occasion, around 1990, says Thosar, a settlement had been amicably arrived at, but when the Union leader went to the gate and spoke to the workers, they demurred. This was a delicate situation.

Thosar asked the Union leader whether he could on his own address the workers. He told the leader: "Why can't we have an open talk with the people? Let's understand what they have to say". The leader agreed.

Thosar says a meeting was arranged. He told the workers: "There will be no chairs, no tables, no benches and we will be sitting on the floor with our hands and legs folded but with our minds open".

And he added: "We will be talking sitting on one level because we all belong

to the same organisation. We may have differences of opinion but there should be no reason for discord".

And that was exactly what happened. Everybody sat on the floor. There were questions hurled at Thosar which he answered as best as he could. He spoke of Dearness Allowance Neutralisation which the workers did not quite understand but which Thosar went to great extent to explain.

Finally, says Thosar, the workers said they wanted some adjustment. He told them: "Sorry, no adjustments. Either you accept what your leaders have signed or you don't. If you say you will, I will try to understand your feelings, but I won't guarantee that anything will be done".

At that point Thosar said, the workers told him: "*Arre baba, han*!"

Thosar replied: "Saying *han* is not enough. You must sincerely, and from your heart feel that you must honour what your representatives have done. Then we will understand each other". To that, Thosar says, the workers finally said: "Yes, we will".

Thosar had told them: "Look, by getting some 5 or 10 rupees more you will not get rich nor by giving that will the company become poor. But if you do not respect the understanding arrived at by your leaders, that is the end!"

The workers, says Thosar, got the point. There never was a strike at Excel.

Avinash Bakre first joined Excel in 1971 and left it in 1986, but he rejoined the company three years later in 1989. In all the years he served Excel he worked in various capacities such as Quality Control, R & D, Marketing, Projects etc. He also worked at several plants. He travelled extensively in India.

Once Bakre had an accident and was confined to bed for four months and when he returned to work he was given an assignment. When Kantisen went to examine it he found Bakre standing for long hours in the sun and was very upset. He told Bakre: "Bakre, you have been in bed with a head-injury for four months and now you are standing long hours in the hot sun. You shouldn't be doing this. This is not right".

Such was Kantisen's solicitude for Bakre that he says he was greatly touched by it.

Much the same affection he received when having first left the company, he wanted to return but was rather embarrassed to ask to be reinstated. But on Kantisen's part there was no hedging. When Bakre phoned him, he quickly got an appointment and in no time an agreement was arrived at. All that Bakre was asked was: "When will you join?"

There were frequent problems regarding pollution and effluents and it became Bakre's job to handle some of them. Kantisen would sometimes get upset but he would always provide inspiration. Technical details would be sought, improvisations suggested, experiments conducted and in the end, solutions would be found.

And yet Kantisen was unsparing. He wanted accuracy and if a hundred tests had to be conducted, so be it. But Kantisen trusted Bakre who was only an ordinary B.Sc. Bakre says: "Kaka treats you like a father who sets his child in the swimming pool to teach it how to swim. The child is frightened, but the father holds its hand".

"And that's how I gained confidence" Bakre now reports.

Listening to Bakre dole out details of all the problems he was confronted with and the manner in which they were resolved is to get an education in pollution management.

Kantisen's technique was to ask his Manager for a talk and to listen patiently. In the course of the discussion, issues would come up, Kantisen would raise a point here, raise a point there and make the Manager understand. "I am not trying to find fault with you", he would tell the Manager, "I am merely trying to get to the root of things". And invariably, as Bakre explained through illustrations, an answer to a given problem would be found.

Says Bakre: "Kaka does not force himself on anyone. But one instinctively sees his point and acts accordingly".

D. J. Unakar has several stories to tell of Kantisen's way of functioning. Devenbhai, as he is known, has been close to Kantisen like so many others who work at Excel.

One day slum-dwellers from a place called Kajupada came to Kantisen with a request. Would he help reconstruct a tin hut which had been serving as an *anganwadi* for their children?

"Fine" said Kantisen, "we will send Devenbhai to have a look at your tin shed and he will report to me as to what can be done. But I lay down one condition: Excel would provide the material but you will have to provide the labour!"

So Devenbhai went to Kajupada with a team, had the area measured, drawings prepared and costs worked out. The final project was presented to Kantisen who okayed it. The cost amounted to Rs. 30,000.

Devenbhai thought it was too large a sum. What if all the slums – and there were some nineteen of them in the area – made similar demands? Would Kaka turn them down?

Kantisen's reaction was immediate and to the point. He told Devenbhai: "So what if they all make demands ? We will do what we can. Who knows, God has given me enough money and made me his agent only to take care of such people in their need. Perhaps it is our *bhagya* that we get an opportunity to serve!"

There was no more argument. The *anganwadi* was duly built.

Once when Devenbhai was in consultation with Kantisen, there was a call from R. P. Pandey, then working in the R & D Laboratory. Pandey had a problem and wanted to discuss it with Kaka. He was summoned immediately.

A discussion followed which was totally above Devenbhai's head. Towards the end, Kantisen asked how long a proposed test would last. "Oh, about eight, nine days, may be" replied Pandey. To that Kantisen said: "Would you have any objection if Devenbhai was present throughout the time you conducted your experiment?" Pandey could hardly say no to his boss. He said: "Of course he can be present". Devenbhai would be asking questions, Pandey was warned.

When Pandey left, Devenbhai turnd to Kantisen and asked: "What are you upto Kaka? I don't know the first thing about chemistry and you want me to ask

questions? I would be made the laughing stock by the chemists! In R & D!" Kantisen replied: "That is precisely why I am sending you to the Lab! To ask questions that others may think too minor to be asked but which could turn out to be fundamental ones that those who know the job might not be asking!"

Says Devenbhai: "This experiment was about developing a process to purify a spent catalyst which is used on a large scale in the manufacture of petrochemicals and deriving polymers like PTA and polystyrene. The catalyst is not only very costly but it has to be imported, so lots of petrochemical plants are facing a major problem on cost saving for gaining competitiveness. I was expected to Fax reports to Kaka every day as he would be in Kutch, and so I did. At the end he not only praised me profusely but made me realise the important difference between a catalyst in social service context and another in the chemical process industry".

As Devenbhai sees Kantisen, he is more a trainer than a terror though he has seen Kantisen, lose his temper. There was a time when a somewhat difficult issue came up for hearing and there was a brain-storming session. It went on and on for a long time and still no solution seemed to be in sight. Towards the end, according to Devenbhai, Kantisen really lost his temper. The meeting was adjourned.

Next morning Devenbhai went to see Kantisen and casually inquired what had made him lose his temper so badly. Devenbhai now says: "For a while he stared at me, since nobody in the past had ever posed such a question to him. Then he said: 'On that! Such things happen at times. But between last evening and this morning a solution was found! May be because of my outburst! But remember when the solution was provided I gave the person a big hug and a pat on the back!" "And that" Devenbhai adds, "is Kaka".

On another occasion a problem concerning purity level of a certain product arose at the Lote plant. And cost per unit of output was getting to be relatively high. Months of worrying did not help. So one day Kantisen told his entire R & D staff: "Well, gentlemen, we are all going to Lote and will stay there until the problem is resolved".

The Export team and a potential customer, at the Asia-Pasific Crop Protection Exhibition held in Mumbai.

There was genuine scare among the staff. They know that Kantisen meant what he said. As planned, they all went to Lote. Devenbhai says that all that Kaka did was sit quietly in a corner saying nothing – for three or four days. The staff had expected fireworks, but Kantisen remained quiet. In the end the problem was satisfactorily resolved. Kantisen was later to say: "If scaring people helps, I am willing to be considered a scare-monger!"

On a personal level Devenbhai has reason to be grateful to Kantisen. He had known Kantisen for years while he was working for Dr. Narottam Shah at the Centre for Monitoring Indian Economy (CMIE). When Narottam Shah prematurely passed away in 1984, and so also Dr. D. T. Lakdawala in 1992 – who used to oversee the work at CMIE after Narottam's departure, Devenbhai decided that he would do some free lancing sitting at home. He had enough work to keep the home fires burning. But Kantisen must have guessed that Devenbhai deserved better. He had been told about Devenbhai's predicament. A mutual friend arranged for Devenbhai to meet Kantisen. Kantisen just told Devenbhai that no matter what he was doing, he should work from Excel premises and that he would be given all facilities. Devenbhai would sometimes help out the Excel staff until one day Kantisen said that wouldn't do, Devenbhai should agree to be a full-time employee.

And that was that!

Then there is the experience of V. Ranganathan who presently heads the International Division of Excel as Chief Manager: Exports, Agribusiness. Ranganathan had joined Excel in 1968 as a secretary and now holds a key position in the company. As he sees it, what took him to new heights was not so much his academic qualification as much as his work experience in what he affectionately calls the Excel University. And he is grateful to his earlier boss, Govindjibhai. And he narrates the story:

I was working under Shri Vanrajbhai in early 70s in the Marketing Division. There was an export consignment of Celphos to Ethiopia in 960 gm tin packing. In those years it was only through phone that instructions were given followed by a memo to the manufacturing site.

Mr. Raghu was dispatch in-charge at Amboli. I had given necessary instructions

The early days at Excel: Many an early lesson learnt is relived till date.

to prepare the material. When the consignment was exported negotiations of documents were done through bank, but I did not realise the mistake that I had committed at that time.

The mistake was instead of billing the customer for 960 gm tin packing, I had prepared the documents billing for half the amount (480 gms) and thereby leaving a large price difference to be recovered from the customer.

A few days later we received payment from the customer but it was after a full month that my error was discovered. I had unwittingly priced the invoice for less value than the material supplied.

I was scared and approached my boss Shri Vanrajbhai. He immediately went to Govindjibhai and briefed him about the error in billing. I was called by Govindjibhai.

I went to him shivering. But he was very kind and consoled me and gave me a lot of courage. He asked me to talk to the party over the phone in USA (which had booked the order for the party in Ethiopia) and explain to him my predicament and request that the balance amount be paid. Govindjibhai told me that even if the money was not recovered, he would tell Vanrajbhai to forget all about it and consider it a bad debt.

When I spoke to our customer in US and explained to him what had happened, he was very understanding and promised to pay the balance, which he did within 20 days. The D. D. was then deposited in the bank with a covering letter.

Govindjibhai then told me that if one is honest and straight forward and prepared to admit one's mistake, truth will prevail and God will take care of the erring person. That incident I have never forgotten and will never forget in the rest of my life.

Ranganathan is now one of the most trusted members of the Excel family. The measure of Excel's success on the export front can be gauged from the fact that during the last five years its export earnings have on an average contributed nearly 20 per cent of its total turnover.

However it is well to remember that Excel has, as a matter of policy, consistently assigned priority to the demands of the domestic market rather than exporting at the cost of domestic needs, even though exports usually provide relatively better price realisation and margins. For Excel there has always been scope to increase export of its agro-chemicals.

Excel today has a marked presence in as many as fifty-odd countries in almost every part of the world. The global market is a playing field to everyone from every other country and one has to compete with every other both on costs and quality terms. This itself is a task that calls for continuous vigil and monitoring of diverse factors such as country-specific cropping pattern and pest problems, seasonal pattern of demand and supply management, product quality, terms of trade etc. In recent times China has entered into the international market in a big way, by undercutting prices. That for all that Excel has stood its ground is a tribute not only to the quality of its goods and its pricing but its management talents.

In Excel there has always been a continuity in thinking right from the beginning as to its basic philosophy. Thus, writing in *Industrial Times* (April 9-22, 1979), Kantisen had spelt out the company philosophy in clear terms. As he saw it, many companies started as a result of participative efforts of a group of individuals. But gradually machines and finance management took over at the cost of individuals. Participation perished in the name of efficient control. In India most industries came through largely because of finance management. The work-force was there to run the machines. They were part of "cost" – nothing more, nothing less. Kantisen wrote:

"To ensure that in our company a man does not become just a number but always remains a full and growing man with a wide and increasing range of abilities, we have evolved the following norms of behaviour which we believe are helpful in keeping up a spirit of participation. These norms have contributed greatly to creativity and growth of our enterprise. They are:

- One gives much more than what one takes.
- One respects everybody equally and is respected in turn.
- One keeps faith in the dignity of labour.
- One undertakes productively creative work useful to society.
- One will not seek work – one will do the work.
- One will be capable of sharing responsibilities in different fields.

• One is committed from sailing-to-sinking together with the group.

• To offer appropriate opportunities as per one's aptitude, liking and abilities.

• To emphasise joint thinking – continuous and total.

• Accountability of one individual to another, to the group and in turn to society.

• To create surplus value for society by one's presence and work.

• To have "nothing is mine" as a creed.

• To eat in a common canteen, and

• To contribute to society in a way that teaches individuals how to create wealth instead of remaining dependent on others.

As Kantisen saw it, it had become necessary for a new class of industrial enterprises to arise not just to show financial or technological efficiency in management, but to build an efficient work-force, capable of understanding far wider subjects and the basics of human relationships. And he added:

"The sciences have progressed sufficiently to ensure productive, effective and non-polluting management of various industries. The best way of communicating the benefits of these sciences to the people is through industrial work. And all such work to be meaningful will have to be based on 'technology with a human face'."

It was that philosophy, one suspects, that made Kantisen constantly look for opportunities to give more than he received from society. Only some one like him could have worried about the wastage all around and to look for some way to turn trash into cash! The story has been told of how he found a way to produce a fertiliser called Celrich out of waste material. As Kantisen was to say: "I would rather turn garbage into a good product than turn a good product into garbage!"

The production of Celrich was an example of locating microbes which were able to convert stinking material into non-stinking, pathogen-free and useful material, that could be used even by small communities. No one else in the world had produced such a product. Excel – and India – was the first to do so. He was once asked: what are Excel's profit margins on Celrich? How profitable is waste processing a business?

Kantisen's reply to that is classic. He said:

"After all, what is profit? It is not always monetary. Excel will not count only monetary profits for everything. The tremendous impact that this work by Excel's scientists is going to make is giving a whole new dimension to the issue of solid waste management. And that is the greatest profit that Excel can hope for. A company of Excel's size has many, many more resources – cross-functional resources – that no government would be having.

In Excel we really use this multi-dimensional, cross-functional knowledge that is able to create solutions where otherwise there would be difficulties. And though we have accepted such huge social responsibilities, it is only because of our cross-functional corporate capabilities that we have succeeded.

In Kutch we once had to work on an epidemic of malaria. We organised mobile hospitals for 35,000 malaria patients and brought the crisis under control in one to one-and-a-half months, when the Gujarat government had given up.

Similarly, during the drought, we had to take care of 14,000 cattle. And it is all because of these cross-functional capabilities – civil engineers, finance men, public works people, marketing people – who enjoy joining hands, because none of them is a narrow specialist. He enjoys being a full-fledged human being.

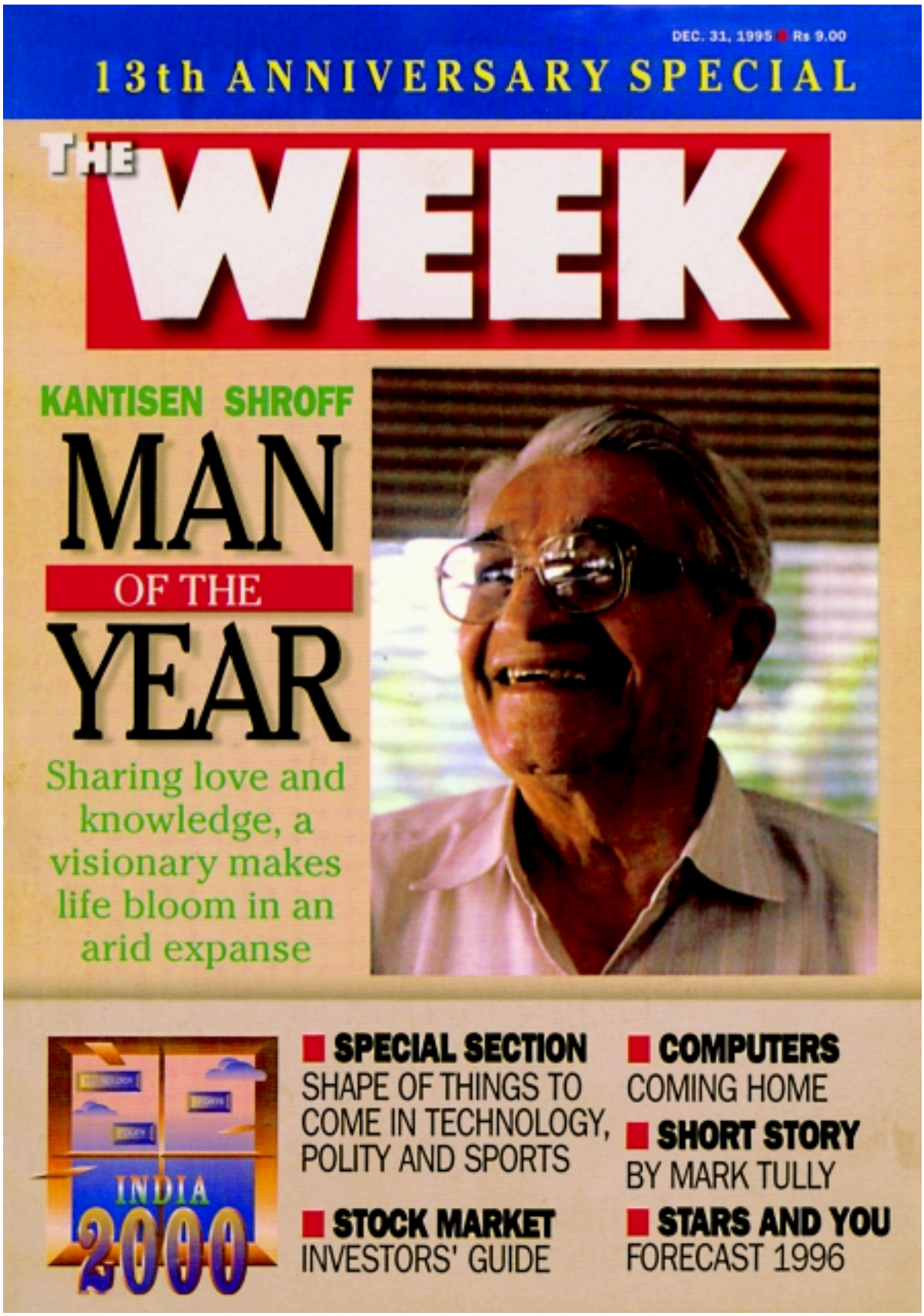
So, our statement is: Profit is the by-product of the service given. You may be providing service in one area, profit emerges in another, but the image continues."

Is it any wonder, then, that Kantisen received the "Man of the Year Award" given by that popular weekly from Kerala, *The Week?*

Kantisen figured on the cover of *The Week's* Special Anniversary Number on 31 December 1995 and it was a tribute as much to his vision as to his selfless service to the country. In introducing him to its readers, the magazine said that "sharing love and knowledge, a visionary makes life bloom in an arid expanse".

The cover story tells us as much about the man, his work style, his personality traits and his philosophy, as of his quirks

The Cattle-care Camp organised and managed by Excel.



The Cover Page of 'The Week' featuring K. C. Shroff as Man of the Year.

which have often confounded friend and foe alike. But, as the cliché says, there has always been "a method in his madness".

Once a job-seeker came to his office hoping to be hired. "How did you come?" Kantisen asked.

"On a bicycle" replied the young man.

"Come walking tomorrow" Kantisen advised.

The young man returned the next day at the appointed time.

"How did you come?" Kantisen asked, innocently.

"I came walking as you told me" said the youngster.

"You are hired!" said Kantisen.

Jayanti Tapolia who is now a Manager came seeking a job. Kantisen asked him if he had any technical skill. "Yes, I have" replied Jayanti.

"Then draw a circle on the ground" Kantisen commanded.

Jayanti drew a perfect circle with his finger. Kantisen immediately hired him – as a welder!

Then there is the story of N. D. Mistry, now a Stores Manager.

Mistry had managed to get an appointment with Kantisen through an intermediary. The appointment was fixed at 10 a.m.

Mistry arrived at the factory gate punctually at 10 a.m. and asked for Kantisen. The security guard pointed to a bare-chested man in shorts. "Is that Mr. Shroff?" asked Mistry incredulously. "Yes" said the guard.

Mistry walked over to Mr. Shroff and said "Namaste!"

Kantisen asked: "Can you ride a bicycle?"

"Yes" said Mistry.

"Well, go to the office there and write a note on what you want to be !" Mistry wrote his piece and submitted it to Kantisen who read it carefully. Then he said: "Go across that hill to our plant at Amboli and give this note to the Manager". Mistry did as told and was assigned to the carpentry shop.

But why the carpentry shop? Even Kantisen's own son had to do a stint in the carpentry shop. As Kantisen saw it, carpentry sharpened concentration. As he put it: "The chiselling and smoothing of rough edges to make parts fit into one another make one patient and the personality becomes rounded without awkward angularities. An individual can then fit anywhere!"

An 'Award of Excellence' was presented to Kantisen C. Shroff (beloved "Kaka" to all Excelites), by the Indian Environmental Association on May 5, 2000 at Mumbai; in recognition and appreciation of his pioneering, distinguished and meritorious service for the protection and preservation of environment, through his developmental, entrepreneurial and social activities, during the past five decades.

From carpentry to electrical and to the plant, the employees took turn because Kantisen believed that respect for the job and perfection comes from rotation. Proof: Though 60 per cent of the workers cannot sign their names, they are extremely good at their jobs!

Once a bright young newsmen asked him: "How do you take care of your bottom line ?" Kantisen replied: "I don't know about bottom lines. I am worried about general wealth creation. With bottom lines one becomes greedy. You would want bigger bottom lines!"

Kantisen's belief has always been that if one wants to overcome obstacles and do the impossible, one had to have four qualities: *shraddhaa* (faith and dedication), *ekaagratha* (concentration), *saha viryam* (spirit of togetherness) and *shraman* (self-respect).

If one could prove that something was achievable, others had a model to follow. It was, as Kantisen would often say, like Roger Bannister breaking the four-minute barrier. It encouraged others to improve on that feat.

Kantisen's approach towards company's suppliers, bankers and customers has been to interact with them as with members of one's own family. He told an interviewer: "We discuss problems with them. We don't play one against the other or take advantage of shortages. We nurture both suppliers and customers".

During the communal riots in Bombay in 1992 Kantisen and his son Kirit set up a Peace Committee in Jogeshwari West, a suburb. Even as the eastern part of Jogeshwari, where the rioting actually began continued to be tense, all was quiet on the western side.

When the police ordered the arrest of a few Peace Committee members who

were moving around during the curfew, Kantisen convinced the top brass of the police that the arrested men were actually averting trouble. Subsequently prominent citizens set up similar committees in other suburbs to salutary effect.

Salutary, too, have been Kantisen's commands to colleagues on safety and environmental protection. Though Excel manufactures hazardous chemicals and potential pollutants, there has been no instance of pollution spills from any of its factories. All managers know heads will roll if there is even a hint of pollution.

"Kaka loses his temper only when someone breaks the safety rules" says his son Dipesh. Kantisen has banned smoking in the factory premises. Even tobacco chewing is forbidden. One day as Kantisen walked in unannounced, he found an employee chewing tobacco and spitting it. Kantisen hit him hard on the face. But as his son said: "He has that kind of moral authority".

Kantisen's concern for environmental purity is almost obsessive. To him environmental awareness is as important as technology or management. His approach is simple and to the point. "Human beings are not the sole inheritors of the earth. But they are solely responsible for spoiling it!"

It was out of that special concern for environmental cleanliness that the Excel Institute of Technology, Environment and Management was born. It is Kantisen's favourite child.

But even before the Institute was set up Kantisen had done some real pioneering work in putting industrial wastes to productive use as fertiliser for trees.

Again, harnessing the resources of the Gujarat Energy Development Agency (he was its Chairman for three years) and the Gujarat Ecology Commission, he had led the villagers to plant thousands of trees on what used to be barren land.

Jaluba Kanji Jadeja of Lathedi village who supervised the Energy Agency's afforestation project on 3200 acres recalls how the local people laughed at Kantisen when he talked about planting 35 lakh saplings to revitalise the fallow lands. But Kantisen was resolute. He toured the area in 1988 and by the next year over a thousand saplings had been planted.

In 1983 the Chemtech Foundation had bestowed on Kantisen "The Environmentalist of the Year Award". In May 2000 he was to get the Indian Environmental Association's "Award of Excellence" on the opening day of the Two-day International Conference ENVIRO*VISION* 2000 organised in Mumbai.

In introducing Kantisen, the President of the Indian Environmental Association, Dr. Deepak C. Kantawala said that when one thought of a great environmentalist or a scientific student of environment or a great respecter of environment or an ardent lover of environment or a practical visionary of environment or just a

Amidst his own created 'green house' in Jogeshwari, Kaka smilingly poses, in response to the Photographer's request to have a natural photograph of him. 'Wonderful' was what Kaka said and obliged!

responsible and responsive citizen one automatically thought of Kantisen C. Shroff. He said:

"In introducing Mr. Kantisen Shroff one would find it difficult to say whether his being a Kachchhi has been accidental or incidental. For although he was born in Kachchh in 1923, his parents had moved out of the place when he was just two years old.

Because of the extreme climate many Kachchhis have over the years deserted this vast desert district on the national frontiers. But, as for Mr. Shroff, even while he remained away from Kachchh for nearly seven decades, he and the entire Shroff family have maintained intimate connections with that place and reached out to render help to the people in times of natural calamities. And what is more, for the last five years Mr. Shroff has actually moved back to settle down in Kachchh."

Dr. Kantawala then spoke of how Kantisen regarded Kachchh as "his living laboratory" where he learnt "some of the most rewarding lessons on the environmental front. It was in Kachchh, said the president, that Mr. Shroff carried out scientific studies to understand the process of making compost manure and the powers of invisible microbes to do miracles. Dr. Kantawala said that Mr. Shroff had also tried out his skills in handling highly hazardous effluents emanating from a Malathion plant and reducing a highly concentrated effluent having 25,000 to 27,000 ppm to a level of 6,000 to 7,000 ppm with the aid of specific microbes.

Dr. Kantawala praised Kantisen for setting up nearly 250 large and small rain-water harvesting structures in Kutch with the help of NGOs as a result of which the availability of water had been increased in the district and the salinity of available water reduced by half.

He added:

"Mr. Shroff's dedication to the environmental issues with multi-pronged approach to resolving environmental problems everywhere is one of the reasons why Gujarat Ecology Commission invited him to join in as a member. He has converted every challenge in Kachchh into an opportunity, and the valuable lessons learnt there are transferred for the benefit of community all around . . ."

Dr. Kantawala's praise of Kantisen was genuine, it came from the heart and those who knew Kantisen were all too aware that he deserved it. Kantisen had worked hard and given of his time and money for the betterment of his people.

A Midword

— by N. H. Atthreya

What you find in these pages are only GLIMPSES of the Excel Story.

While the same may be said of a story of any organization, it is particularly true of the story of Excel. The Excel story is certainly a story of economics. More, it is a story of spirit. It is a story of success. More, it is a story of significance.

Each project – there are over one hundred projects, economic and social – and each player – there were scores of key players – lends itself/himself/herself to a heart-warming monograph.

There are many reasons why we have to rest content with only some glimpses.

One reason is that Excel seems to believe in making history and not recording history. It has been moving from project to project to project and it has kept few records, especially of the human dimensions of the projects.

A second reason is that Excel management believes it is not doing anything extraordinary. When its attention is drawn to the significance of some of the chemicals Excel produced for the first time in India, and without any external help, we hear statements like: "Any determined person would have produced whatever we have produced for the Indian chemical market." Or "Any responsible citizen will do what we are doing. And what is great about it?"

A third reason is that Excel management has been shy of publicity and even of public relations. Publicity, in my view, is seeking credit even before you do a great thing; and public relations is relating with others only after you have done something commendable. Excel is a low profile company.

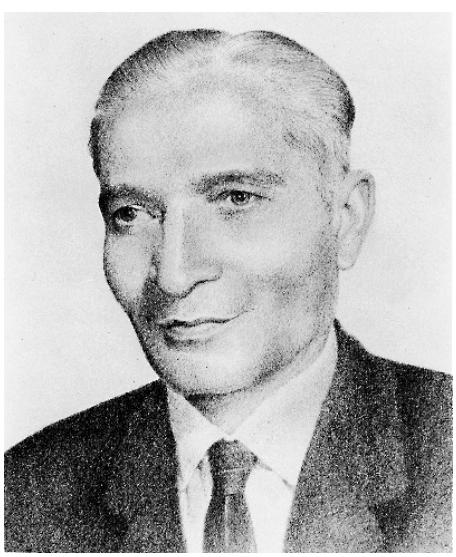
A fourth reason is that the Excel story is not just a story of commercial success, it is a story of the spirit of man, the man that makes, the man that makes other men.

How do I say all this?

I have been an Excel-watcher for over 40 years, sometimes from a distance and sometimes from close quarters. Let me share some of my PERSONAL glimpses of Excel, in this MIDWORD.

A Top Management Group

On a rainy day in 1958, I met Shri C. C. Shroff, the founder of Excel Industries, at a luncheon hosted by Shri Kekoo Gandhy. The meeting was to explore the desirability of meeting periodically to exchange notes on leadership and modern management. The group consisted of 15 top management members of a few medium sized companies.



C. C. Shroff: The Founder of Excel Industries.

The group decided to have fifteen meetings, on consecutive Saturdays. It also decided to invite me to lead the discussions.

At these meetings, many of the members expressed the usual grouses about government, labour, market, etc. There was one member, however, who used to sit smiling at these discussions. When urged, he admitted he had no problem, external or internal, production or sale or other. You have guessed it right. It was Shri C. C. Shroff.

One remark by Shri C. C. Shroff namely, 'we don't have a sales department' intrigued the members of the group and they invited themselves to Excel.

The visitors found to their surprise that there was only one department – the department of 'making what the customer wants'. Excel was in the business of finding out what a customer wants and supplying him the way he wants it. It was not in the business of making chemicals they could conveniently make, and then looking for buyers therefor.

At the weekly meetings, a remark by Peter Drucker, namely, the prime function of an organisation is 'marketing and innovation' was repeatedly discussed. "This is precisely what we have been doing. Customer comes to us wanting to have a chemical of a particular specification. Using our knowledge of science, we make – often for the first time in India – and supply it to them."

"But one thing. As a policy, we do NOT take advantage of the situation. Though the chemicals some customers wanted were scarce, and can't be had from elsewhere, and therefore 'justify' any price we named, we charged a fair price, a price that will keep both of us in continued business. At least a couple of times, the customer wanted us to recheck our system of costing! They thought we are selling below the cost."

At Excel Premises

To lead similar discussions for his colleagues in Excel, Shri C. C. Shroff invited me to Excel Industries. That gave me an opportunity to get a feel of how this company functions.

Many features of the company impressed me.

One was the caring and nurturing atmosphere. This was created in good part by Ma, C. C. Shroff's mother. She stayed in the factory premises. She looked after the creature comforts of the people. She seemed to have told her sons: "You look after the business. I will look after your PEOPLE". She instinctively understood what most employees want.

They say without saying: "You take care of our interests and we will take care of your interests."

I used to often wonder, why should not the working place be an extension of the home. Then I realised you require a Ma (as CCS's mother was called by everyone) to make that happen!

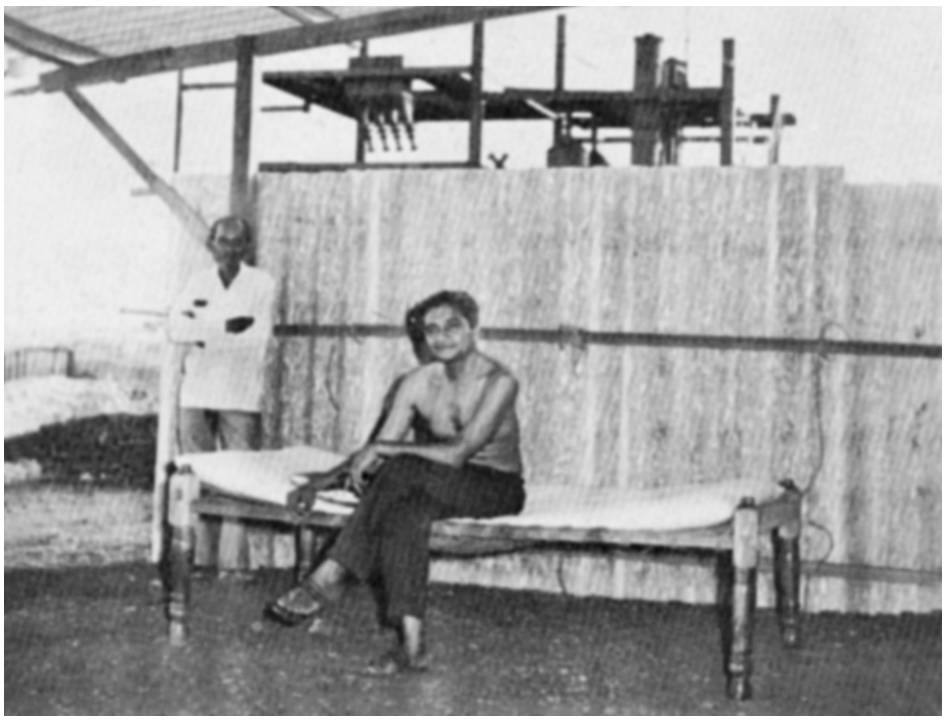
A second thing that struck me was the voluntary simplicity of the management members. It astonished *VIP* visitors/ customers to find the Directors in their shorts, working hand in hand with the operators. Neither status symbols nor the frills of modern management attracted them.

Another feature I noted was that they were all there together in every sense. There was no owner, no worker, no professional, no mazdoor. The common focus was on the common challenge and every one enjoyed contributing to it. The joy of working-together was noticeable. "My parents assiduously taught us this virtue of togetherness", Kaka often says. I noted that the point that business is "10 per cent money and 90 per cent people" is fairly entrenched in Excel.

Almost instinctively, Excel realised that constructive creation needs teams; and teams need situational leaders, not hierarchical bosses.

The absolute daring of people struck me too, a daring born not of bravado but sound knowledge. Pappa – as C. C. Shroff was fondly referred to by Excel members – used to say: "Cobra is not the proverbial cobra, IF you know its nature and therefore you know how to handle it". This is what he and his people did with the dreaded phosphorus.

It was here that I noted the big difference between a scientist and a science graduate. A science graduate is able to remember and recall scientific facts. He may even be able to make an impressive paper or presentation. A scientist on the other hand understood science and understood it so well that he can put a scientific fact to work. Shri Champrajbhai was not merely a scientist himself but made scientists of his colleagues, lettered and unlettered.



Bhavnagar site: A plant in progress and a roofless bed-room for Kaka with Danjibhai Mistry as body-guard. A pose for posterity!

It is one thing to know and another to be able to use what you know. For the latter, you require sound understanding and sounder grip. This grip I noticed in Excel.

Pragmatic people as they are, in hiring people they put the emphasis on the learning-to-do ability rather than on their formal qualification. Formal education was not a disqualification but that was not the main decision criterion.

Another aspect of daring I also saw. Whatever they did was open book, not merely to the insider but to the visitor. "You keep things so open. Won't some competitor pinch your secrets?" Guess the answer? "Why should they pinch? We will give it to them with our blessings!." And they did.

I also noticed what Stephen Covey would call principle-centred leadership or value-driven leadership. Excel looked at business as value exchange. Excel subscribed to basic ethics in dealing with people, internal, external and governmental.

Also, high speed, marked focus and discontinuous innovation make for competitive advantage, Excel seems to have realised early in the day.

And one further impression. I used to get the feeling that they are all PLAYING a game – ALL of them on one side and the current challenge on the other. Can we say that work CAN be an opportunity for positive excitement?

A National Record

In 1963, I was invited by the Administrative Reforms Commission of India, headed by Shri Morarji Desai and later by Shri Hanumanthayya, and the Indian Institute of Public Administration to do a small study. My work related to the working of the CSIR Research and Development units. In spite of the fact they were well-funded and well-staffed, these units had a common problem. The problem related to research materialising into marketable products. There was a big time gap and so an opportunity gap. I remembered that Excel holds almost a national record in this area. I had heard of Excel projects where

concept to completion was only a matter of days!

I told the Directors of the CSIR units the story of Excel and its record in the chemical industry. They were sceptical. They asked me questions like: How many Ph.D.s Excel has? What foreign collaborations Excel has? I said: None. I added: "They have students of science, practical ones. What they know of chemistry they know well, very well, so well that they could put that knowledge to work and get the products the customer wants. They are "street smart". They have confidence both in themselves and in their knowledge of chemistry. They have for more than a decade developed and supplied scores of products to industry. AND IN RECORD TIME. May be, we can learn a lesson or two from them.

They had a meeting of CSIR Directors at Udaipur. I suggested that both Shri C. C. Shroff and Shri K. C. Shroff be invited. Grudgingly they agreed. Fortunately, the Shroffs graciously agreed to attend and that at their own expense. And as is the wont with them, they were simply dressed and unassuming. I overheard a member saying: Are we not wasting our time by inviting such people?

When the Shroffs stood up and told briefly of some of their recent projects, how they went about and how they succeeded, almost in a matter of fact way, there was stunned silence, followed by a thundering applause. One doubting Thomas however murmured: Unless I see it myself, I can't believe it. The Shroffs promptly invited him to visit their factory any day of his choice!

After some heart-warming discussion, the Indian Institute of Public Administration was requested to prepare a monograph of specific case histories, with facts and figures. The job was assigned to me. In the Annexure, you find this monograph reproduced.

I am glad to report that some of the CSIR unit chiefs had the maturity to seek and benefit by the active guidance of the Shroffs.

The Centre for Excellence

The next close contact I had with Excel was in 1967 when some enthusiasts joined hands to set up the Indian Centre for Encouraging Excellence. Excel extended visible support to the Centre's activities.

I learnt later that Excel has been extending support to many projects, of human, social or national significance. And very quietly. Unobtrusive growing is a tradition with Excel. Both Govindjibhai and Kantibhai have been patrons and guiding lights to dozens of organisations. Trusteeship Foundation, Bharat Scouts and Mensa are just three of them.

In the intervening years (1969 – 1999) , I used to hear from time to time of Excel's work for the larger causes, especially in times of calamities like quakes and cyclones. Hundreds of Excelites made available their time and talent not merely for the relief but for the less glamorous task of rehabilitation. This included the members of the Shroff family. The volunteers for the recent work in Orissa included Hrishit Shroff, now a student in a college of commerce – a son of the Managing Director – Ashwinbhai.

Twenty Some Years

In 1967, the company employed 275 people and its sale was of the order of Rs. 1.51 crores. In 1999, the employee strength became 3200 and its sales turnover Rs. 406 crores.

The company has grown and in many directions. And it got material recognition for its many-sided achievements.

Growth however has not dulled the company's enthusiasm. Success has not moderated its work ethic. Praise by the public has not slowed its efforts to improve and innovate on many fronts.

As in the case of an individual, so in the case of an institution, when young, if it is fed on sound values and sustainable practices, it helps to grow a healthy business. This benefit Excel had in good measure.

The environment has changed. The scarcity days are over. Control days are over. You can now get any material from any place in the world for a price which is less than the local cost of raw material. I noted that Excel has shifted its eyes from the industrial customer to the mass countrywide customers. Today it is briskly engaged in areas like Integrated Crop Management, Solid Waste Management and Microbes Management. Its market is literally global.

Excel story is currently written by members of the Shroff family like Ashwinbhai Shroff and Dipeshbhai Shroff and professional executives led by Shri G. Narayana who has since September 2000 succeeded Shri K. C. Shroff as the Chairman of the company.

Another Opportunity

In May 1999, I got another opportunity to be closely associated with Excel. This time with the social wing.

If the story of Excel Limited is interesting, the story of Excel 'Unlimited' is fascinating. I refer to the many community projects they have been subscribing to. Let me very briefly refer to two of them.

25 years of sustained and resourceful work on the part of the voluntary agencies promoted by Excel and the Shroff family have made Kutch water rich. They could not persuade the rain god to give Kutch more rain but they did the next best thing, namely, to persuade and guide people to harvest the rain god's little favours. Those who have been seeing the land for years speak with gratitude and admiration for the miracle that Excel men and women have wrought.

It has been observed that working with nature is easy but not so working with people. Kaki – Shrimati Chandaben Shroff – proved it wrong. With moral support from Excel, she started a voluntary organisation, Shrujan. This organisation has put over 2000 artisan women in about 100 villages to work. These women

Love at work shone through and even while at play. Ambu Daji and K. C. Shroff sprinkle colours during 'Holi' celebrations at the factory.

proudly produce world class mirror work embroidery and live a life of quiet dignity, thanks to the organisational skill and guidance by Kaki, Ami and their team.

If working with people is difficult, working with adivasis is even more difficult. Another Shroff – Shrutiben Shroff – has proved it wrong again. In Chhota Udepur, she has been working miracle of sorts, agricultural and handicraft. When asked how she could achieve it in such a short time, her response was, "These people are great learners." My response was: "Like Atulbhai, Shashubhai, Rajjubhai – and yourself."

Making Man out of man is one phenomenon I have repeatedly noticed in Excel. Some described it as 'making heroes out of zeroes". Kaka would not agree to describe any one as zero. According to him, given the encouragement, given the opportunity, and given the guidance, you can make somebody out of any body.

In the lists appended below (Man Making At Work) you find a snapshot of the career growth of a few such cases.

People recall how they were assigned to work they have never heard of. "When I said, *I do not know anything in this field, Kaka will say you are then THE right person to do this job – you have nothing to unlearn! Because he believed in me, I started believing in myself and made good."*

Man-making becomes possible only when there is man-respecting. Man respecting becomes possible when we concede the divine dimension of man, only when we look for what a person has and can offer, not what he cannot. A case in point is the story of Harish Giri who offered himself for a job. Those who initially interviewed him found that he was an assistant in a chemist's shop and that his experience will be of no use to Excel. When Kaka met him and found he has been eminently successful in a chemist's shop, he said "You are the right man for our library. In a chemist shop, you would know which of the thousand items are there and where. Here you will be able to say which needed book is where!" Kaka was proved right. Today Giri is an asset to Excel Technical Library.

In nurturing Giri to this level, his mentor Anand T. Kadam also merits mention. For Anand was just 15 when he joined Excel as an apprentice and was still studying in eighth standard in a night school to do his matriculation. But for Anand the craze for continuous learning has been a way of life for past 28 years. Right from the start, he has been meticulously managing Excel's Technical Library & Documentation Centre, and today he and Giri have opened up a Global Library for Excelites to provide them a virtually round-the-clock access to the world of knowledge through Internet. Being a keen learner and a systematic facilitator, Anand's initiative has led him to organise the entire documentation system for the ISO Quality Certification at Excel's manufacturing sites. His participation in such a highly technical and responsible work has won him praise not only from his colleagues but even from the ISO Audit Teams. Well, that is how learning and man-making has been a tradition in Excel.

K. C. Shroff extends an arm in the direction, and his wife Chandaben gracefully fulfils his dreams beyond expectations!

It is said that God resides in the soul of every man. Kaka's recipe for releasing the divinity that resides within each of us is to first escape from the stultifying limitation of reason, and surrender to the more erratic, but also more creative impulses of our own genius.

Kaka sees the positive in everyone. He gives everyone a chance. And then a second chance, and a third. Working for him, people say, is a delight. When you do something well, he never misses it. You will get a note immediately and in his characteristically clear and artistic hand. A collection of these notes will make an edifying volume.

People discovered talents they did not even know they had. They also discovered that they could call forth their talents by simply pressing themselves to do so. People realised that life begins at the end of their comfort zone.

It is almost like a formula.

Someone says to himself: We can. And then to you: You can.

And then you say to yourself: I can !

This may sound naïve to some readers. The underlying philosophy therefor deserves to be stated. Kaka differentiated between unacceptable people and unacceptable behaviour. There are no bad people. All people are good. If all were good, how come some did bad things? This may have to do with their upbringing, their circumstances, their lack of understanding, their desperation, their anger or in some cases just plain lethargy, but not because of an inherited evilness. Help, healing, correction and even chastisement is okay but not condemnation.

A Corporate Citizen

Excel story is certainly a story of success. It is much more – it is a story of significance. It is a story of significance because it is a story in corporate citizenship.

Excel Shroffs are not saints; they are just corporate citizens. How do such citizens think and do? JRD Tata has this to say: "There is nothing wrong in acquiring wealth; there is nothing to be ashamed of in earning money. But this has to be done

in the overall interests of the nation and the people at large and has to be done only through fair and honest means."

Commercial success is a necessary condition for corporate organisations. It is not a sufficient condition though. To borrow partially R. L. Stevenson's words, should perpetual devotion to what a man calls his business be sustained only by perpetual neglect of many other things? The answer is obvious.

There is thus a further aspect to corporate citizenship. At a certain stage of commercial success, corporates may have to sit down and ask themselves: "Does my job end with being fair to my company's stakeholders? Am I not a corporate CITIZEN as well? As a citizen, should I not make a contribution to the community? Should I not own opportunities to raise the quality of life – in however small a circle? If I can't do it, who can? If I don't, who will?

They can ask themselves: Should I not go beyond making occasional donations to NGOs? For example, we have exhibited a set of organisational skills. Can we not make them available to the larger society through the voluntary agencies? These agencies need it and we the corporates have it.

Kaka explains it thus: "Our skill of systematically mobilising and organising resources for a purpose should be made available to the society which is sustaining us. Call it gratitude. Call it grace. It is just enlightened self-interest. When this is done, there is hope for all of us."

He adds: "If we look only after the little corporate world we call ours, regardless of how it affects the larger world, we will be hurting ourselves even in the short term. Nature is kind if understood and abided by. If ignored and worse still outraged, she can be furious, even cruel."

Excel's story is a story of a mature corporate citizen. It is not a story of people who say, why don't THEY? It is a story of people who say: Why not WE?

Almost for the first in India, Excel has gone in for a social audit of the company.

One person who provides thought and energy to this sense of corporate citizenship is Shri K. C. Shroff, endearingly called Kaka.

Though he is an active Chairman of Excel and therefore interested in the economic success of the company, he is far sighted enough to concede that we are part of a planet and we cannot behave as if we are in a detached island. To do so, we have to play down the outdated concept of competition. We should adopt the pragmatic concept of alliance.

"This means owning up the responsibility for the health of the planet."

"This means learning to be responsible and relevant."

"This means joining hands with like-minded people, locally and globally."

"If we do, we can conserve and capitalise on nature's resources."

"If we do, we can make people productive where they are."

"If we can, we can have decentralised self-sustainable development."

These are not the bravado words of a dreamy visionary. These are the insights of a person who has a track record of win-win approach to problems and challenges, a person who sees the future of an organisation and an individual in seeking relevant knowledge and working hand in hand with others. Kaka is learning constantly to make this possible. Like a healthy child, each day, each meeting, each visit, each tour, he learns – and shares heart-warming possibilities. In a recent visit abroad, for example, he saw the strategic place of alliances for the health of an organisation and the big blessing Internet holds for all of us, knowledge workers.

When I see Kaka at work, I am reminded of Michel Angelo of whom it is said that he had an hour glass bearing the inscription, 'ancora imparo' (still I am learning) or of Henry Ford who had this 'remind me' poem on the wall:

Back of the beating hammer by which the steel is wrought

Back of the workshop's clamour, the seeker may find a thought;

The thought that is ever master of iron and steam and steel;

That rises above disaster, and tramples it under heel …

Back of them stands the schemer – the Thinker – who drives things through,

Back of the job the Dreamer, who's made the dream come true.

Perhaps Kaka would add:

Back of it all the Cosmic Hand who extends a standing invitation to me and you.

A Wish For Corporate

I have a wish for companies like Excel. At least from now on, they should have an official historian on their rolls. The history needs to be written even as it unfolds.

The great thing about modern management leadership is that the players and observers write about how they went about, what worked for them and what did not work and thereby have a legacy for the future.

Between now and the 75th Jubilee year of Excel, I visualise supplements to this volume. The supplement may even speak of those who were inspired by the Excel story, the customer-driven, the value-driven, the purpose-driven, the concern-driven, the dream-driven story.

Man Making At Work

Spotting & Supporting Achievers An Indicative Sample

Sr. No.	Name	No. of Years of Service	Qualifications	Designation at the time of Joining	Present Designation
1.	Bakre A. U.	11	B. Sc.	Supervisor	Manager : EHS
2.	Balachandran B.	25	Chemical Engineer	Plant Engineer	General Manager : Chemical Division
3.	Bhatt M. H.	25	Chemical Engineer	Plant Engineer	General Manager : Life Science Division
4.	Bhilaru R. D.	29	S. S. C.	Operator	Executive : Department Head, Amboli
5.	Dambal R. G.	26	B. A.	Stenographer	Manager : Marketing
6.	Dave B. I.	20	B. Com.	Clerk in stores Bhavnagar	Chief : I.T. Deptt. Bhavnagar
7.	Deshpande C. M.	25	B. Sc.	Plant Supervisor	General Manager : Mumbai Unit
8.	Gagangras Prakash	25	B. Sc.	Plant Supervisor	Chief Manager : Lote Unit
9.	Gajara Tulsi P.	30	Matric	Relief worker	Managing Trustee : VRTI
10.	Gandhi B. V.	31	B. Sc.	Supervisor	Vice President : Personnel
11.	Gohil Manoj	30	B. Sc.	Relief worker	Executive Director : Agrocel
12.	Gopalkrishnan V.	15	Industrial Engineer	Purchase Officer	General Manager : Agri Division
13.	Gosalia J. S.	36	B. Sc.	Supervisor	Vice President : Marketing
14	Govale G. S.	29	S. S. C.	Cook	Executive : Amboli
15.	Iyer S. P.	29	B. Sc., B. Sc. (Tech.)	Plant Supervisor	Vice President : of Chemical Division
16.	Jawdekar Padmakar	33	S. S. C.	Electrical Supervisor	Manager : Lote Unit
17.	Jawdekar M. C.	25	Mechanical Engineer	Maintenance Engineer	General Manager : Environment Division
18.	Kabade Rohidas	33	S. S. C.	Electrical Supervisor	Manager : Jogeshwari and Silvasa
19.	Kambre Yashwant	33	VII Std.	Helper in workshop	Sr. Officer : Lote Unit Managing Trustee of a Trust
20.	Khanvilkar Ganpat	32	VI Std.	Operator/Helper	Sr. Officer : Life Science Division
21.	Korde Raj Kumar	30	B. Sc.	Supervisor	Manager : Personnel – Roha
22.	Mahamunkar A. T.	35	Non-Metric	Office Assistant	Sr. Manager : Personnel
23.	Mande Dattaram	24	Non-Matric	Plant Operator	Sr. Officer : Excise – Lote
24.	Manian Sudhir	30	B. Com.	Clerk	Manager : Internal Audit
25.	Mantri Sanjeev	22	B. Sc.	Supervisor	Chief Manager : Marketing
26.	Mehta D. B.	28	B. Sc.	Chemist in R. & D.	Sr. Manager : Quality Systems & Directorate
27.	Mistry N. D.	30	S. S. C., ITI – Wireman	Electrical Supervisor	Manager : Stores
28.	Narayan		Matric	Cook	Supervisor : Canteen
29.	Pais Gaynor	19	B. A., Mass Communication & MMS	Officer Advertising	Sr. Manager : Marketing-Agro-chem

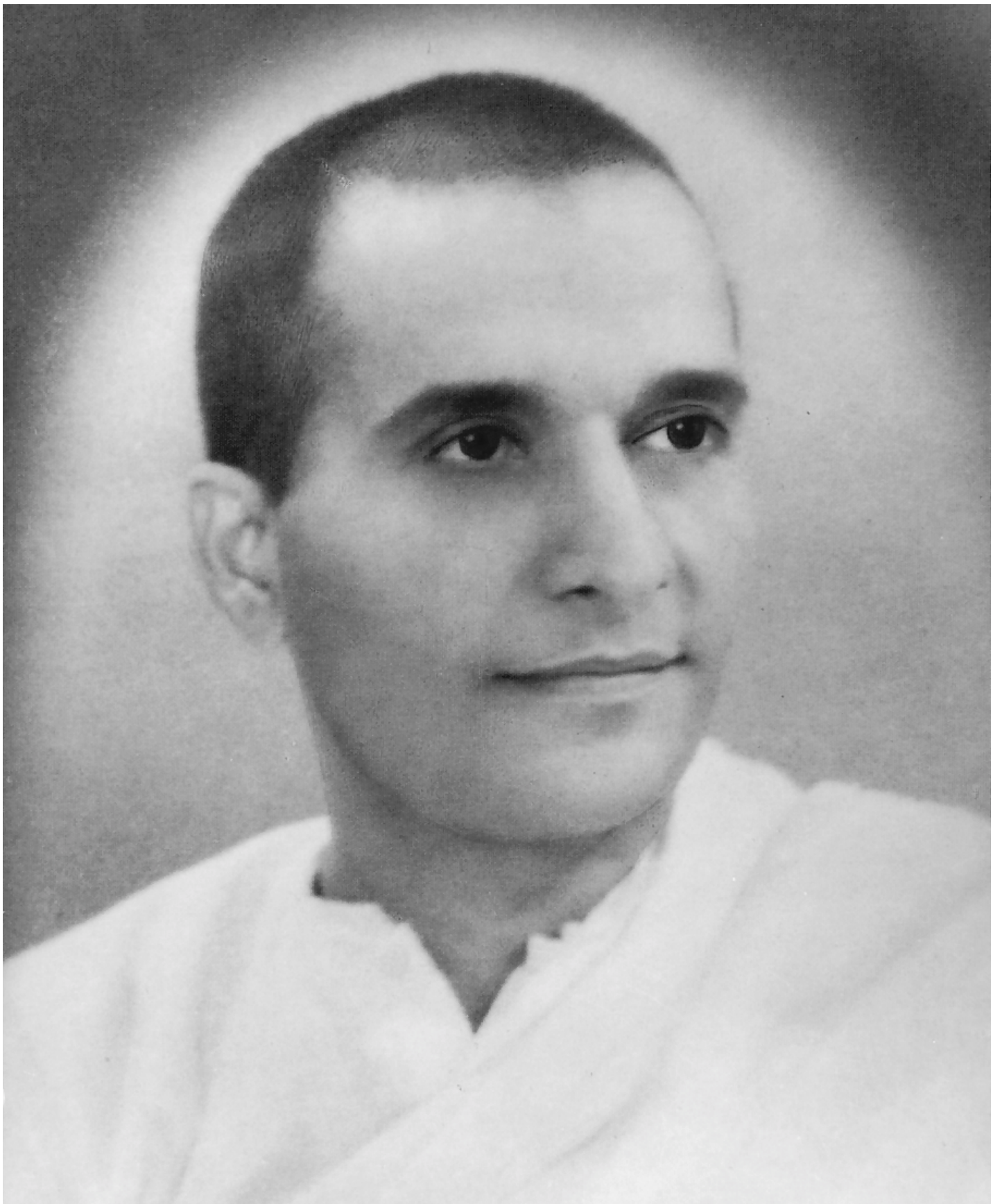
Sr. No.	Name	No. of Years of Service	Qualifications	Designation at the time of Joining	Present Designation
30.	Pandya Yogesh	30	Mechanical Engineer	Maintenance Engineer	General Manager : Environment Division
31.	Parmar V. K.	30	B. Sc.	Chief Accountant	Company Secretary
32.	Patel Hasmukh	22	B. R. S.	Farm Supervisor	Manager : Agrocel
33.	Pathak S. N.	20	Electrical Engineer	Project Engineer	General Manager : HRD
34.	Potdar S. R.	25	B. Tech, (Chem.)	Plant Engineer	President : Chemicals Business Division
35.	Prajapati N. K.	35	Non-Matric	Worker	Manager : By-products
36.	Pujari Chandrakant	23	S. S. C.	Clerk	Sr. Officer Personnel – Lote
37.	Purecha Anil	30	S. S. C.	Plant Operator	Administrative Manager
38.	Rana R. G.	20	B. Com.	Clerk in Stores	Member of Parliament & President – B.J.P. Gujarat State
39.	Ranganathan V.	32	B. A.	Stenographer	Chief Manager : Exports
40.	Rathod V. R.	30	B. Sc.	Plant Supervisor	Chief Manager : Marketing - West Zone
41.	Shah Jitubhai	30	B. Sc.	Supervisor	General Manager : R & D
42.	Shihora N. M.	30	B. Sc.	Supervisor	Sr. Manager : Bhavnagar
43.	Shirsad Dr.	20	B. Sc.	Supervisor	Executive : R & D
44.	Shroff Prakash K.	32	Diploma in Electrical Engineering	Electrical Department In-charge	President : Agri Business Division
45.	Trivedi M. S.	25	B. Sc.	Plant Supervisor	Minister : Government of Gujarat
46.	Varia V. N.	21	B. Sc.	Supervisor	Incharge : Mfg. Unit Silvasa
47.	Yadav R. C.	35	Matric	Plant Operator	Executive : Life Science Division

Note : This is only an *indicative* list. Omissions which could be many, are *not* intentional. Information in the qualifications column suggests that formal qualifications or designations in those early days were given minimum importance.

Excel Alumni

Excel has been all along a learning institution. And so, there can be a long unending list of Excel Alumni who at some time or other worked with Excel and moved out to other places. And they have made impressive progress. But, for them, the bonds with Excel remain intact, as they continue to recall the pleasant memories of the good old days in Excel. Many of them could be seen mingling with people on events like *Lakshmi Pujan* in Excel or a wedding reception in someone's family. To this day they cherish the values imbibed in them and continue to follow in their life away from Excel. People who have moved from Excel after only a few years even now speak up "In our Excel. . . ". A few such cases, and indeed only a few, are indicated below.

Name of Alumni	Position in Excel	Present Status
Banerji Kalyan	Chemical Engineer	A Director with United Phosphorus Ltd.
Bhatt Nanak	Clerk in Excel	Asst. Director : Shramik Vikas Sansthan – and connected with many Rural Development Organisations in Gujarat
Enalge Shanker	S. S. C. – Helper, then Personnel Manager at Roha Site	Factory Manager –in one of the factories in Roha M. I. D. C.
Gupte Ninad	Started as a Trainee, moved up the ladder to become the Vice President – Marketing	Executive Vice President – Commercial in Herdillia Chemicals Ltd.
Jhaveri Mukesh	Relief Worker with Excel NGO	Chairman : GMDC
Kanabar Girish	Electrical Engineer	An entrepreneur
Kawadia Kishor	Project Engineer : Environment	Senior Manager : Gujarat Ambuja Cement
Kothivale Vijay	Project Engineer	Senior Manager : Transpek Industry Ltd.
Marfatia B. M.	Supervisor, then In-charge Jogeshwari Site	An entrepreneur
Mehta Chandraketu	Started as Mechanical Engineer, rose to become General Manager – Projects	Post-retirement from Excel, he moved to Baroda and worked with Transpek Industry Ltd. and then with Transmetal Ltd. Now free-lance Consultant
Mehta Maharshi	Plant Engineer	A Consultant of repute, settled in USA; Back in India and Working as Independent Consultant
Pattani Vanraj	Sales Executive, then Chief of Marketing	An entrepreneur
Shah Narendra	Supervisor – Plant In-charge	An entrepreneur
Shringarpure Prakash	Plant Engineer, then Site In-charge at Bhavnagar	An entrepreneur
Vaja B. T.	Stenographer	Gen. Manager – HRD, Patel Platinum Ltd.



Anandji Chatrabhuj Shroff.

6

Towards Fulfilling Social Responsibilities

Many have often wondered where Kantisen received his inspiration from. That in the field of production of chemicals he had the invaluable model in his elder brother C. C. Shroff is well-known. Kantisen, too, has frequently spoken of the love and affection and moral leadership that his mother, the venerable Gokiben had given. But Kantisen vows that in a large measure he owes a great deal to his elder brother Anand who died at very young age. Much later he paid a moving tribute to his brother. He wrote:

He (Anand) was very much a teacher from his young days and both my sister and myself got an opportunity to learn from him right from our childhood.

His favourite stories were around Hanuman, the child Hanuman jumping high to pluck the sun from the sky or the Hanuman tearing his chest open to show Ram sitting in his heart!

He spoke of the brave, daring Hanuman, the unflinching devotee, the real *bhakta*!

The stories were always of the brave. Vikramaditya's exploits came next and as we kept growing newer heroes were introduced to us from his unending stock of stories.

The span went on widening. George Washington, Horatio Nelson, heroes from the books of Alexander Dumas, Conan Doyle, Greek stories, the Battle of Thermopalae etc.

It would fill our hearts and make us dream of living such rich lives. Things did not end in weaving stories. He taught us to play, to spin a top, swing on a rope, fly kites, prepare our own kites and fight many battles in the skies successfully. Always we were taught to reach out to the skies.

Those were the days in the early thirties and the struggle for freedom. His heroes were Bhagat Singh, Chandrashekhar Azad, Jatin Das and Ghogte. He too aspired to be like one of them. So, for many reasons he did not join college. He took up service in a store to help the house and simultaneously carried out his many revolutionary activities with his young friends. His studies ranged from Karl Marx to Uday Shankar. But slowly his mind came to centre on Swami Vivekananda. The Swami's writings were pushing him on to his real goal.

In 1939 he joined the Ramakrishna Mission. His personality and his devotion endeared him to everybody. From Bombay he went for his training to Belur and from there he went to Madras. He got many opportunities to prove his qualities of leadership, his capacity for unending work, his ability to laugh in time of crisis. The days of 1942 were days of introspection and heart-searching. Can anyone stay away from the fight for freedom? Can there be any religion for slaves? Should not the sanyasin fight the enemy like Gorakhnath?

But Swami Anandji could pacify his mind. He went to Ahmedabad where a new Centre was coming up. A Gujarati *brahmachari* could make a great impact in Ahmedabad and things were taking shape rapidly. A new building started coming up in Mani Nagar, a suburb of Ahmedabad. A plan to manage schools was being drawn. The teachings of Swamiji were reaching Gujarat. He would take his *bhajan mandalis* to nearby villages. He became very popular amongst youngsters and very effective amongst elders and everybody started dreaming of a big centre of Ramakrishna Mission in Ahmedabad.

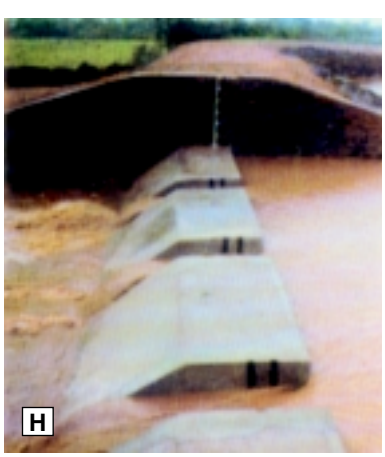
But Ahmedabad had still to wait. The Rajkot Ashram of Ramakrishna Mission was facing many administrative problems and urgent help was required there and Anand had to shift himself to Rajkot. Day in and day out, in the burning sun or biting cold, he kept working. He was working on all fronts like running a youth hostel, raising funds, doing the administration.

Swami Vivekananda – the inspiration.

But the body could not stand the strain endlessly. Occasionally when he would come to Bombay we would witness these effects on his body. Mother would be very

SHREE VIVEKANANDA RESEARCH AND TRAINING INSTITUTE

Nagalpur Road, Mandvi-Kachchh, Pin: 370 465 [Gujarat] India.
☎ STD(02834) (O) 20253/20934 (R) 20329 Fax: 20838 Gram: SVRTI



A. *The villagers view the dams full of water, thanks to VRTI.* **B.** *Cattle-health programme at VRTI.* **C.** *Sunflower field in full bloom. Bio-organic Soil enricher experiments at VRTI on various field and plantation crops.* **D.** *Water harvesting project.* **E.** *'Nirdhoon' or Smokeless Chulah.* **F.** *Underground dyke built by VRTI, Mandvi, the pioneering efforts to conserve water by recharging underground aquifers.* **G.** *Recharge borewell under construction.* **H.** *An overflowing cheek-dam – the efforts of VRTI, Mandvi, Kutch.*

worried, but he would smile – reminding us that unending sacrifices from the educated young men of India would be needed to build our country. We had no answer to that.

Independence came in August 1947, alongwith it the holocaust of partition and suspense in Princely States of Saurashtra. His responsibilities increased and his activities widened. But all the running around finally took its heavy toll. His body broke down. He was in bed. That was in December 1947. We rushed him to Bombay. Intense medical care brought him out of danger but his motor nerves of the lower limb had ruptured and medical science had no cure for such a malady in those days. He accepted the situation calmly and decided to face life without the help of his legs. He could see that he would be a burden to the Ashram at Rajkot and so, inspite of the Ashram's request and desire, he decided to stay at our factory site at Jogeshwari. I was staying at the factory and this again gave me an opportunity to study under him. Excel was small then. A small shed for office and two cowsheds that made the production unit. A small canvas and bamboo house for me and my colleagues and for him we built an asbestos-covered hut 16′ x 16′. Mother came to stay and take care of him. Early in the morning he would finish his daily routine and before 8 a.m. would go to the office in a wheelchair.

His thoroughness in accounts – his understanding of men – and work distribution was amazing. From 8.30 to 5.30 pm. he would be in the office. He would plan out the work for others the next day. He would carefully write in his beautiful handwriting his instructions to others and to this day those who knew him then remember his thoroughness, his power of observation, his ever-smiling face. In the evenings he would read to us from the Complete Works of Swami Vivekananda. His favourite were the letters written by the Swamiji and as he read out those letters we would often feel that the Swamiji was himself present in the room!

The India of Swamiji's dream was to be built, the poor and the down-trodden were to be helped and even if a million lives had to be given, be it so.

My brother would say: no riches for us, no heaven for us, ours was only to give unending service.

But he was not content only with reading. He was interested in our workers, their health, their food, their education, their children and their welfare.

Though ever-smiling, within himself, he was unhappy. He needed to be helped by others. He was not the full master of his own body. Perhaps God heard his silent prayers; perhaps that was all that we were to receive him; and so, on *Ekadasi* day in May 1949, in the early hours of the morning, in the lap of my mother, he closed his eyes for ever, leaving behind that fragrance – the tradition of service and sacrifice!

'Ma' – Loving and Giving – Mother and friend to all.

One begins to understand the meaning of immortality, whether anything else is immortal or not, good actions are! And so, in his actions, his very life he remains immortal in our hearts to inspire us and to lead us to greater and greater cause of service.

This moving tribute to his elder brother straight from Kantisen's own pen gives us a clue to the latter's approach in life. Kantisen was then moved to quote from Josiah Gilbert Holland's beautiful lines:

God gives us men! A time like this demands,
Strong minds, great hearts, true faith and ready hands.
Men whom the lust of office does not kill,
Men whom the spoils of office cannot buy,
Men who have honour and who will not lie . . .
Tall me, sun-crowned, who live above the fog,
In public duty and in private thinking.

Those words applied to Anandji and those are the words that have kept Anandji's memories alive and moved Kantisen to work ceaselessly for his country.

Shri Vivekananda Research & Training Institute was started in 1978 but long before that happy relations between Excel and the Ramakrishna Mission had been established, even if Anandji had passed away a long while ago.

An occasion for close cooperation with the Mission first arose when hundreds were rendered destitute in Surat following some harrowing floods in 1969.

The Mission's representatives surveyed the flood havoc and decided on a low cost housing project as the best measure of relief for the helpless flood victims. Despite numerous difficulties in the way and the scepticism openly expressed by many, the project was successfully executed within nine months under the inspiring leadership of the president of the Mission, Swami Hiranmayanandji.

Under the project as many as 1,300 houses were built in 21 villages over an area of 15 square miles at the unbelievably low cost of Rs. 950 per house! Precast cement wall panels and concrete structural pillars went into the building of the houses which had been specially designed to withstand future floods.

Excel staff, eager to contribute their mite to the relief work, collected Rs. 5,000 from among themselves. The management of Excel made a matching contribution and Rs. 10,000 were donated to the Ramakrishna Mission. Excel also mustered

the labour and the skills for the erection of doors and windows in the houses. More than fifteen of its staff, including a few carpenters were deputed for more than a month on the job at Excel's cost.

That was the beginning of Excel's close cooperation with the Ramakrishna Mission.

Then came the famine in Kutch in 1971.

The famine did not occur all of a sudden. It was absence of rains for three consecutive years that finally hit the people hard. But they were self-respecting people. As Excel was to remark later, their heads were bloodied but unbowed. The people simply would not beg. That went against their tradition.

Quick to move in their mercy mission was, again, the Ramakrishna Mission under the leadership of Swami Atmasthanandji. To Dhaneti, one of the affected villages, the Swamiji took some of his friends. Among them were Chandaben Shroff and Ranjanben Shroff, both of Excel. These talented and enterprising ladies were quick to spot one local resource, that practically all the ladies in the village had inherited from mother-to-daughter and that was the skill of working on Aabhla design. Till then the design had been used only for personal use and not for commercial exploitation. The women stitched those designs on their own clothes to be used for ceremonial occasions.

Now Chandaben and Ranjanben argued: "Suppose we help these ladies to stitch these designs on sophisticated dress material and market them in places like Bombay, wouldn't that help provide them gainful employment and relieve them of their immediate suffering?"

No sooner did the idea strike the ladies than they got down into the nitty-gritty of production. First they pitched in with Rs. 10,000 from their own personal savings. With that initial investment they bought the needed silk material and other requisites and handed them over to the women artisans. In four days' time, working ten hours a day (and the women would have cheerfully worked longer hours if they had electricity in their village) some forty women produced some exquisitely-designed needlework without any supervision whatsoever. Hard work was ingrained in them. And they knew their job and the situation demanded that they put in their best. In the circumstances productivity almost doubled. And the women earned Rs. 4 a day. The villagers were in business!

Then came the tidal wave of 1977 in Andhra Pradesh which took a heavy toll of human life and property in Divi Seema, destroying the hopes, aspirations and morale of the rural people in that area. Once again the Ramakrishna Mission was on the job to provide relief and rehabilitation to those badly in need of it.

The Mission adopted ten villages in Divi Seema for rehabilitation work: Gramasri, Narendrapuram, Swatantrapuram, Sriramapuram, Paramahansapuram, Vivekanandapuram (Itali), Ramakrishnapuram (Gollepalem), Sharadapuram, Dwarka Basavannapalem and Krishnapuram. These villages with a total population of about 7,000 people covering approximately 1,000 families lay within a 10 km radius of Kodur.

The shy and unassuming Chandaben Shroff.

The proud ladies of Dhaneti refused free aid. But two ladies from the Shroff family Smt. Chandaben Shroff and Smt. Ranjanben Shroff utilised their inherited skill of working on "Aabhla" design. Today they are turning out artistic work and earning an honourable livelihood – A file picture of women in action taken from the House Magazine of Excel.

Preparatory work was first carried out by Excel with the active assistance of the Ramakrishna Mission in the first six months at a total cost of Rs. 80,000. First a cadre of 34 young men was built up to undertake rehabilitation work. A nucleus of Ramakrishna Institute of Service and Education on a five acre plot of land at Swatantrapuram was set up and the area was fenced and saplings planted. Aqua-culture ponds covering an area of two hectares were excavated at Vivekanandapuram. A batch of 25 trainees completed a three-week training in fresh-water fish culture. Another batch of 15 trainees and ten local fishermen was sent for a three-week training course in brackish water fish culture at Kakinada organised by C.I.F.E. A four-day Balakseva Training Camp in scouting was organised.

In a way Excel was itself getting training in relief work!

And it is against this background that Excel established Shri Vivekananda Research & Training Institute in 1979. The VRTI was quickly to set up four other

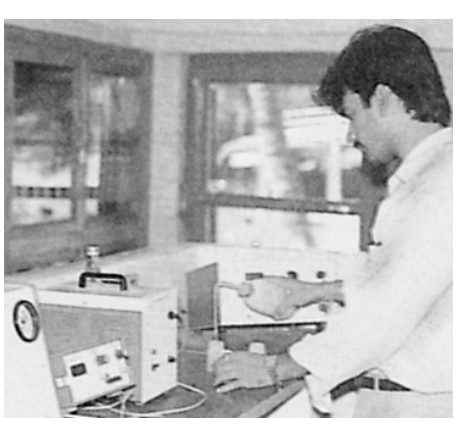
sister organisations to work in different fields of rural development, the Krishi Vigyan Kendra, Mundra, the Agrocel Service Centre, the Vivekananda Gramudyog Society and Shrujan.

Kantisen actually was trying to reach down to the grassroots to discover springs of hope, to get villagers themselves to work out their salvation. But at the same time he realised that they needed top level guidance. Often he found that the spirit was willing, the flesh was strong but guidance was lacking. Kantisen decided he would help provide the guidance. Thus was born Shri Vivekananda Research & Training Institute on a 24-acre farm in Mandvi.

Basically a farmer service and guidance centre with a Biblical motto "Do unto others as you want others to do unto you", VRTI's main aim is to reach out to people and teach them ways of overcoming natural and man-made calamities. The guiding spirit, of course, is Kantisen.

Every idea that floats into his mind finds a place in his 30-year old scrapbook. The clear, legible hand reflects the man: clear-headed and purposeful. And down to earth. If something needs to be done Kantisen works out everything to the last detail. He once walked four kilometers to the site of a sub-surface dyke to see what was being done. Personal supervision, as always, marks his administration.

Among the beneficiaries of his concern for people is Gandhigram which has been developed into a model village. This village, named after the Mahatma, would have made the Mahatma himself very proud. It is a model village of integrated development which is suitable for replication, especially in Kutch.



Soil and Water testing lab at VRTI, Mandvi.

The Prime Minister of India P. V. Narasimha Rao presents the 1992-93 FICCI Award for Rural Development to VRTI and Canara Bank and Sumatichandra Mehta and Tulsibhai Gajara are seen receiving it on behalf of VRTI.

The village grew out of a cluster of hutments of 28 families which had migrated from famine-ravaged Mow in 1954. The area had been the hunting ground for local royalty till the lush forests became wastelands.

The bleak life of the 75 families in Gandhigram began changing with the coming of Kantisen and the VRTI. Thanks to their perseverance, the village gets water from a pond that replenishes the water table. Bore wells have been sunk. A check dam has come up that helps irrigate some 300 acres of farmland.

Farmers like Bhimjibhai Premji Chaudhury are happy. Chaudhury himself gets good returns from his 25-acre farm – anything from Rs. 20,000 to Rs. 25,000 a season. Time was when the adults of the village could consider themselves lucky if their earnings reached Rs. 15 a day.

As early as 1995, inspired by the Institute, the villagers built 135 rainwater storage tanks, 'farm' ponds and percolation tanks. In addition they had built 70 check dams, 168 sub-surface dykes and a hundred recharging wells. Kantisen told *The Week:* "People had become used to government charity. Now they realise the importance of self-reliance".

Some of the stories current about the work of the VRTI are most heart-warming. There is, for example, the story of Goverdhanbhai Mulji who had migrated to Bombay in search of a livelihood.

His 20-acre farm in Bhujpur village, 40 kms from Mandvi, had fallen fallow, reducing him to the pitiable status of a menial labourer. Like hundreds of men and women from the farming class Mulji had to suffer the annual humiliation of waiting outside government camps and agencies to get jobs. It was a blow to their self-respect. But man has to survive.

Mulji who had become a coolie in Bombay returned to his farm in 1993 on hearing from his family that some of his neighbours had resumed farming with the help of the VRTI. He joined other farmers in building a check dam, installing irrigation pumps and tilling the land again. He told *The Week*: "Thanks to the check dam I have two crops on my field, cotton and groundnut".

One man who had been sceptical of Kantisen's visionary ambition was Tulsi P. Gajara. Then a young man, Gajara had met Kantisen in 1974 when both were doing voluntary service for the Ramakrishna Mission's relief work in Kutch. Though Gajara too was imbued with a strong social commitment he was not to be easily carried away with

Kantisen's vision of verdant, prosperous Kutch.

Years afterwards he was to say: "I admit I laughed at it as a well-meant but far-fetched plan. I asked Kaka: what can you do in this arid, salinity-affected land?"

Kantisen heard him out patiently and equally patiently explained how important it was to restore the self-confidence of the people, whose dependence on charity was not good and why people should be self-reliant.

Gajara was later to become a convert to Kantisen's earthly philosophy and in course to become the Managing Trustee of the VRTI which has over a hundred young men working for it, apart from over 300 people, all volunteers, on call.

An underground dyke being built by Shri Vivekananda Research & Training Institute, Mandvi, which has done pioneering work for tackling the problem of water shortage in Kutch by recharging underground aquifers.

The story of how Kantisen met Gajara and what happened subsequently has been narrated by him:

. . . Then in July 1975 we got one more colleague, Tulsibhai Gajara. He first joined us as a temporary hand when we took upon ourselves to repair a spoilt hand pump, installed in certain villages by *gram panchayats*. Though our repairing work was over, he pleaded with us. He was sent for training at another agency who were working on building a *subabul* nursery. He worked for four months and then came to Bombay for further training in forestry, agro-practices, scouting, etc. Here he won everybody's heart and then came to Mandvi with a number of responsibilities such as (a) assisting in Shrujan's work, (b) creating greater awareness on tree economics and (c) assisting in cross-bred cattle breeding programmes with other agencies.

That led us into full-fledged cattle breeding programme starting in 1977. We decided to fund BAIF with Rs. 6,00,000 and expected them to open a research and extension programme in Mandvi of artificial insemination (AI). We learnt on the job. We chose local cadres for training. In the end we performed more than 700 AI operations and got 350 cross-bred cattle and understood the do's and don't's of cattle breeding. Some 200 families benefited from our work.

While doing the extension work on cross-breeding, we started understanding the problems of the villagers and we found that a voluntary agency like ours could be of great help to them in solving a number of their problems connected with different government agencies, naks and markets. Thus by 1978 end we had developed a good understanding of the problems of the area and we felt that we should set up our own research and training centre.

In 1979 April at Mandvi a centre was established on saline land with a well the water of which had a pH of 8.7 and total dissolved solids of 2,200 parts per million. That was a very bad bargain. But we were determined to succeed. And we did. The technique was to make massive use of organic matter to improve the land. (This came to be known as Shri Vivekananda Research & Training Institute and was blessed by Swami Vyomanandji of the Ramakrishna Mission Ashram at Rajkot).

Talking to villagers in many parts of Kutch is to get a feel of what Kantisen has done for them over the years. "Kaka has done so much for Kutch in terms of funds, ideas and project initiation. No one has ever done so much" says Jayantibhai Thakkar, a farmer in Dumra village.

Once upon a time farmers in Dumra had to be content with making hardly ten rupees a day as wages. Now they are into farming, horticulture, dairying and afforestation.

Twenty kilometers from Bhuj is the village of Baladiya. The villagers there will tell anyone listening that it is the richest village in India in terms of bank deposits, remittances from expatriates! Yet the farmland there became fertile only after VRTI helped the villagers to build 20 small dams all financed by the villagers themselves.

Today Kutch has a plethora of check dams, farm ponds and tube wells made effective because of 'water harvesting' that have enabled farmers to irrigate their vegetable patches, groundnut crops, orchards and even coconut palms! Rain water is never allowed to go waste. The VRTI has taught farmers how to collect rain – such of it that pours in such small quantities – and so raise water levels. People seldom wait for government help. Their pride in their own capacity is to be seen to be believed. As Devshibhai Karshan Patel told an interviewer: "We don't want to wait for the government. We have realised

that we can help ourselves." He is believable. In 1995 he had helped build two check dams and a farm pond at a cost of Rs. 2 lakhs.

Everyone around cooperates heartily, irrespective of caste or religion. In Abdasa, 76 kms from Mandvi, the VRTI set up an experimental 35-acre orchard of chikoo plant, *khaali pathi* and pomegrenate on land donated by Mohammad Seth, a trader of Naliya who is known in Kutch even otherwise for his generosity.

When Seth saw that the VRTI had transformed 400 acres of fallow land into prime agricultural land that earned farmers between Rs. 40 to 45 lakhs a year, he felt that if a *sanstha* (organisation) could do such good work, he should make his own contribution. So he gave his own 35 acres to it. Aiding the VRTI has been K. C. B. Raju, a renowned water management expert.

The Indian Institute of Management's house journal Alumnus (Jan. 1996) wanted to know Kantisen's management practices, especially in the matter of the VRTI and Shrujan Trust. What contributed to their all-round success? Kantisen explained:

After all, management is for producing results. For a business house there are very simple norms for results – we often call it the bottom line. When you are running a social organisation, you are aware of the multi-dimensional impact of your work. For instance, when you look at yourself and the way you manage your house, your neighbourhood, and your other relations, you will say that it is in-built in you and yet you are cost-effective.

To give another analogy. A doctor is trained from the beginning to be responsible for caring for and curing a person who is not well. He is all the while in resonance with the patient. The good old Indian family doctor's effectiveness is not what medicine he gives: it is his intimacy and understanding of the whole family.

Similarly, we and all our social institutes have first and foremost been community members. We have never gone with any pocket-full of ideas. We are aware of the resource capabilities, knowledge capabilities, reaching-out capabilities that we have got.

At our Shri Vivekananda Research & Training Institute, our major strength is our organisational capability, our wide knowledge base, and so we are respected. More often than not, the people have a lot of clarity.

What they do not have are resources. So we ensure that the correct resources are brought in time.

I will give you two very interesting examples.

In 1978 when the Morvi floods became famous, we had worse floods in Kutch. But because there were not people but animals which died, the floods in Kutch did not receive much publicity.

More than 1.25 lakh animals – goats, sheep and cows – perished. I was assigned the responsibility of relief work and I went with twenty of my colleagues. The chief of the Sheep & Goat Department said that he badly needed medicine for hundreds and thousands of sheep but he had no money. We procured the medicine and in all 2.5 lakh of sheep were treated and we could completely change the scenario because of our input. Otherwise a lot of the sheep would have died.

In another instance something even worse happened. About a decade ago there was a Malaria epidemic. Even though it was not my subject at all, we rushed to the medical officer. He said that he was helpless as he did not have funds. I went back to Bombay and sent 53 doctors, 100 nurses, medicines and opened hospital camps; in 45 days, 37,000 Malaria patients were treated. Now you would agree that this is management – industrial management, decision-making, resource management.

Kantisen was then asked about his "obsession" with solid waste management. What led him to it ? He said that he had seen cities "wallowing" in filth. So he set up two factories one each in Bombay and Ahmedabad, to process garbage into rich organic manure. He said: "We developed garbage-cleaning microbes that can work even in the cold climate of Srinagar and Simla. We have also developed a spray that quells the stink of garbage heaps. That is the first step to keep the environment clean". And he added with a smile: "You see, I am the best known garbage collector".

And then he was asked the "key question". If it is true that behind every successful man there is a woman, who is the woman behind him? Kantisen is not known for guffawing, but he could not resist a smile. He said:

I would say that much more than anybody else, it is my wife's study and her work in Kutch, which has been enormous. She has set up the Shrujan

Rural and Social Development: Excel's various innovative and useful contributions at different locations, towards rural wealth generation and enrichment and utilisation of natural resources, through people participation, were recognised, through conferment of the Indian Chemical Manufacturers Association (ICMA) Award for Innovative and Purposeful Programmes for Social Development 1991-92.

Trust in Bhuj, where thousands of women have been trained to become competent artists and crafts-persons. She ensures that they get raw material, design inputs and a market.

Chandaben (Kantisen's wife) indeed is a remarkable person in her own right. Quiet and soft-spoken, she spends most of her time in Kutch, running training programmes for women artisans. At one of the first exhibitions she held of Kutch crafts work, some Rs. 4 lakh worth of goods were sold in just two days! Shrujan was started in 1969 during the Kutch famine when Chandaben felt the need to give timely assistance to rural women by providing them regular embroidery work. When it was started Shrujan had only five women working for it in one village. Then the concept spread. In August 1983 Shrujan registered itself under the Bombay Charitable Trust (No. E-727 Kutch) under the same name.

Quiet and soft spoken Chandaben Shroff started an Enterprise in Kutch and SHRUJAN was born of that devotion.

Shrujan started conducting training programmes from 1983 onwards for young women. The programmes were conducted in different villages with the help of government agencies. Training was imparted to unskilled crafts-women by Master Grade crafts-persons and selected instructors. Trainees were provided with stipends and Certificates on completion of their training.

During their training period, the women were taught various designs and selection of raw materials, basic knowledge of how to mix colours, market trends in fashion and how to develop their entrepreneurial capabilities.

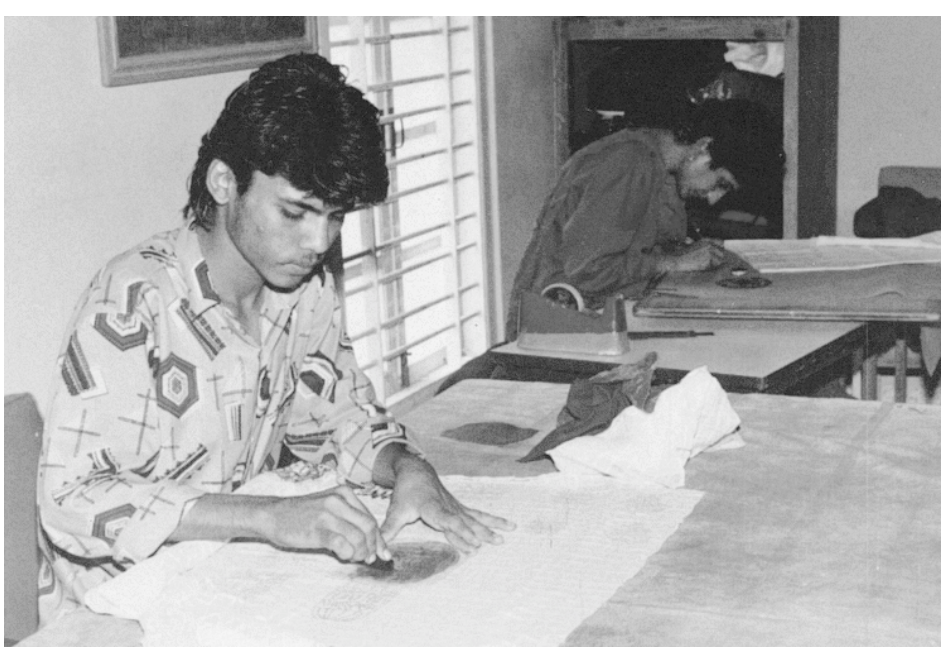
Usually the training period would last for three years by which time a trainee would have herself become an entrepreneur who could manage her own affairs successfully.

Shrujan started a full-fledged design studio in 1989 which interacted with existing designers whose expertise was sought and built upon. In fact, in a bid to revive traditional forms of designs, Shrujan developed a large design catalogue incorporating what was then available in traditional homes. Shrujan also collected a large number of photographs of paintings, frescoes and other artefact available in the numerous palaces in and around Kutch.

Shrujan now has emporia at Bhujodi, Mumbai, Vadodara, Ahmedabad and Calcutta all of which were specially designed to elicit maximum response from the public.

In recent years Shrujan has started conducting training classes in wood carving, a traditional occupation in Ludia (Bhuj taluka) and Shivnagar (Tharad taluka).

Besides giving training in traditional arts Shrujan has engaged itself in social activities such as holding medical camps, providing relief work, cooperating in housing projects – all part of the VRTI. Thus, under the Indira Awas Scheme, Shrujan has helped the people of Nirona and Ekalwad villages (Bhuj taluka) in building houses. Cattle camps have been



The Design Studio at SHRUJAN, Bhujodi, Kutch.

The imposing structure of SHRUJAN Main Office and Design Centre at Bhujodi as it stands today.

held and some 3,500 cattle have benefited from them. Under the I.R.D.P. Scheme Shrujan has helped plant over 3 lakh saplings of fruit trees. With the help of VRTI, programmes have been conducted for making smokeless *chulas.* Around 2,000 *chulas* have been produced under the scheme.

Interestingly, several batches of college students from professional colleges have also benefited from Shrujan by attending summer camps held by it. The students, incidentally also provide inputs in designing which Shrujan appreciates a great deal. It considers them its brain bank!

The Shrujan system works effectively and covers around eighty villages across the country. The hierarchical system is "flat" and divided on a functional base.

Shrujan was started with a sum of Rs. 5,000 but as the activities of the organisation grew it found it necessary to raise more funds. By 1980 the total investment had gone up to Rs. 5 lakh. There were 500 ladies working in different villages. And as the work increased so was the need to raise more funds.

First it was considered desirable to turn the organisation into a Trust which was formed in 1983. Nine trustees were named. Between 1984 and 1985 the Trust took bank loans to the tune of Rs. 10,60,000.

The first thing to remember about Shrujan is that it depends totally on human efficiency. The objective of Shrujan is to give voluntary employment to women artisans, hence controls are not imposed. With so much complexity involved it is in any event difficult to standardise procedures. Forecasting of production also becomes equally difficult, as also demand.

For managing the activities of the organisation, both its structure and procedures are so designed to achieve maximum efficiency in its operations. The methodology adopted is as follows:

• On the basis of future demand and inventory considerations, raw material is drawn from all over the country by the Mumbai office. The raw material consists mainly of yarn, embroidery thread and fabric.

• The designs are decided either in Mumbai or at the head office at Bhujodi. Then the raw material is converted into semi-finished goods by cutting and printing.

• For embroidery work the semi-finished printed raw material along with the design kit is then given to the artisans. Weavers get both the yarn and the design from Shrujan.

• Production Department makes regular inspection visits to check progress made and make payments accordingly. Final payment is made after completion of a given product.

• Finished goods are then collected at the Bhujodi head office and later dispatched to various emporia on demand.

Performance of Shrujan Over the Years

Year	Total Villages Covered	Total Artisans Covered	Total Value of Sales Rs. '000
1968-69	1	30	15
1969-70	3	50	35
1970-71	4	70	80
1971-74	14	300	150
1974-78	20	350	300
1978-81	30	600	600
1981-85	32	700	800
1985-86	35	800	1,000
1986-87	38	900	1,200
1987-88	40	1,000	1,200
1988-89	45	1,100	1,200
1989-90	50	1,200	1,800
1990-91	52	1,225	2,200
1991-92	54	1,225	3,400
1992-93	55	1,350	3,400
1993-94	75	1,550	4,400
1994-95	75	1,800	5,400
1995-96	80	1,900	8,000
1996-97	80	2,000	9,000
1997-98	80	2,000	10,000
1998-99	80	2,000	10,000
1999-00	85	2,200	5,500

Kaki's team of skillful artists doing what they do best!

The numbers in the table on the previous page do not really give the total picture of what Shrujan has achieved. Take the case of Hansaben of Jakhav village, 35 km off Naliya, for instance. She has trained more than 30 women in *baandhini*; all of them earn about Rs. 900 a month working in their leisure hours. "Earlier we used to dig the earth and carry the soil in baskets on our heads. Now we sit at home and earn a decent living" says Hansaben. And she adds with an unmistakable twinkle in her eyes: "Perhaps we earn more than our husbands".

When Chandaben Shroff first asked these ladies if they would make the kind of beautiful clothes they wore for others as well, their quick answer was "yes". And when she asked "How many can you make?" she didn't expect to hear what they told her. "As many as you want!" Now the ladies say: "Once we were going about looking for work. Now work comes to us". Orders for *baandhini* come in abundance, with dealers snapping up extra output.

And depending upon the kind of embroidery involved a crafts-woman can make anything from Rs. 700 to Rs. 8,000 on one dress. An exquisite silk *chanyacholi* at the showroom of Shrujan at Bhujodi went for Rs. 12,000. The woman who made its fabulous patterns received Rs. 8,000.

Shrujan has been selling its handicrafts not only in India but in the fashion hotspots of Paris, Washington and Amsterdam.

In Kantisen's scheme of rural development, top priority goes to animal husbandry as there would be milk for sale, manure for farms and input for compost plants. And every village could have its own mini-dairy.

Shri Vivekananda Research & Training Institute is the model: its own animal husbandry unit has a mini-dairy which sells milk, ghee, butter in Mandvi, Bhuj and even Mumbai. There are no middle men to siphone off profits. The Institute's own workers pick up milk cans from the villagers and pay them the full market rates.

The work of the VRTI is augmented by three other sister organisations: the Krishi Vigyan Kendra, Mundra, the Agrocel Service Centre and the Vivekananda Gramodyog Society. Each has its duties carefully assigned.

Agrocel started as a desire to serve the farming community in Kutch to raise per acre production and profitability even while maintaining the environmental

balance. It was made possible through the cooperation of Excel Industries Ltd., and its group companies such as Transpek Industry Ltd., Transmetal Ltd. and Punjab Chemicals & Pharmaceuticals Ltd. Work of Agrocel started in 1988 in Kutch which has 6.5 lakh hectares of cultivable land of which about 70,000 hectares is under groundnut cultivation *(Kharif)* and 50,000 hectares under cotton crop. Agrocel's Mission plainly was "to make all the agro inputs available under one single roof at the right time, of right quality and at reasonable price with the latest technical guidance to the farmers in order to increase per acre production of the farmers and thus to contribute in increasing national production by sustainable trading".

Agrocel started with one Service Centre at Koday-Mandvi-Kutch. Later on three more Centres were set up at Rapar, Mundra and Nani Khakkar. Their task is defined as:

- making available all the agro inputs like seeds, fertilisers, organic manures, pesticides, weedicides, fungicides, agri-implements, spray pumps, PVC pipes, and fittings, oil and greese, micro-irrigation systems etc.
- making available on-farm and off-farm demonstration
- providing free technical guidance through field personnel
- providing allied services like mini-oil extraction plant
- promotion and popularisation of Integrated Crop Management concept
- promotion of organic farming
- installation and maintenance of micro-irrigation systems
- providing consultancy on farm management
- providing marketing support through fair trade exports, and
- extending benefits of government subsidy schemes to farmers.

In recent years Agrocel has sought to provide market support to farmers by sourcing different agro products directly from them. Thus Agrocel sent first container of HPS peanuts to one of the Fair Trade Organisations of United Kingdom which expressed satisfaction with the produce. That organisation has since then become a steady customer and placed orders for cashew nuts, walnuts, and basmati rice.

After 12 years of working with the farming community, the Agrocel Service Centre has emerged as Agriculture Education & Advancement Centre. There is widespread acceptance that such a Centre not only caters to the needs of agro-inputs, but also provides the best extension linkages, the latest technical know-how, the pre-season forecast considering the change in market trends and a platform for coordination with other NGOs. The concept of Watershed Management can also be implemented through such a Centre.

The concept of such a Centre has proved to be so useful that Agrocel is under the process of opening several – eleven at last count – such centres within and outside the State of Gujarat. Agrocel also intends to include the sale of other day-to-day farmers' necessities through the service centres.

At the same time Agrocel also intends to increase its focus on agro output management by providing market support with or without further value addition.

Meanwhile, Agrocel has implemented its Integrated Cotton Management Programme (ICMP). Through pre-identified group of farmers, cotton is grown in their fields following Integrated Crop Management (ICM) criteria and the resultant raw cotton is purchased from them at fair prices. The cotton is then ginned, spun, knitted and T-shirts are manufactured from the resultant fabrics. The first consignment of fair trade T-shirts was sent to another organisation in Belgium. It turned out to be a success. Help was extended by Ms. Abigail Garner of Tradecraft Plc who came to India at the request of Dipeshbhai Shroff, Director of Agrocel.

There is a history behind the ICMP. MdM Oxfam and Oxfam Solidarity of Belgium had been working towards the reduction of intermediaries in the whole chain of cotton apparel production to ensure transparency of the entire process and to ensure maximum profit to the producer – namely, the cotton grower.

This is where Agrocel got into the act.

To start with an ethical group of 16 farmers was selected. These farmers were given training in Integrated Crop Management practices and in organic farming. During the growing season, thorough guidance was provided by field officers of Agrocel at the farmers' doorstep. The cotton thus grown following the ICM practices under the guidance of Agrocel was then procured from the farmers who got 8 per cent more over the market price.

Agrocel Service Centre at Nani-Khakhar in Kutch – a single window outlet for Agro Inputs and Services.

Presently some 75 farmers in four different villages – Bheraiya, Padampur, Talwana and Nani-Khakhar are growing similar cotton on some 300 acres of land. Sale of some 10,000 T-shirts is practically guaranteed!

Much credit goes to Ms. Abigail Garner who came to India and stayed on for 18 months during which she trained an Agrocel team in different areas of cotton processing chain. During this period she was joined by Mr. Thomas Petit, a Frenchman having expertise in textile production.

The ginning unit (Raghukul Ginning Mill) where Agrocel does the ginning of its organic cotton is approved by the Ahmedabad Textile Industries Research Association (ATIRA). Another mill, Arunoday, has also got into the act.

A problem had arisen in the matter of fabric-washing. Old-fashioned washers used chemicals for bleaching or dying which is contrary to the philosophy of manufacturing organic fabrics. A new washing unit had to be designed and this was done under the direction of Ms. Garner and Mr. Petit. The new eco-friendly washing unit only uses normal hot water and no chemical whatsoever. The new unit was set up at a cost of Rs. 20 lakhs. The water which is obtained after washing the eco-friendly cotton fabric contains natural wax and this is used for irrigation purposes at Agrocel's demonstration farm. This unit, incidentally, is the only one of its kind in India.

Ms. Garner and Mr. Petit left India in 1999 and are now exploring a market for Agrocel's T-shirts which are available under the brand name of Farmers' Art. Organic Certification has been requested from the Mumbai-based NGO, International Resources for Fairer Trade (IRFT).

The Bromine Story

When it was first taken up, the Bromine Project in Kutch belonged to Agrocel Pesticides Ltd. which was a joint sector company set up by Excel Industries Ltd. and Gujarat Agro-Industries Corporation Ltd. of the Government of Gujarat.

The primary objective of creating this joint sector company was to set up a factory in the Kandla Free Trade Zone to produce pesticides formulations for export. However, with the collapse of Russia and the difficulties faced in exporting formulated pesticides, this idea could not materialise and the factory in the KFTZ did not have any worthwhile activity to pursue.

For a long time, the late C. C. Shroff, founder of Excel, and Kantisen had thought that if the farmers can be provided the right kind of inputs, in right time with the right kind of education on how to use them to maximum effect, then a major break-through in food production could be attained.

With this in view, an Agrocel Service Centre had been set up in 1988 by the joint sector company at Koday Char Rasta, near Mandvi in Kutch. Since then this Centre has been providing all kinds of agro inputs and free-of-cost guidance to farmers. Presently the Centre caters to a farming community that is spread over an area of about 10,000 hectares.

Over the last decade almost, the Centre has promoted the inputs-cum-service concept so remarkably successfully that in the recent past this has been replicated at other places by opening up three more similar Centres.

The Shroffs had been involved in various activities in Kutch right from 1968 onwards through voluntary organisations such as Shri Vivekananda Research & Training Institute and Shrujan, but they had never set up an industry as such in the district. They were eager to start one.

The reasons were two-folds: one was to provide employment to as many people in Kutch as was possible. The other was to provide employment to the people on the Indo-Pakistan border, especially and keep them on site, to keep them as far as possible out of mischief. Unemployment, the Shroffs knew, often led to political discontent. It was wisdom to keep people on the border gainfully employed.

There was an incentive, though. Kutch is endowed with some promising mineral resources such as lignite, bentonite, lime and bauxite. But at the same time they had their own drawback: the products that could be derived from them were of high volume but low value, therefore not worth heavy investment.

But the Shroffs were quick to notice that in the Great Rann of Kutch an area of 40 x 200 kms could well be developed to produce marine chemicals of huge potential value. The Rann was practically a salt desert.

During the summer months May-June, with the high tides in the creek, sea water flowed over a ridge and filled up the

Bhoomi-Pujan of the Bromine Project in Kutch.

Bitterns flowing through the long canals making its way to the Bromine Plant.

low desert area on the other side, forming almost a vast natural salt pan over there. The extreme solar heat and the high wind velocity accelerated the evaporation of the accumulated sea water.

With each successive high tide inflow, followed by rapid evaporation, the concentration of chemical compounds in the water increased. Thus, due to this naturally occurring process, layers of common salt were formed all over the area ranging from a thickness of six inches to almost 6 ft. The Shroffs knew these salts could be chemically exploited to great advantage.

Therefore, the idea to set up a marine chemical industry was mooted in 1989-90 and the Bhavnagar–based Central Salt & Marine Chemicals Research Institute (A Central Government-run organisation) was assigned the task of carrying out a feasibility survey of the Rann for which a Consultancy Fee of Rs. 40,000 was paid to them.

A small team of about six people was sent to work in the Great Rann of Kutch which roamed about for nearly six months and collected about 500 samples from different spots. On the basis of these samples, as well with the aid of satellite imagery, the Central Salt & Marine Chemicals Research Institute (CSMCRI) decided on a specific location where it indicated that sufficient quantity of bitterns (that is, the liquid residue which is left after the marine salt is crystallised) would be available and can be used as the resource for the project that was proposed to be set up.

Shri Manoj Gohil, who has been associated with the marine chemicals project right from the beginning says that the time between 1990 and 1994 was spent in getting scores of clearances from the Government of India for the allotment of land area of about 10,000 acres not far from the international border. Also needed were about 20 to 30 diverse kinds of No Objection Certificates (NOCs) from different government agencies. All these were obtained says Shri Manojbhai proudly, without a single paisa being given as a bribe. It was only towards the end of 1993 that permission was finally granted to lease 10,000 acres in the desert area for an initial period of 20 years. The foundation stone for the Marine Chemicals Project was laid on 12 February 1994 by the then Chief Minister of Gujarat Shri Chimanbhai Patel.

Generally against every one tonne of common salt, one tonne of bitterns becomes available for further processing. In ordinary situation, in salt farms, it would be relatively easy to recover Bromine from the bitterns, but separation of what are called evaporites like Potash and Magnesium is difficult. But the hot climate of the area was a conducive factor.

Ever since the French chemist A. J. Balard discovered Bromine in 1825, several processes have been developed for extraction of the liquid. Excel chose one that was manageable with modifications.

A noteworthy feature of the Bromine Project has been the active participation of the local people around the project area. At one time there used to be a vast track of famous Banni Grassland in that area which supported a very large cattle population. It used to be said that in

The Bromine Plant at Dhordo, Kutch.

the Rann there were more cattle than human beings around. Over the years, however, the Banni Grassland had become increasingly redundant due to the profuse and dangerous spread of the trees of *Prosopis Juliflora (Gando Bawal)*. Inevitably the cowherds men had to look for alternate source of livelihood.

The starting of the Bromine Project, came to these simple people as manna from heaven and they extended their fullest cooperation and participation in siting it. And this in a remote area on the national frontiers where there were neither roads nor power supply nor lights and where none would venture to visit barring perhaps some rare social scientist interested in studying the life-style and skills of the herdsmen and their families.

One of the important reasons that helped the people of Excel to get an easy entry, access and cooperation of the local people was *Shrujan* – the organisation that had been set up by Chandaben (Mrs. K. C. Shroff). Mrs. Shroff had been working in that area for many years to help the womenfolk of the shepherds in training, developing and promoting their skills in embroidery.

The credibility of the Shroffs in that area had thus been well established. This led to man and youth from the local populace from about 40 villages to come forward with full enthusiasm to help in setting up the Marine Chemicals Project. In the initial phase, the project team had the full benefit of hospitality extended by the local people. In turn, the Project Team also took it upon itself to train the local youth in a wide variety of project-related skills and activities. This included initially digging of long canals to pump out and transport by gravitational flows the large quantity of bitterns from underneath the vast deposits of salts, to the large Solar ponds put up at long distance nearer to the Bromine-making plant where the bittern was to be evaporated and converted into concentrated liquid with the help solely of solar heat for transforming into basic material input. For the Project Team it was indeed an exciting experience to work shoulder to shoulder with illiterate and unqualified people on a project that the latter little understood.

Unfortunately, however, the weather and Nature were soon to intervene. Just when the project was reaching the concluding stages, there was an unprecedented heavy downpour in the area as a result of which the entire infrastructure of canals and ponds was severely affected and the stock of concentrated bitterns washed out. Much labour was lost. The Project Team contented itself by saying that this too was something from which a lesson had to be drawn. The lesson was on how to take care of such future emergencies.

But the Project Team had to start all over again. Finally, in 1996, the 3-tonne/day Bromine plant got started at the very location where it had been first sited. More than 100 people had by then been engaged in various operations. In just under five years, with an investment of nearly Rs. 11 crore, a major project had been put in action, channelising the skills of local people in a forbidden area.

It is in this Bromine plant that one has to see to believe how Excel can truly demonstrate its conviction that given appropriate training the local people can be made productive as they are, where they are.

Being located on the remote periphery of the Rann, the plant does not have access to power supply from the Gujarat Electricity Board. It has to, therefore, depend entirely on its captive diesel generator. And it is here that one can see how Shri Popatbhai Gora, a locally employed semi-literate youth who, as in charge of the generator, not only operates it most efficiently to ensure uninterrupted

Wading through the Salt Desert – the site of the Bromine Plant at Dhordo.

power supply to the Bromine plant, but maintains it so spick and span that not a drop of oil could be seen anywhere around the place. And what is more, in this task Shri Abda Rahim who, in spite of being totally deaf and dumb, proves himself an asset and not a handicap as he very ably assists Popatbhai. Similarly, there is another example set by Shri Alim who, though being unlettered, has been minding the Quality Control analysis, all by himself, and with such remarkable clarity that he can rattle out the entire testing procedure and the inferences to be drawn at every stage. Another from amongst the local people who can deserve mention is Shri Abdul Kalam who, though illiterate, wonderfully manages the site, against all odds, from his No. 2 position as Deputy Factory Manager.

Shri C. A. Mehta, who is himself a qualified engineer and has seen most part of his life amidst chemists in Excel, says that when he once visited this Bromine plant he was amazed to see the utmost care and concern on the part of these local people for high standards of productivity and quality which was akin to any qualified engineer or chemist.

Just as the production started going, the end product, Bromine had to face stiff competition with prices in the international market dropping to as low as Rs. 30-40 per kilogramme. To meet this emergency Excel scientists developed a series of value-added Bromine chemicals of international standard and thus saved the situation.

According to the original project report the annual demand for Bromine is around 4,000 to 4,500 tonnes. Major user industries of Bromine are pesticides, dyes, photographic goods and pharmaceuticals. Even before production had started, Excel had identified potential customers.

In a way the setting up of the Marine Chemicals Unit in the Rann has been a fulfillment of the Shroff family dream. But Kantisen is not content with it. He does not want to see the vast and famous grasslands of Banni to remain neglected. It is because of this that VRTI and Agrocel Service Centre have joined hands to halt the spread and remove the dreaded *Gando Bawal* from over 500 acres in the Banni region. The plan is to bring this area under grass cultivation fit for cattle to graze.

Gul Beg Dada of Dhordo-Banni.

Even the Central Government has recently allocated an initial sum of Rs. 70 crore for the project and, depending upon its success, more funds should be forthcoming to support and promote the ecological balance in this strategic region.

Today the workers of the plant enthusiastically observe Independence Day and hoist the National Flag. To them the plant is a matter of local pride, apart from being a source of economic sustenance.

Endless are the services rendered by Kantisen to Kutch, that part of his motherland to which he is most attached.

His biggest – at any rate one of the biggest – tests came after the floods of August 1979 when it just rained and rained. In about 48 hours Kutch received 36 inches of rains – or what it would normally have received in three years.

The famous Banni Grasslands in Kutch.

The water had no outlets and thousand of houses just collapsed; more than 1,40,000 goats and sheep perished and more than 15,000 cattle died and many villages got stuck in knee-deep to neck-deep waters. It was beyond belief.

Kutchis everywhere got together to raise funds for aid and among them was the Merchant Relief Committee of Bombay. In no time some Rs. 17 lakhs were collected. Kantisen was put in charge of relief operations. He had meetings with government officers and Ministers in Gandhinagar and Bhuj and a coordinated plan quickly came into being. It was agreed that health programmes for people would be tackled by government agencies. The immediate need was for tarpaulins; as many as 400 of them admeasuring 20′ x 20′ were purchased at subsidised prices for distribution to house-holders. And house repairs were started in right earnest at Dhaneti and Bhadreshwar.

So far as animals were concerned the immediate problem was to treat them for worms. Some 3,00,000 sheep got this treatment. Cows and bulls were specially brought to Kutch from other parts of Gujarat and Bombay and Kantisen and his devoted band of co-workers learnt a great deal in cattle breeding.

In all they were on the job of providing relief and arranging rehabilitation for two long years.

Train-loads of fodder arriving at Bhuj, during drought, for dispatch by road to depots and cattle camps.

Kantisen was also involved with Bhimani Khadi Gramudyog Trust. Work on khadi production had started in Kutch as far back as 1930 under the direction of a Gandhian worker, Mr. Ved. At one time Kantisen had even toyed with the idea of joining Mr. Ved but had been dissuaded. Mr. Ved passed away in the 40's but left behind him a devoted band of workers. About that time, one Mr. Bhimani who had made some money in Africa had donated a substantial amount to see that the work of khadi production did not suffer in Kutch. A trust had been formed and named after him.

Supervision of production, distribution and marketing involved a lot of work and it called for expertise in management. Inevitably, Kantisen was chosen to head the Trust as its acting chairman. Some other dynamic members with great business understanding were also inducted as members of the Trust and soon a Gramudyog Wadi was established at Bhujpur with facilities for cotton processing, production of the *Ambar charkha*, spinning, soap-making, carpentry, leather-work and a whole lot of ancillary activities. But after the Trust was got into working order, Kantisen opted out of it.

Kantisen had several admirers from among his own people who wanted to serve Kutch in their several ways. There is the instance of Vijay Shah, a printing technologist trained at the J. J. School of Arts, Bombay. He had been running a business in Bombay along with his brothers till 1986 when he decided to return to his roots in Rayan village in Kutch after a meeting with Kantisen. The drought years had made him think: "What can I do for my village?"

Having taken an important decision, Vijay had to be seen to have done good,

Digging a tank for relief work during drought in Kutch.

and actually succeeded. So he larded his 40-acre plot with chemical fertilisers and made good money in the initial years but soon realisation dawned on him that the chemicals he was freely using would kill the very land which was giving him rich reward. So he switched to organic farming, at Kantisen's advice. Presently Vijay cultures earthworms on his NuTech Farm and lets eagles breed on his casurina trees for natural pest control. The once barren land he came to cultivate is now fecund with date and coconut palms, figs and pomegranates and other fruits. He has not forgotten Kantisen.

A few more examples of the service Kantisen rendered deserve eminent mention.

During 1984, in a small village of Melakhadi in Ghogha taluka of Bhavnagar district which is a habitat of Koli Adivasis, Kantisen started development activities under which the local residents were provided training in moulding and setting up *nirdhoom* (smokeless) *chulas.* The idea was to help them learn and subsequently teach others, the advantages of saving fuel by adopting these *chulas.* Melakhadi was subsequently to become a model village for this energy conservation programme.

During 1987-88, a year of extreme scarcity and famine, Kantisen directed his attention to Samadhiala village in Ghogha taluka to take care of 12,000 cattle in the panjrapole there. He deputed a team of well-trained and competent workers for one full year to undertake land improvement and water-harvesting programme so that one tonne of green fodder could be produced every day to feed the cattle and thereby avert the possibility of cattle death by starvation and under-nourishment. The effort proved to be successful. Nine years later Kantisen was again to give his help to the same panjrapole, this time for improving pasture lands and promoting an extensive tree plantation programme.

During 1988-89, an intensive water-harvesting programme was undertaken in Bhandar village located in a valley surrounded by small hillocks about 16 kms from Bhavnagar city where Koli Adivasis dominated as farm labourers. Three check dams were constructed here to catch rainwater runoff and improve subterranean water-tables. That enabled farmers to take multiple short-duration crops and also grow vegetables.

Melakhadi village – The home of the Koli Adivasis in Ghoga taluka of Bhavnagar district, where social activities were taken up and soon came to be reckoned as a Model village for the energy conservation programme.

During 1991-92 research was carried out with the support of the Delhi-based Society for Promotion of Wastelands Development (SPWD) to determine the feasible cropping pattern in the saline soils of Sanesh-Kalatalav villages in Bhal area near Bhavnagar. Besides, desilting and deepening of a small tank in Kalatalav was undertaken, with the result that storage capacity of the tank was enhanced and thereby the duration of irrigation water availability from this tank was extended from two months to more than four months after the monsoon. Alongside, crops suitable for the local saline soils were also successfully introduced in the surrounding villages to improve the agricultural economy of the region.

In reaching out for all these socio-economic development activities, Shri Vivekananda Research & Training Institute has been an extension of Kantisen's arm. Quietly and without any fuss it was Kantisen who supervised the ongoing work and saw to it that it did not get off the rails. And among activities that he should get credit for are:

• With the budgetary support from DRDA, during 1993-94, ten re-charge tube-wells were constructed in ten villages of Bhavnagar and Amreli districts.

• During 1994-95 desilting of a tank and construction of two re-charge tube wells was carried out in Gadhada.

• During 1995-96 construction work on check-dams was completed in five villages in these districts to create water storage potentials of 18 Mcft by which irrigation benefit was made available to 134 farmers covering 459 acres.

• Under the Watershed Development Programme carried out through 12 projects in 10 villages of Amreli district and 9 Projects in 9 villages of Bhavnagar district, a total irrigation facility was created to benefit 10,220 hectares and 25,174 beneficiary cultivator families.

• A three-lakh litre capacity tank was constructed at Naari village near Bhavnagar to fulfil the 'Water for Every Home' campaign initiated by Kantisen.

Importantly Kantisen introduced the concept of Social Audit in every association he had been associated with since 1974. According to him it is just not enough for an institution/organisation to know and record what it has done for the society in physically measurable terms; but it is equally important for it to understand the impact that the work has registered on the minds of people.

To Kantisen what was co-equal was the impact of work as much as the physical act of completing a project.

Knowingly or otherwise Kantisen wanted people to be inspired enough to wish to stand on their legs and don't stretch out their hands for charity from government. As an advocate of self-help Kantisen remains unique.

All the social work which is credited to Kantisen is not done haphazardly or in a fit of generosity. There is a philosophy behind it, a hard-nosed assessment of one's duties and responsibilities as a concerned citizen and how to go about executing them.

And it didn't begin only when Excel was flush with money. It began in a small way four decades ago when, in 1964 the Shroffs donated Rs. 50,000 to Khimji Ramdas School for Girls, Mandvi for building a good science laboratory.

For years the Shroffs have contributed to the Ayurvedic Dispensary of Satsang Ashram. That Ashram was originally called Sastriwado (place of learned people). The Shroffs wanted the place to be indeed a Sastriwado.

Later Excel got involved with the good work done by the Ramakrishna Ashram in Gujarat. Around 1969 the involvement of Excel was only to the extent of helping Ramakrishna Mission in organising relief work in Kutch. It was only then that Excel realised especially during the long drought spell of 1971 and 1975 that any help in the form of short-term relief work helped only in reducing the hardships of the local people during difficult times, but did not result in any worthwhile long-term solutions to the problem of drought. As usual this led to some serious inward questioning and Excel came to some significant conclusions. Such as:

• Any activity for a region can best be done only when someone is physically present on the spot.

• Any such activity can only be done best with the involvement and cooperation of the local people.

• Most of the plans can be evolved and designed only by the residents of the region and not by outsiders.

• The needs of the region must clearly be understood before help is rushed.

• A list of all possible skills and resources like animal and cattle population, average rainfall, occupations of the local craftsmen should be carefully listed, and

• An access to know-how for various technologies should be made available and an organisation should be built to adapt these to local requirement.

So when Kantisen, on behalf of Excel first visited Kutch on the noble mission of meaningful aid he took these guidelines into consideration and met people from all sections of society. The views of government officials and voluntary agencies were also taken into consideration. Also, the feelings and ideas of people from all sections of society were understood and appreciated. Hundreds of people were contacted in their own homes and the strengths and weaknesses, opportunities and threats of a given area were thoroughly studied.

In regard to Kutch as a whole, the following points were noted:

Strengths:

• Land is available in plenty.

• Government has built a large number of earthen dams and contour bunds.

• Good rains in the past two years have provided sufficient stores of water.

• There is enough of land for pastures.

• The area is rich in cattle wealth (cows, buffaloes, sheep, goats).

• The people are hard-working, sincere and self-respecting.

• There is a lot of expertise among the local people in various types of handicrafts.

• There is a good potential for education – the number of high schools and colleges is on the rise.

• The area is very rich in mineral resources – either tapped or partially tapped.

• Kutch has a long sea coast and a large sea-faring community with vast possibilities for commerce and fishery.

Weaknesses:

• The electric power supply is erratic and insufficient.

• There is an absence of business infrastructure and poor opportunities for business.

• There is no nearby market for different local produce.

Opportunities:

• 35% of the land can be brought under forestation without much difficulty.

• Industries based on untapped resources can be started.

• Lignite can be used to generate power and fuel.

• Industries based on marine chemicals can be started.

• Further scope for afforestation and thus saving of top soil.

• Dry farming developed successfully on a small-scale can now be expanded on a large scale, and

• Extensive breeding of cross-breed cows can be undertaken.

Threats:

• Possibility of class and caste consciousness undermining work.

• Possibility of widening the gap between the rich and the poor, if social work is not properly planned.

Once these pluses and minuses were carefully studied, Excel then went about its self-appointed work systematically. Thus:

• Data was collected about the availability of lignite from government resources.

• Information of past scientific studies was collected on composition of lignite and how to achieve maximum utility from it.

• A workshop was conducted at the C. C. Shroff Research Institute, Excel Estate, Bombay with the help of experts and scientists from all over India, to gather first hand knowledge of composition, properties and utilisation of lignite.

• Based on encouraging data collected in the workshop, further experiments were conducted to recover valuable chemicals from lignite and to produce domestic and industrial fuel.

• The need for a power station in Kutch based on lignite was emphasised in talks with the Government of India.

Then Excel looked into the problems of agriculture and afforestation and came to a clear understanding of what was possible

and what was not. Scientific work was conducted on deciding on the right species of trees to be planted in Kutch which could withstand the adverse climatic conditions of the countryside. It was proved that plants like *Subabul*, Hawaiian giants and Hedge/Lucerene not only withstand low water conditions of Kutch but also can improve the condition of the soil. It was also proved that afforestation with these trees can be an economically viable proposition which pays back for itself – but only once in five years. And planting trees provided sufficient employment for many people. Thereafter work was done on new types of grasses which could lead to lusty pastures even in varying rainfall conditions and the subject of horticulture was introduced to more than 2,000 farmers and plants for chikoo, coconut, cashewnut and mangoes were provided from a nursery specially set up.

The next step was to improve animal husbandry. The following steps were undertaken:

• A programme for improving the breed of local cows was undertaken through cross-breeding, with the help of voluntary organisations like Bharatiya Agro Industries Foundation (BAIF) etc.

• Centres were established in different parts of the district to provide veterinary and artificial insemination (AI) services.

• Veterinary service was not restricted only to cows and buffaloes but to other animals as well.

• Technical guidance and help was given for increasing the milk production of cows in the area.

• Advantages of gobar gas plants for households and community purposes were conveyed to households and technological and financial assistance was provided to establish several units. Certain research work was also organised towards improving the designs of these units, and

• Experiments for all the work were conducted with the help of local *Gaushalas.*

Simultaneously, Excel turned its attention on how to manage scarce water resources. The efforts consisted of the following:

• Through demonstrations training was given in water management techniques like building check dams, small ponds, bunds etc. for water conservation and

• Training was extended to watering techniques to reduce water losses in the fields.

In regard to handicrafts, Excel went about meticulously looking for skills in all of Kutch and took the following steps:

• Local skills and artistes were identified and documented.

• For carrying out traditional Kutch embroidery work, the necessary material (cloth, thread, etc.) was provided.

Nike visits Kutch

The goddess of wind, Nike, is ready to outsource organic cotton from India. To be more accurate, global sportswear and equipment major Nike, which has committed to its consumers that 5 per cent of its total product range will be organic cotton, is in the process of tying up with Agrocel. Agrocel has been floated by Excel Industries' promoters – executive director Dipesh Shroff (44 per cent), Ashwin Shroff and Atul Shroff – in conjunction with Gujarat Agro. Organic cotton is being grown on a 70-acre plot in Kutch, with inputs from Icrisat scientists, who are examining insect pressure and the use of synthetic fertilisers and pesticides over a period of time. The 15 farmers who are growing organic cotton with consultancy from Agrocel have increased the productivity radically using this method. More importantly, the silkiness, appearance and fibre length have improved, attracting Nike to Agrocel. The next client might just be the currently besieged Marks & Spencer group!

(*Business India*: 17-30 April 2000)

• Similarly, marketing services were made available to the artisans.

• And fashion houses in Bombay were invited to provide designs that were marketable and these designs were then given to Kutch embroidery workers who were thus assured not only paying work but a ready market.

But if Kutch has remained a matter of prime concern for Excel because of the roots of the Shroffs in that barren land, Excel has been equally generous in extending help wherever it was needed.

Jambulpada is a tribal village in the hilly part of Raigad district. Excel spent considerable amount of money and energy in afforestation of the hills for the benefit of the tribal people with the cooperation of the Vishwa Hindu Parishad. Nearly 7,000 trees were planted in the area and tended over the years and which have become a source of livelihood for the tribals living in the area.

Similar afforestation work has been undertaken wherever Excel had its factories as in Bhavnagar, Lote Parashuram, Roha, Excel Estate, Goregaon and Amboli. In Bhavnagar, Late J. J. Dave has developed a beautiful forest adjoining the Excel factory. The aim has always been two-fold: grow trees essential for human survival and help in reducing pollution.

At all Excel factories as in Roha, Lote Parashuram and Amboli, one can now see avenues lined with trees, kitchen gardens and mini-forests around the chemical plants.

Excel has also been working on tribal welfare in cooperation with the Ramakrishna Mission in Thane district of Maharashtra. A lot of human energy has been invested in this work with five to ten Excelites spreading knowledge about compost formation, soil conservation, sanitation and public health at Excel's own expense.

And as quietly as ever, Kantisen has taken an active role in guiding the work of the Dnyana Prabodhini in its splendid work in the field of education. It was, says Y. S. Lele, "the high degree of motivation and dedication" of the Prabodhini staff that itself motivated Kantisen to extend his hand of cooperation to it.

Acquisitiveness has never been the policy either of Excel or of the VRTI. For example, VRTI handed over the Unnati

Adult classes are on at Jambulpada, in Raigad district, Maharashtra.

Dairy Farm at Mandvi back to the people after managing it successfully for five years. The dairy was set up to process 5,000 litres of milk per day. It was kept deliberately small to test its viability. It has proven its usefulness. Presently it links up 31 villages and 600 suppliers. Payments are made to farmers every fortnight on the basis of fat content. Was it wise to hand over the dairy to a private party? The answer of one VRTI official was: "There is no other way". Or else how does one ever teach people to be self-reliant?

Similarly, the Ashapura Foundation was handed over to some villages to activate wasteland development

But the most brilliant idea that ever occurred to Kantisen surely must be the one concerning maximising the use of cattle. Nobody seems to have ever thought of it before and to Kantisen must go all credit.

In India, as we all know, the cow and its progeny have been reverred as 'holy' creatures for as long as one can think of. The cow, literally, has been *kaamadhenu,* the cow of boons, the Great Provider.

If the cow provided nourishing milk, the bullock was put to use in farming activity such as ploughing fields, drawing water from wells and pulling carts. But farm work was limited at best to three months in a year.

During the rest of the year the bullock was useful in operating crushing devices as in extracting oil from oil seeds and juice from sugarcane or in grinding and mixing sand and lime which was then used for house construction.

Cowdung was used as fertiliser in fields but not much use was ever made of cow's urine. It was left to Kantisen to find out a way of turning the friendly microbes in dung and urine for bio-degradation, though prior to that cowdung had been used to generate biogas as an alternative to fossil fuels in village households.

But with the advent of modern technology the bullock for all practically purposes had been rendered redundant and displaced by diesel or electric-powered ploughs. A farmer could use a diesel-engined plough for the duration of the ploughing period and then store it till the next season and it did not cost him anything. But a pair of bullocks used for ploughing had to be kept alive and maintained in good health and that cost a lot of money. It was cheaper for the farmer to sell his unusable bullocks to the slaughter house.

Absence of any national legislation to ban the slaughter of cows and bullocks has been hurting the sentiments of many people, particularly orthodox Hindus. Some time around 1996, a group of agitating people, campaigning all over the country to mobilise support in favour of the anti-slaughter legislation and to exert pressure on legislators, happened to call on Kantisen, at his office in Mumbai. Could he help the agitators in what they told him was a noble cause?

Kantisen heard them out patiently. He agreed with them that something should be done to protect the lives of cattle. At the same time he felt that it was not enough for him to pacify the agitators. As a technocrat, he felt that he should accept the challenge posed to him to find ways and means to rehabilitate unwanted cattle, be they cows or bullocks.

It was then that he decided to undertake his bullock-power project in an imaginative way. Could cattle – or for that matter any other muscular animal like he-buffaloes, donkeys, camels, ponnies etc. – be used for purposes other than ploughing or pulling carts? Could they be used as non-conventional source of energy to operate simple productive devices which, in turn would also serve as an affordable alternative to address the mounting pressure of environmental problems associated with hydrocarbon fuels? Hydrocarbon based fuels had come to be recognised as one of the main culprits leading to global warming and health hazard for society all over the world.

The more he thought about the subject, the more Kantisen was activated to work out a device that could turn muscle power into electricity. What was necessary was to make a device, using known mechanical and electrical components such as shafts, gears, pinions, free-wheels, fly-wheels, bearings, pulleys, V-belts, escapement controls, generators, power-boxes, converters/inverters, battery chargers, capacitors etc. to turn ordinary muscle power into useable electricity!

Rudimentary design of the proposed Bullock Power Project by Excel Engineers at Amboli.

Such a device was indeed devised.

In the conceived prototype that was first used for experimental purposes, two pairs of bullocks were attached to a set of hollow pipes fixed at right angles. The bullocks were driven at their normal rate in circular motion. The long arms were connected to a vertical shaft to move a gear-box system to successfully step up revolutions per minute (RPM) needed to operate various kinds of productive equipment at the other end. It was noticed that the device could be used with no extra strain on the bullocks to operate a water pump, a mini-oil mills, a flour mill, fodder chaffer and cutter, threshers, mini-lathe and electricity generator for domestic lighting and heatings!

Initially, the device in its rudimentary form was designed by engineers of Excel Industries Ltd. The trials and test-runs were carried out in one of Excel's factories located amidst the urban surroundings of Mumbai.

The results were quite encouraging, but it was realised that for any application-oriented work, the project should be moved over to a rural area where normal pairs of bullocks were easily available and could provide an ideal surrounding to modify if necessary and develop the whole device to operate and serve the various needs of a village.

With that in view, the project work was immediately shifted to a village called Kalali located about six kilometers from Vadodara in Gujarat State. The Shroff Foundation Trust located there was engaged in rural development activity

Shroff Foundation Trust
सेवा सद्भावाद विकास

under the supervision of Kantisen's daughter-in-law Shruti (married to his industrialist nephew Atul) who was only too happy to cooperate and find volunteers to facilitate the testing, monitoring and recording of details at different phases of the project.

With the exemplary support and cooperation that Shruti was able to enlist voluntarily from the villagers, a herd of 8,000 bullocks was provided to work on the project in 24 villages in Chhota Udepur. This enabled the team of dedicated engineers to carry out the experiments and introduce the necessary modifications to make the devices fully operational for some of the productive work in the villages. The following aspects of the project were noted:

- In the first prototype bullock power project operated in Kalali village, the bullocks imparted 50 rpm to the gear-box initially and once it passed through the shafts to free-wheel and fly-wheel, the rpm increased to 1,400 and 2,400. It was further noticed that the rpm could be multiplied by using different ratios of gears.
- Each bullock when used for 8 hours could generate 3.2 kilowatts of electricity. Four bullocks working for three shifts could produce 50 units per day or 15,000 units a year.
- In the Chhota Udepur project using 8,000 bullocks it was possible to generate 2500 kw of electricity.
- The cost per unit of electricity thus produced came to around Rs. 4 – far cheaper than the cost of Rs. 40 by windmills and about Rs. 1,000 in the solar energy system.

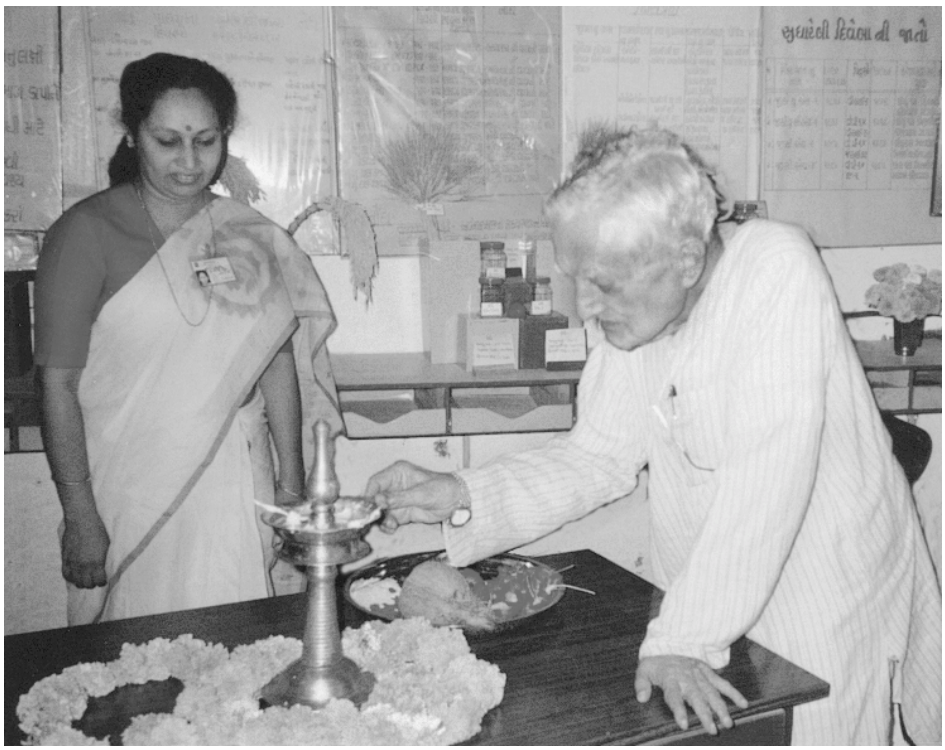
The Bullock Power Project. The conceived prototype that was first used for experimental purposes.

• The cost of the basic unit was initially placed at Rs. 40,000 which since then came down to Rs. 25,000 with the prospects of being further reduced to Rs. 5,000 if sufficiently large numbers were produced.

• Transmission and distribution losses proved negligible as the devices operated at the point of power needs.

Following these experiments it was observed that some powerlooms had begun to use bullock power for generating electricity in one of the villages in Gujarat for production purposes!

The Shroff Foundation Trust, incidentally, was set up at Kalali in 1980 as a charitable organisation to assist village population in improving their productivity, efficiency and creativity through services and goodwill, with the support of industries, academic institutions, voluntary and government agencies and with the guidance of competent and committed experts by knowledge inputs and effective management of available resources such as land, water, energy, livestock and people. It was also the Trust's mission to upgrade the quality of the lives of everyone in the villages, the children, youth, women, men and the aged, mainly through their own involvement, interest and initiative.



Govindjibhai in silent acknowledgement of the dedicated work done by Shrutibhabhi at the Shroff Foundation Trust, Kalali.

By any standard, the work of the Foundation is impressive. Between 1987 and 1996, at the Dr. Ramesh Gandhi Smarak Bal Kendra, some 5,000 children were enabled to develop their conceptual clarity and understanding about subjects like water, traffic, gardening, hospitals etc. Children were encouraged to save approximately Rs. 94,000. As many as 788 women were enabled to acquire skills through training programmes and an awareness of their individual personalities. Women in three villages were enabled to start Mahila Dairies through cooperative action, thus raising their individual monthly incomes by as much as Rs. 854. Another 116 women learnt papad and agarbatti making, Kutchi embroidery etc. to earn a monthly income of Rs. 750. Health services were provided to 8,000 families and 65,721 cases. As many as 900 farmers were enabled to achieve a 15 per cent raise in their crop yields and a rise of 12 per cent in the income. Some 27,035 cattle were vaccinated and sterility camps contributed to the improvement of health and breeding of 4,771 cattle. The Foundation could provide 30,000 *chulas* at Rs. 60 each and 7,000 sanitary latrines were built that significantly reduced community diseases. At the same time independent water supply was provided to two villages for washing, irrigation and other purposes and one check-dam was built at Kalali and Talsat villages. It almost seems like an endless list that includes water harvesting, afforestation, agricultural improvement, child development, employment generation and provision of latrines.

The inauguration of the Health Care Centre at Kalali on 15 January 1990.

The philosophy behind it all was summed up by Kantisen in the words of Swami Vivekananda:

"Each soul is potentially divine. The goal is to manifest this Divinity within, by controlling nature, external and internal. Do this either by work or worship or psychic control or philosophy – by one or more or all of these – and be free. This is the whole of religion. Doctrines, or dogmas or rituals or books or temples or forms are but secondary details."

Had Swami Vivekananda come alive to pay a visit to Kalali, he would surely have been mightily pleased to see his philosophy put into daily action.

In Kantisen the Swami would have seen his most devoted follower and his most apt student.

And the Shroff Foundation Trust is determined to extend its activities and provide ever increasing service to those who need it. It operates out of four centres: Kalali, Rangpur, Ekalbara and Piludra. At Kalali, the Centre is equipped with a full-fledged hospital and health care centre.

The villages adopted by the Trust have diverse demographic and psychographic profiles:

Kalali, a village 6 kms away from Vadodara City, has good education, health care, roads and communication facilities. Moreover, majority of the earning members of the village have jobs in the nearby industrial estates and hence agriculture is a source of additional income.

Rangpur, a village 135 kms from Vadodara City, is one of the most backward areas of the State of Gujarat, having a dominant tribal population. This area is ignorant of any programmes initiated by the government. People in this area are uneducated and are unaware that a city called Vadodara exists! It is a luxury to them to visit Chhota Udepur, a small town 22 kms away.

Ekalbara, a village 25 kms away from Vadodara City has good education facilities while health care, roads and communication facilities are not satisfactory. However, people are depending on agricultural jobs and industrial jobs in the nearby industrial estate.

Piludra, a village in district Bharuch, is 45 kms away from Vadodara City and 75 kms away from Bharuch. The education facilities and health care facilities are satisfactory. The major part of the population depends upon agriculture and related activities. Hence, the potential for agricultural development is ideal here.

The Watershed Development Programmes have had good impact in the villages. Self-help groups have done total business of Rs. 4.5 lakh and reaped a total profit of Rs. 2.50 lakh.

In regard to water conservation, 7,000 hectares have been treated under the Soil and Water Conservation Programme and water tables of 110 irrigation wells have been raised by two to three feet. Some 1,200 farmers have been enabled to earn between Rs. 500 to Rs. 1,000 per acre. As many as 1,750 farmers have been trained in agricultural development.

"Had Swami Vivekananda come alive to pay a visit to Kalali, he would surely have been mightily pleased to see his philosophy put into daily action."

In regard to afforestation, as many as 20,000 saplings had been given to 320 farmers. A survival rate of 60 per cent has been achieved. 400 kgs of fodder coimbatore grass have been planted on farm bundings.

Arogya Services have provided 45,000 OPD patients and 5,000 patients medical service at affordable costs. 2,800 mothers and 12,000 children have benefited from RCH (Reproductive and Child Health Care) services. 6,000 patients have been successfully operated in 9 camps covering various specialisations such as Ophthalmology, Gynaecology, ENT and general surgery free of cost.

Under Livestock Management Programme, 5,302 cattle have been covered and calf mortality rate has declined by 5 per cent. 36,041 animals have been vaccinated.

In all these years 4,130 latrines have been constructed in 475 villages of Vadodara district and Rs. 17.77 lakh have so far been paid out as labour charges to masons and civil labourers.

Sanitation problems of 4,130 families could be solved.

What is important from another point of view is the manner in which the Shroff Foundation Trust has been helping educational institutions. The Trust has been able to train students from Gram Vidyapith, Nardipur, Mangal Bharati, Kumarappa Vidyapith, Home Science Department, M. S. University, Department of Social Work, M. S. University, all from Vadodara.

In the circumstances the Shroff Foundation Trust has linkages with a broad range of organisations starting with the Maharaja Sayajirao University, various government departments like the Gujarat District Rural Development Agency (DRDA), Integrated Cattle Development Project (ICDP), Integrated Child Development Scheme (ICDS), Gujarat Water Supply and Sewerage Board, Gujarat State Seed Corporation, Gujarat Energy Development Agency, Unnati, Ahmedabad, United Way, Vadodara, Deendayal Research Institute, Shri Chinmayananda Mission, Vadodara, Sadguru Water Foundation, Dahod, Sewa-Rural, Jhagadia and so on.

It was not just at Kalali that innovative ideas were tried out. Innovation had always been Excel's strength. As early as 1982, writing in Excel's 40th Year Commemorative Issue, Walter F. Mendoza had this to say:

"At Excel Estate, Goregaon, we did a study on one such integrated sequence. Human and kitchen waste was fed into a pond on which the obnoxious weed, water hyacinth, thrived. Water hyacinth absorbs these wastes and cleans the water. At the same time ducks prevent the stagnant water from becoming a haven for mosquitoes. They eat the larvae. Pig dung and bird-droppings are feed for fish, which thrive in water cleaned by water hyacinth. The leaves of water hyacinth are food for pigs. Water hyacinth and pig dung are also

very useful for generating bio-gas and the effluent from such a gas plant is a fertiliser of very high quality. If needed, the fibre extracted from water hyacinth can be used separately. Water hyacinth in a semi-fermented state can be dried and used as fibre board or for making bricks. The uses are many and we are yet to work on them. We have begun."

The idea was not to allow anything to go to waste. In the normal course of things one would dismiss human and kitchen waste as unworthy of attention. Water hyacinth was a disaster plant that choked many ponds. But here was an attempt made that turned negative thoughts into positive achievements. Everything had its use, if only one knew how to manage waste.

Earlier it was stated that the 80s were a period of crisis for Excel in many ways with a slackening in business and growing tension within the industry itself. Excel itself had to face a grim situation.

Excel faced it in its own determined way. It organised a group discussion of its young professionals in 1982 to find out what had gone wrong and how things could be set right. A summary of the discussions was subsequently provided to the top management. And the man who gave a fearless account was Walter F. Mendoza. In an article he submitted to the Excel Commemorative Issue which was published uncensored, Mendoza was blunt and critical to the point of being almost offensive. But this is where Excel excelled: it could take criticism and gain from it, even as it could gain from organic wastes. And this is what Mendoza wrote:

"With great optimism that was invariably rewarded, the late C. C. Shroff collected around him seemingly ordinary looking people. Invariably they were semi-educated, more often not illiterate. They rose to the occasion and proved themselves capable of great deeds. Their achievements are the success story of Excel.

It was most natural that these stalwarts had great trust in Excel's management. The atmosphere was most congenial for paternalism. Excel was one big, happy family. Until the advent of the crisis of 1980. In 1980 Excel, after years of accelerated growth stalled in its progress.

Adaptability to the changing times without compromising on the basic principles is yet one more management tool of great importance . . .

— G. C. Shroff

The reasons are manifold. Factors, both internal and external, aggravated the situation. This is not the place to analyse them. But its impact on employee relations was tremendous. The myth of one big, happy family was no more credible.

With hindsight, we can say that it was always clear that matters would come to a head. As we said earlier, the induction of manpower with professionally trained skills, created the first divide. They were self-confident, self-motivated, often brash, and also often contemptuous of the old timers.

This was at all levels – from the workers with operators, and technicians from IITs to the graduate clerks, supervisors and engineers, to the post-graduate specialists in the management accounting and costing.

They were all excited by the prospect of Excel's much-vaunted idealism. The freedom of thought that existed was exhilarating and intoxicating. It fired the imagination of these professionals – almost to a man. But there was a let down.

Freedom of action did not match the freedom of thought – for many reasons. For one, the youngsters lacked the experience to implement many of the bold ideas. Second, not all ideas were practicable and would have brought the desired results. Third, there was also vacillation in the minds of management to fully trust these young men and women.

Hence, responsibilities fluctuated between the old timers and the new-comers. This see-sawing of one's prospects predictably created too many strains. Even when these professionals are experienced enough to implement their ideas and give their best, there is a reluctance to fully commit responsibilities to them. Anyone finds it difficult to withdraw one's authority over day-to-day activities and confine oneself to tomorrow's prospects. This problem is not unknown. All its ramifications remain to be uncovered, and genuine efforts are being made to overcome this disability.

Whatever be the radical efforts of the management to create a climate where growth of the individual is as important as the growth of the organisation, there are structural limitations. Commercial organisations are structured such that organisational interests have primacy over

all other interests. Within this framework only can an enlightened management manoeuvre according to its ideals and style.

This was brought out in bold relief in the crisis of 1980. All the goodwill earned in the decades of paternalism was shaken when Excel was, for a moment, not one happy family, but employer and employees. This structure is given and cannot be changed by style. In good times it can merely be glossed over. Hence, an institutional framework will have to be developed that recognises these limitations very frankly and operates within this framework. Any other method will be illusive and manipulative".

That was dynamite. But it is to the credit of Kantisen – and at that point in time it was Govindjibhai who was in charge – that the criticism was taken to heart. In his editorial in the Excel Commemorative Issue, Govindjibhai had said: "Adaptability to the changing times without compromising on the basic principles is yet one more management tool of great importance . . . An area of adaptation is acceptance of the new class of professionals – the young graduates of Business Management who have brought with them a new style of management and better tools to face the complexities of present day business".

Relief work in Orissa when the super cyclone struck in January 2000.

And he was to add, ominously: "In summing up, I can say: From whatever discipline he may come, and when he may occupy a high position, the major task of any Chief Executive Officer would be to concentrate on men. To locate their strengths and affect right placement. *And never to hesitate punishing the indisciplined*". (emphasis added).

The strategy worked.

Excel got out of the trough and during the ten years that Kantisen was at the top, Excel went from strength to strength.

The devastation of Orissa after the super cyclone did not deter the Excel group from its commitment to relief work due to any natural calamity.

Relief work has been the Shroff Foundation Trust's speciality and it has always participated in various disaster management. And when a Super Cyclone struck Orissa in January 2000, the Trust was on the job rightaway.

To start with the Trust appointed five men as its team core: Dr Nirman Pandya, Hasmukh M. Patel, Shashikant Parmar, Indubhai Patel and Girwatsing Rathod. Each belonged to a particular discipline.

Accustomed to do relief work at a short notice, the members knew exactly how to go about their task. First it gathered all the basic necessities needed in relief work like medicines, clothing etc., and coordinated its work in Orissa with a local team. A detailed survey was then undertaken in a pre-printed form in all the villages under its relief jurisdiction. All families were covered.

In every village a Vikas Samiti was formed and its members were involved in all policy decisions. A Bank Account was opened in the name of the Vikas Samiti and two members authorised to operate it. An action plan was then drawn up for implementation and priorities were strictly laid down. Local people were taken into confidence and their help was sought in material distribution and account keeping.

The team's agricultural expert taught the locals who were given instructions on use of various pesticides, seeds and fertilisers appropriate for the soil of Orissa. The team was in the State for two months.

Humanscape interviewed Kantisen on the SFT's experience in Orissa.

Q: What has your group's experience been regarding the work in Orissa after the cyclone?

K: Arising out of our experience elsewhere, especially in Kutch last year, we know now that the one most critically needed item in any disaster situation is drinking water for the people. Luckily, at Excel Industries one very important subject on which we are working is microbiology. We are working on both sides of this science: on the one hand how to develop helpful microbes in a problematic area and, on the other, if problematic microbes arise, how to control them.

In Orissa we found that, basically, there were two urgent issues facing us: one was the severe lack of drinking water and other was the pressing need for sanitation.

From the beginning of this cyclone we started talking with the State government as well as the Government of India about how Excel, with its past background in helping disaster situations, could help out. Luckily we also have an office in Cuttack and we are also an agrochemical company, so we could aid in various activities effectively.

We had 16 of our field staff from there and alongwith them was one senior officer with three of his colleagues. From Mumbai we sent another five colleagues who had greater experience in disaster management. We also air-dashed some material because cleaning the drinking water was extremely essential and had to be done without delay.

Q: In practical terms, how did you tackle the problem of sanitization and drinking water in the villages?

K: The Relief Commissioner, Meena Gupta, had allocated five villages to us. We also took up some work at Paradip Port, and since we already have an office at Cuttack, we worked in parts of the slum areas of the city. We knew that at that moment we could not spread out too far, so we first formed two and then four teams which went out. One of the first things we did was to inoculate all our volunteers so that they were very comfortable.

Orissa cyclone and the devastated locals, destitute and awaiting help and relief.

We resorted to our old, tested sanitization techniques and equipment which we had used during the Kutch cyclone last year. You see, it's actually very simple. When a human being or animal dies, the putrefying bodies begin to stink. At this stage all that is needed is for some one to spray sanitizers at body orifices – that is, the mouth, nose and anus and this immediately stops the foul odour. It is a very simple and scientific procedure. A simple spray is used to do this and it is done with the minimum of material.

At the same time places too had to be sanitized in Orissa – for instance, the Public Health Centres (PHCs). The cyclone had turned them into extremely unhygienic places, with mud and slush all over the place. Nobody had cleaned them up and they were no longer places where medical care could be made available. So, one of the primary tasks of our volunteers was to go and clean up the areas.

Then came the task of tackling the drinking water situation. At that time people were talking of the water being so bad that it had a peculiar, rotting carcass taste. We felt that it should be one of our primary responsibilities to make water potable. And this had to be done day in and day out, not just for one time.

Fortunately, at Excel, we have found a very simple and effective way of using certain chemicals to make water clean. This was done immediately, in the first place. In the second place, we set up water purification systems in the villages. We calculated that you need around 5 litres of drinking water per person per day. The method we followed is again a simple chemical process.

And the whole thing does not cost more than Rs. 10,000. Moreover, the equipment is so simple and so easy to handle that one of our volunteers carried it on his head as he waded through almost neck-deep water to reach a village. And the cost does not come to even one paisa per litre or so. You see, science is very simple and very cheap.

Kantisen then explained how the cyclone in Kutch and the disaster that followed was effectively handled. That was the time when Kantisen was still not quite sure of how effective the microbes were in sanitizing dead bodies. All that he knew was that at a time of disasters human beings "rarely come asking for favours but instead they start working alongside". The Kutch cyclone taught Kantisen and his volunteers many lessons.

Q: And these lessons are helping you in the Orissa situation?

K: Yes, very similar things have happened in Orissa. And our group has been hard at work. Now the winter (*boro*) rice has to be planted. We have selected 50 families in five villages to whom our total services will be given. A lot of land has been destroyed as salinity has occurred. But luckily they are small fields and now we are helping them rebuild the organic material.

Fortunately, the Indian Rice Research Station is in Cuttack from where the seeds will be obtained. Small nursery plots will also be built and our local staff will be there to help in all this. Then we have Shri Vivekananda Research & Training Institute which is very strong on *watershed management*. Before summer, a lot of trees will have to be planted. So a lot of work is to be done in rebuilding.

However, what is of great significance is that wherever we are working we are not talking in terms of doles, but we are trying to create renewable funds. Unfortunately, Orissa, once one of the finest examples of civilization in our country, is looking so bare today simply because politicians have ruined it. We were allocated five villages, and now our goal is to reach 8,000 villages. Ultimately the aim is to reach each and every village. A number of big industrialists from Bombay are planning on joining in because now a holistic picture is emerging. I would like to point out again that it is not a matter of just funds – our capability is in managing resources and in Orissa we will demonstrate how resources can be effectively managed to rebuild a place.

In Orissa the problem facing relief workers was not lack of water, but rather, excess of water. In Kutch, most of the time, villagers had to be taught how to save water. And this is where Excel came to achieve expertise in watershed management.

Much the same approach was taken following the Latur earthquake when Excel and Shroff Foundation Trust sent their relief team.

In the matter of the assistance given to the victims of the Latur earthquake which hit the township and surrounding areas in September 1993, D. J. Unakar has left an excellent account of what transpired at Excel.

Latur Reconstruction: *After the disastrous earthquake in Latur district, the renewal work in Latur and surrounding areas was carried out along with the efforts of Ramakrishna Mission, through Vivekananda Gram Vikas Prakalpa. Excel played intensively participative and supportive role not only towards rehabilitating the local people, but building a self-reliant infrastructure, enhancing health care, hygiene, soil enrichment, tree plantations and watershed development and social and cultural awareness.*

On the night of Friday, 30 September 1993 an earthquake of severe intensity shook the entire districts of Latur and Osmanabad in Maharashtra. It was *purnima* (full moon) day following *Anantachaturdashi*, according to the Hindu calender. All over Maharashtra this day is easily remembered because the disaster occurred just on the night after people returned home from the immersion of the idols of Lord Ganesha.

On the day the earthquake occurred and also the following day, Kantisen was away from Mumbai. But rather than wait for him to give the leadership, preparations for extending help to Latur had started on the staffers' own initiative.

Ashwinbhai was very much in town. Indeed even before starting from home, he called up the office to convey a message that he would like to meet a few key people to chalk out a plan of action. But by the time he actually arrived, preparations had already begun, since some of the staffers had started putting their heads together for working out what needs to be done – and how. Among them were Anilbhai Purecha, the officer in charge of house-keeping, Pratapbhai Dave in charge of the Canteen and Keshav Khade from the First-Aid Medical Room. Additionally there were Ramdhan Pawar who looked after the ICDU in the company, and senior Executives like C. M. Deshpande and Rohidas Kabade who had contacts with Mantralaya and could enlist support from the State government. By the time Ashwinbhai arrived at the office, brain-storming had already begun.

While this was going on in Mumbai, out there at Mandvi Tulsibhai Gajara, an acknowledged expert on crisis management was on the phone to talk to known people as far away as Nanded, Solapur and parts of Vidharbha to get first hand information on the damage wrecked by the earthquake. Armed with sound information Tulsibhai was to take the first available transport to Latur having told Excel headquarters that he was going there and would be in touch with Mumbai after having made his own assessment of the nature and extent of help needed at Latur.

On reaching Latur Tulsibhai conveyed to headquarters that the situation in Latur seemed grim, that many houses had collapsed and there was fear of an epidemic spreading. There was also fear of possible looting by miscreants and authorities had cordoned off the area and it would be wise on the part of Excel headquarters not to rush to Latur until the picture became clearer.

Meantime Kantisen had returned to Mumbai to take charge of the situation and to make detailed plans for relief operations. Contacted was the Ramakrishna Mission and State government authorities for permission to act.

Word finally came from authorities and on Friday, 11 November, the day of *Dhanatrayodashi*, two days before Diwali, 42 days after the disaster Kantisen along with some senior monks from the Ramakrishna Mission left Mumbai by car for Latur, to get first hand information and assess the nature of relief operations. The team stayed on three days before returning to Mumbai.

Meanwhile, the government authorities had assigned three villages, Haregaon, Jawalagawadi and Kawali in Ausa taluka of Latur District to the Ramakrishna Mission and Excel. In all 646 houses were to be built in these villages. And Excel started in right earnest to collect the necessary material. A Camp Office was quickly set up to coordinate all activity.

Kantisen had sent out letters to chairmen of cement manufacturers like ACC and Gujarat Ambuja Cement for financial assistance. These companies offered 5,000 bags of cement free and another 5,000 bags at concessional rates. Tata Iron helped with steel allotment from their rolling mills at Taloja and Camas of *Mumbai Samachar* agreed to place a substantial sum at the disposal of the Ramakrishna Mission.

Construction work was taken and work was completed in record time. From the money that Excel staff themselves raised, 55 sewing machines were bought for distribution among the women. Additionally Excel had donated sets of tools for the use in carpentry, electrical and masonry work.

After the completion of the Housing Rehabilitation Programme Kantisen had other ideas dealing with socio-economic rehabilitation of the people and had drawn out a detailed programme. Excel, based on this programme, was to send teams of experts to teach people better cultivation practices, efficient use of inputs and ways of improving the quality of agricultural produce, so that farmers could get higher returns from their activities through their collective and cooperative participation.

Kutch Nav Nirman Abhiyan

When a cyclone hit Kutch in May 1999 the State government lost no time in seeking the support of the Kutch Nav Nirman Abhiyan which was quick in initiating a relief plan.

Early steps were taken to prevent an epidemic. A large number of cattle had died and many carcasses were noticed in streams and ponds and an extensive campaign was conducted to chlorinate them. An information campaign was undertaken to educate villagers on health issues. A detailed house-to-house survey was conducted by the Abhiyan in 197 affected villages to assess losses suffered. Distributed were 40,855 ready made food packets, 10,000 kgs of wheat flour and rice in packages, 645 tarpaulins, 211 sets of household utensils, 350 medical kits, 10 truck loads of green fodder, 1,000 kgs of cattle feed, 5,000 pairs of second-hand clothes, 55,130 tiles for roofing and 472 litres of phenyl for disinfection purposes.

The Abhiyan enlised the help of 80 volunteers from organisations such as Kachchh Mahila Vikas Sangathan, Shrujan Trust, Shri Vivekananda Research & Training Institute, Ashapura Foundation, Kachchh Fodder, Fruit and Forest Development Trust, Kachchh Vikas Trust, Sahjivan, Bhimani Khadi Mandal, Gram Swaraj Sangh and Rural Agro Research & Development Society.

Such was the reputation and credibility of the Abhiyan that the results of the survey conducted by it for rehabilitation and compensation scheme were accepted by State authorities as authentic.

And so efficient was the organisation that the entire work of handling dead cattle was completed within two weeks. It has reason to be grateful for the Swiss Development Corporation for financial aid to the extent of Rs. 10 lakh in rehabilitation work.

The annual report of Shri Vivekananda Research & Training Institute for 1998-99 gives an indication of the enormous work done by it in various departments of social service such as Watershed Development, Rain Water Harvesting, Public Awareness, Health & Hygiene, Education etc. Included in the Soil and Water Conservation Programme were items such as building Check Dams (5 nos) Farm Bunds (122 nos), Nala Plugs (139 nos), Storage Tanks (33 nos), Percolation Tanks (2 nos), Field Bunding (68 nos), Contour Trenches (28,000 nos), Agro Forestry Plantation (10 nos) and Gully Plugging (3 nos).

Some 3,528 cattle were de-wormed and 4,670 were vaccinated. As many as 162 farmers benefited from horticulture plantation plots and 721 families were provided with vegetable kits for kitchen gardening, in Kutch alone.

Similar activities were pursued in Bhavnagar and Amreli districts as well. In Bhavnagar district, the village of Naari was provided with drinking water facilities benefiting 13,000 people and a check dam was constructed at the tail end of Bhavnagar city sewage drain with a view to check the salinity in the surrounding area. As Tulsibhai Gajara noted, people have witnessed substantial transformation in civic life as a result of the programme of wasteshed development conducted over a period of four years. With considerable satisfaction if not pride, Tulsibhai noted: "An element of self-motivation has been noted in the watershed villages like Manjal, Mamaymora, Gandhigram and Bheraiya. These villages are emerging as models for people from outside". In just one village, Manjal, people, mostly Rajputs cooperated in completing 8 storage tanks, 28 farm bunds, 23 nala plugs, 12,000 staggered trenches and 76 loose boulders in just one year.

As Tulsibhai put it: "We shall be able to meet the new challenge with the dedicated efforts of our workers and the financial support from donors and various funding agencies".

One of its early experiments was in Manjal village in Kutch which had a population of hardly 287 people; they were mostly Rajputs with a sprinkling of Harijans, Muslims, Brahmins and Jains. For years the village had been facing the problem of permanent water supply. The area was hilly and stony. No government had cared to look into its plight until the Rural Development Agency of Bhuj took on the responsibility and entrusted the

VRTI to implement the project under the Watershed Development Programme. The Programme was implemented stage by stage starting with the training of members of the watershed development committee. Some Entry Point activities like construction of a compound wall for cattle and utilisation of waste water created an element of confidence among the people.

The first priority was given to water and soil conservation programme. 12,000 staggered trenches were dug to arrest rainwater runoff. This prevented erosion; conservation of water increased the growth of grass and enabled an additional crop of groundnut to be reaped that raised the annual income of the village by Rs. 10 lakh in 1998. In individual cases, farmers harvested a wheat crop that gave a net income of Rs. 4,000 per acre. The economic benefits accruing from the programme enabled eight farmers to purchase eight oil engines and to install 2,000 ft long PVC pipelines costing Rs. 1.62 lakh which they paid out of their earnings. More, six farmers developed their 40 acres of land by land levelling and terracing at a total cost of Rs. 2.40 lakh which was borne by them.

More significantly, five additional tractors were purchased by individual farmers for managing their agriculture in the changed situation.

What this and other activities have shown is that a whole lot of progress is possible if only we know how to make the best use of the resources available. And what effective leadership can do.

Between 1980 and 2000 Kantisen must have written several papers on how to make the best use of wind, water and plain sunlight. The titles of some of them are indicative of his concerns, like:

- Building the Rural Urban Civilization in our Sunlit Tropics.
- Industrial Pollution Control Through Land Application.
- Role of Voluntary Service Organisations in National Development.
- India's Role in Building a Renewable, Responsible and Ever-Growing Global Civilization.
- Values in Industry and Business.
- Bringing Our Second Green Revolution with the Help of Our Domestic Animals.
- Why We Need a Minimum of 25 crore Cattle in Our Country.
- Cattle's Contribution to Safe Environment and Better Living.
- Solar-Power based Industrial Civilisation.
- Understanding the Sun's Energy: It's Benefits for India.
- Co-operative Cattle Power Project.
- Photosynthesis Factory.
- Scientific Agriculture in the Arid and Semi-Arid Regions in India.
- Building a Socio-Economic Order in the Tropics Based on Renewable and Sustainable System.
- Management of Trusts & Resource Mobilisation for Voluntary Service Organisations.

Some of his assertions are deceptively simple. Thus: "On one hectare of tropical sunlit land through photosynthesis one can fix upto 150 tonnes of carbon dioxide (CO_2) and other greenhouse gases producing 100 tonnes of dry biomass and 110 tonnes of oxygen ensuring a non-polluting, clean, green, productive environment".

Or: "Our more than 10 crore cattle muscle power and microbes can help both ways to generate the required power when and wherever required in our six lakh villages. We have already built a machine to generate upto 5 HP which can be put into a grid".

Or: "India alone can comfortably fix more than half of these greenhouse gases on its well-dispersed 6 lakh villages ensuring a meaningful wealth-generating responsible society that will simultaneously demonstrate how our Mother Earth with all the inhabitants has to be cared for".

In 1995 Kantisen became the first recipient of the Special Award instituted by the Shree Saurashtra Lokmanch Trust, Rajkot.

But by then Kantisen had been the recipient of several awards. His name had become synonymous with innovative ideas which were eminently practicable as he so often showed in Kutch which had become the laboratory of his ceaseless mind.

To round up, as it were, his contributions to various aspects of development, Kantisen set up the Excel Institute of Technology, Environment and Management (EITEM) at Bhavnagar in July 1990. The "Mission Statement" speaks for itself. It says:

Excel Institute of Technology, Environment and Management is a facility being created by Excel with a mission to prepare for future in terms of development of people and culture of Excellence through education, training, learning and sharing in the areas of Technology, Environment and Management.

Excel believes in ensuring a healthy and rich environment where people participate and generate Solutions, Contributions and Wealth. We believe in overall and all-round growth rather than growth in terms of quantitative figures. The all-round growth can never be a chance occurrence and intensive planning and preparation are essential.

EITEM will endeavour to prepare for future of more healthy environment, innovating and wealth-generating technology and effective, efficient and economically sound Management of resources and results.

EITEM will be an institution of learning. We believe that nobody can develop anybody. One has to develop himself and institutions like EITEM can assist in that process in terms of knowledge inputs, information bank and an atmosphere and facilities for sound learning.

Technology is one of the important engines of Progress. Excel has built its progress mainly on the strength of its People and Technology. Excel has rich experience in different aspects of Technology covering Research, Process Development, Engineering, Alternative materials of construction, basic Engineering, detailed Engineering, Industrial Engineering, Production Engineering, Technology of Health, Safety and Environment and Engineering of factory buildings.

EITEM will collect, record, share and improve various aspects of technology and will ensure that techniques, methods and practices are stored and passed on to present and future engineers.

EITEM, Bhavnagar – Continuous Learning and Training.

Environment is of primary importance for Excel. EITEM will collect and distribute knowledge and information regarding Pollution Prevention, Solid and Liquid Waste Management, Land Management, Soil Preservation, Soil Protection and Soil Enrichment, Water Management, Assurance of clean air, Forestry Management, Management of Nurseries, Plant types and uses, Science and practice of Biotechnology, Microbiology and Biochemistry and Techniques of Converting Waste into Wealth.

Management as Science of Knowledge and Art of Practice adds tremendous value to the endeavours of Excel. EITEM will ensure knowledge inputs of effective management based on efficient use of material resource, mutual support and inter-dependence of people and respect for our cultural heritage. Excel believes that Management process is ensuring an environment where Excellence of People is expressed and realised.

EITEM will collect and share knowledge regarding Marketing, Operations, Materials, R & D, Projects and Finance. Our Management, People participation and Contribution is at the core of Management practice. Long-term, Short-term and one-day programmes in the form of Course, Programmes, Workshops, Sessions, Discussions, demonstrations and Interactions will be suitably organised. There will be a Vision Centre with an Exhibition of Technology, Environment and Management.

India has many eminent and knowledgeable experts in the fields of Technology, Environment and Management. Excel has many talented Managers, Engineers, Supervisors and Workmen. Bhavnagar and Gujarat has many wise persons who can contribute to and share with others our rich culture and civilisation.

EITEM will endeavour to collect and establish a panel of such experts. Our Managers are life-giving elements of our Organisation. Our supervisors are ensurers of results. Our workmen are not only contributors of results but are also partners in improvement and progress.

EITEM will ensure appropriate learning and training inputs for our Managers, Supervisors and workmen from different sites, functions and locations.

New entrants are of great importance to Excel. EITEM will design and conduct Induction Programmes for new Engineers, Scientists, Managers, Supervisors and Workmen.

Excellent facilities for its programmes, in the form of visual aids, documents, books and literature will be available for the programmes.

EITEM will have an Education Council to guide the Institute in its journey of contribution to Excellence through Education.

All Excelites are welcome to participate, contribute and nurture EITEM in the experiment of sharing and caring.

In the years that followed EITEM has lived up to its Mission Statement with demonstrable success.

Years later, in 1994 writing in the June issue of *Technocrat*. Vickram Crishna noted that Excel executives always spoke of "continuously improving" their efforts to achieve "excellence" in whatever they do. And he added: "However, it is clear that the concept of making quality a way of life has been reversed at Excel into making life a way of quality".

Which speaks for itself.

Yet another Excel institution that has been in service is the C. C. Shroff Self-Help Centre that was started in 1978 initially as a self-income generating project. Its principal objective was to educate and train the poor and socially backward in Arts & Crafts, Skills, Trades etc. by giving them the necessary support in social, ethical, technical, physical, economic and marketing fields.

The CCS-SHC would first make a field study of an area, see how many could possibly benefit from training and design programmes for specific individuals or groups.

Once the study was completed, then skill-levels would be tested, prototype items would be produced to see how they could be marketed and if success was foreseen, orders would be given for large-scale manufacture. The CCS-SHC

Management Development Programme – Offer and Receive.

has also organised exhibitions from time to time to introduce various craft items at affordable prices to as many as possible.

CCS-SHC volunteers have also visited homes of the poor to locate children needing nutritive food and to distribute the same to them.

Excel has also been active in Scout and Girls Guide activities since 1977 and the entire cost of training them has been borne by the company. Uniforms are given free.

Tuition classes for students were started in 1982 to provide reading facilities as also necessary guidance to needy students upto the 11th standard. Those who could afford to pay were encouraged to pay. Those who could not, were given tuition gratis.

Born on 3 January 1923, Kantisen who had served so faithfully and so untiringly since Excel was started decided to retire as Managing Director on 15 June, 1995.

First ISO-9002 team of all sites – Lote/Roha/Bhavnagar and Corporate Office.

He had taken over from his elder brother Govindjibhai in 1985. During the next ten years he had, in some ways, worked miracles. After a shaky beginning, in the early eighties, Excel had gone from success to success. It was Kantisen's unshakeable belief in *saha-viryam* that took the company to great heights. Awards came naturally to him. It was he who conceived of introducing such comprehensive ideas and concepts such as Integrated Pest Management (IPM) and Integrated Crop Management (ICM) and Enterprise Resource Planning (ERP). When there was a devastating earthquake in Latur it was Kantisen who was the first one to rush aid and undertake housing rehabilitation in three of the affected villages. One year before he retired, Excel's Bhavnagar site became the first in India to obtain ISO 9002 (Quality Systems) among all Indian companies manufacturing pesticides. After more than three decades, Tata's who held shares in Excel had transferred them to the Shroff Group "with great goodwill and in a harmonious and supportive manner". Kantisen could well retire in the knowledge that he had done his duty.

Under his care and guidance several new organisations had grown and he could justly be proud of the fact. Among those he had supported include Transpek Industry,

The 'real' artist who can honestly say that the pink colour of his artist brush can be seen on every human being he touched . . .

Baroda, Freezco, Waman Industries, Ajanta Fine Chemicals, ABM Engineers, Jai Vishwakarma, Friends Industries, Sigma Industries, Parul Industries, Pragati Industries, Prerana Industries to name only a few.

Kantisen had become not just an industrialist, but an Institution.

When he was studying art at Shantiniketan he was being persuaded to join Excel. Then one day Annasaheb told him: "You can be considered a real artist only when the pink colour of your brush is seen on the cheeks of every child in Bharat!"

That touched Kantisen's heart as nothing else could. Once, reminiscing with a friend Kantisen said: "I turned my creativity from dull state to subtle, delicate state". He had felt that by joining business he could join people in partnership and work to free society of exploitation and injustice. In his own way Kantisen had succeeded in his objective in this mad, mad world.

Today he has retired from active functioning and has even left his big bungalow at Juhu to go and live with his wife Chandaben at Kutch's Bhujodi village in a "*bhoonga*" – a hut typical of the region, cylindrical in shape with conical roof and often with its outside walls painted.

His "family" now consists of farmers, villagers, artistes, embroidery weavers and their children, students, whoever. People come to see him from the three corners of the earth and they have included UNICEF's Tornu Husai, Prof. Gunnar Hacks of Sweden's Royal Institute of Technology and teachers from the United States.

Kantisen starts his day at 5.30 a.m. with reading and studying of books. It ends with writing his diary which is his 30 years' companion. Currently his pet subject is: Practical solution for global environmentalism with emphasis on the role of India in it.

Over the years he has percolated his business experience into community-societal experiments and thereby has prepared a team of social managers. His industrialist friend Narotam Sekhsaria says: "Shroff is a man of vision whose great strength is in translating thoughts into action." After what he has done people do not scoff at his ideas, because they know that he has the talent to implement them.

With overflowing energy Kantisen finds 24 hours far too few to work out all his theories. Yet he doesn't miss any family or social responsibility. He helps his wife Chandaben with her work for Shrujan. When grandchildren come to Kutch during their vacation, he talks to them in a serious vein. His only daughter Ami says that her father's behaviour in and out of home is the same. He allows everyone to grow in their own way. As for Kantisen, he says modestly: "I have just tried to do my duty as a responsible citizen. *Upanishads* talk about an ideal society. I have merely tried to give it a practical twist". And all who have known him over the years will vouchsafe for that. He is one who has put the sayings of the *Gita* into action. Indeed, it can be said that he has proved Vinoba Bhave's slogan Jai Jagat by working in the villages of his own beloved Kutch.

Shantiniketan was not a long way off. The young artist had set his sights early in life as can be seen in this historical photograph of young Kantisen.

A Historical moment in time. The transfer of Excel shares belonging to the Companies of the Tata Group in favour of the Shroff Group, took place with great goodwill and in a harmonious and supportive manner – A record for posterity!

7

The Generational Change

When on 15 June 1995 Ashwin C. Shroff took over the Managing Directorship of Excel from his uncle Kantisen, it was a generational change. The second generation of Shroffs had taken over.

Ashwin till then had been Joint Managing Director of the company but now he took over full charge. Kantisen's own son Dipesh became an Executive Director from 16 June 1995. It was merely confirmation that Excel had gone into younger hands.

The only son of C. C. Shroff, founder of Excel who passed away on 3 January 1968, Ashwin was born on 22 January 1945. He had his schooling at the Premier High School, Matunga, Mumbai and joined Jai Hind College and still later the South Indian Education Society's College of Arts and Sciences, Matunga from where he graduated in Science (Chemistry and Physics) in March 1965. As in the case of his father, his formal education stopped here. He could have gone for higher studies either in India itself or abroad, but Excel beckoned him.

Inevitably he was inducted in the Chemical Laboratory at the Jogeshwari site so as to acquaint himself with what was going on in sites elsewhere which were producing a variety of chemicals.

As the next logical step, he was then shifted to Excel's factory at Amboli to acquire shop-floor experience in production and learn efficient management of productive assets, processes, materials and manpower. Gradually this was to lead him to take overall charge of the Amboli site.

Involvement in the corporate affairs began with the Marketing Division at Headquarters at Jogeshwari as Senior Executive in October 1970. By then he had married Usha, daughter of Ratansey Morarji Khatau on 5 February 1967.

Ashwin, the only son of C. C. Shroff, is comfortable in the arms of his mother Snehlata, while C. C. Shroff holds on to their daughter Renuka.

Whereas learning had been a continuous process with Ashwin, after the sudden demise of his father, his grounding and nurturing was an arduous process under the vigilant eyes of his uncles, first Govindji Shroff, a man of immense courage and wisdom who instilled in him the entrepreneurial acumen and later Kantisen Shroff, himself an innovator of technology, a stickler for perfection in product quality who inculcated the habit of knowing everything first hand in his young but aspiring nephew.

Ashwin was inducted as a member of the Excel Board of Directors on 15 July 1975 at the age of 30, by which time he had been thoroughly grounded not only in the technical aspects of Excel but in its basic philosophy. By the nineties Excel had graduated into processing a mind-boggling range of chemicals. A representative list includes the following:

Paternal Uncles Govindjibhai and Kantisen who groomed the young Ashwin to be their Successor . . .

Zinc Chloride	Lead Acetate	Lead Nitrate
Zinc Powder	Copper Sulphate	Cadmium Sulphide
Sodium Sulphide Cadmium Nitrate	Cadmium Chloride	
Sodium Acetate Cadmium Sulphate	Alum	
Stearic Acid	Stearates	Ethyl Acetate
Potash Carbonate	Sodium Nitrite and Litharge	Lead Sulphide
Crackers & Sparklers	Celluloid Lacquers	Silver Extraction
Butyl Acetate	Amyl Acetate	Borneol
Sulfur Crystals	Galena –fused	Citronella Oil Purification
Plastic Injection Moulding	Purification of Sulphathiazol	Potash Iodide and Chemicals from Tin
Paint Dryers	Copper Napthanate etc	Metal Dye-casting
Silver Nitrate	Mercuric Chloride	Phosphoric Acid
Titanium Tetrachloride	Ferric Chloride	Phosphorus Pentachloride
Phosphorus Pentoxide	Calcium Phosphide	Sodium Phosphide
High Vacuum Metalising	Sodium Stannate	Colloidal Sulfur
Cuprous Oxide (Red)	Phosphor-Copper	Chemicals for Electroplating
Sulfur Dioxide	Liquid Gold and other precious metal resinates	Serpina
Phosphorus Trichloride	Mercurous Chloride	Mercuric Chloride (Red)
Mercuric Oxide (Yellow)	Mercury Iodide	Mercurous Nitrate
Mercuric Nitrate	Mercury Ammoniated	Mercuric Sulphate
Phenyl Mercuric Oleate	Chlorinated Paraffin Wax	Camphor
Phosphoric Acid(Thermal)	Plastic Cane	Cuprous Chloride
Cupric Chloride	Plastic Monofilament	Zinc Phosphide
Monochloro Acetic Acid	Dicalcium Phosphate	Toxaphene
Methoxy Ethyl Mercuric Chloride	Phenyl Mercury Acetate	Sulfex (Wettable Sulfur)
Ethoxy Ethyl Mercuric Chloride	Acrylic Plastic Sheets	Ethylene Dichloride
Aluminium Chloride	Phosphorus Pentasulphide	Oxalic Acid
Micronised Sulfur	Microniser Fabricated	Methyl Bromide
Monochloro Benzene	Ethylene Dibromide	Celphos (Aluminium Phosphide)
Thirum, Zirum	Malathion Technical	Phosphorus Elemental Yellow
Sodium Hydrosulphite	Alpha Naphthalene Acetic Acid (Technical)	
Phosphorus Elemental Red	Endocel (Endosulfan Formulation)	Ethyl DTCL
Methyl DTCL	Flowcel (Pour-point Depressant for Crude Oil)	
Sodium Pentachlorophenate	Phosphorus Oxychloride	Celmone
Aluminium Chloride (Anhydrous)	Celmide (Ethylene Dibromide)	Emisan 6 (Methoxy Ethyl Mercuric Chloride Formulation)
Celphos (Aluminium Phosphide tablets)	Diethyl Oxalate	
Endosulfan Technical	Endocel 35 EC (Endosulfan Formulation)	
Ferro Phosphorus		

Not only Excel put up the majority of its plants by itself as "first time" projects, but the practical experience it had thus gained stood it in good stead in helping others such as:

Biddle Sawyer & Co Ltd., UK	Technical know-how for mercury salts
Cellulose Products of India, Ahmedabad	Technical know-how, detailed engineering and erection supervision for Monochloro Acetic Acid and Sodium Monochloro Acetate
Hyderabad Chemical Supplies Ltd., Hyderabad	Technical know-how for Phosphoric Acid
Transpek Industry Ltd., Baroda	Technical know-how for Phosphoric Acid
Chlorinators (I) Pvt Ltd., Orissa	Technical know-how for Chlorinated Paraffin Wax
Excel Phospho Chem Pvt Ltd., Pune	Technical know-how for Phosphoric Acid
Hyderabad Chemical Supplies Ltd., Hyderabad	Technical know-how for Chlorinated Paraffin Wax
Shyam Chemicals, Ahmedabad	Technical know-how for Cuprous Chloride & Cupric Chloride
Colour Chem Ltd., Bombay	Technical know-how for Aluminium Chloride
Punjab United Pesticides & Chemicals Ltd., Chandigarh	Know-how and detailed engg. for 600 TPA Malathion (Technical) project
Shroff Chemicals Pvt. Ltd., Bombay	Technical know-how for Phosphoric Acid
Gomati Chemicals Pvt. Ltd., Bombay	Technical know-how and detailed engg. for 120 TPA Cuprous Oxide Project
Hindustan Insecticides Ltd., Panvel, Mah.	Turnkey 1800 PTA Battery Limit project for Malathion (Technical)
Kalpataru Chemicals Pvt. Ltd., Chennai	Technical know-how for Red Phosphorus
Khatau Junker Ltd., Ankleshwar	Know-how, detailed engg. and Engg. Services for 800 TPA Malathion (Technical)
Ficom Organics Ltd., Ankleshwar	Know-how, detailed engg. and Engg. Services for 800 TPA Malathion (Technical)
Bihar State Pharmaceuticals	Know-how, detailed engg. and Engg. Services for 800 TPA Malathion (Technical)

In 1995, the year when Ashwin took over from his uncle, Excel was India's largest exporter of Agro-chemicals. In 1994 exports to about 40 countries crossed Rs. 42 crore or 16.2% of sales (1994-1995 turnover, Rs. 259.5 crore). It was then Ashwin's hope that in three years' time he would raise the percentage to 25.

Excel had been awarded the Chemexcil (Basic Chemicals, Pharmaceuticals and Cosmetics Export Promotion Council) Prize for outstanding export promotion with boring regularity. Excel, as it turned out, was also the world's second largest producer of the pesticide Endosulfan.

In 1995 Excel, with a nearly 14 percent market share in value, was also one of India's five leading pesticide makers, with five units in Maharashtra and Gujarat and almost 3,000 employees.

Till 1993 India had produced 77,000 metric tonnes (MT) of pesticides when demand was for 80,000 MT. In 1994, India produced Rs. 1,100 crore worth of pesticides, about 3 percent of the $ 27,500 million (Rs. 85,250 crore) world market.

Excel had one advantage over its competitors in India; it manufactured its own Phosphorus compounds. Excel's dependence on imports is one of the lowest in the Industry. According to Ninad Gupte, Senior Vice President, Marketing & Business Development until early 1996: "only 5% of our agro-chemicals turnover comes from actives (basic raw material) not made by us. That is because Excel is integrated both backward and forward. Since it can make most of its raw material in-house, the benefit of the value addition at every stage remains with Excel."

For example, once Phosphorus compounds are made, intermediates follow and when they are incorporated in the final product it bears only the variable cost incurred in each stage. That is why Excel spends almost 20 percent less than any other domestic competitor on intermediates. Being a major supplier of intermediates and basic chemicals puts Excel in a position of power in the domestic market.

In 1995 Excel's biggest competitive advantage was the added value that was invariably large enough to beat any input-output norms or value addition percentages recommended by the Government of India for Customs Duty benefit.

Ashwin Shroff married Usha Khatau on 5 February 1967.

Excel had one more advantage over western manufacturers. Its operating costs have been 10 per cent lower than in West Europe, the US, Japan or South Korea, which are India's competitors. The only country that was truly competitive is China which priced its products almost 50 per cent lower than India's, the reason being capital costs are borne by the state.

In 1998 Excel Industries' scrip was languishing at the Rs. 150 levels. But then it saw a quick rise to the Rs. 400 levels in July 1999. *Capital Market* (February 7 – 20, 2000) interviewed Ashwin Shroff about his plans for Excel. What was behind the almost sensational turnover ?

The interview went as follows:

Capital Market: What has been the contribution of the different segments to your turnover? How do you view the growth prospects of the segments? How has your export performance been?

Ashwin Shroff: About eight months back the company was reorganised to form four strategic business units (SBUs). These are Chemicals, Agri-business, Environment & Bio-tech and Life Sciences. While the Agri-business, which includes pesticides and traded products, contributes about 65 per cent to the total turnover, the Chemicals business contributes about 25 per cent. The other two SBUs account for the remaining 10 per cent.

The Life Science business is in a nascent stage but is expected to contribute about 15 to 20 per cent in about three years' time. Exports account for about 15 per cent of the total turnover. The contribution is likely to be higher this year due to the company's focus on foreign markets following the bad monsoons. The company has set up its dedicated centres in Australia, Europe and Singapore to service its customers.

C.M.: You have developed a technology of converting wastes

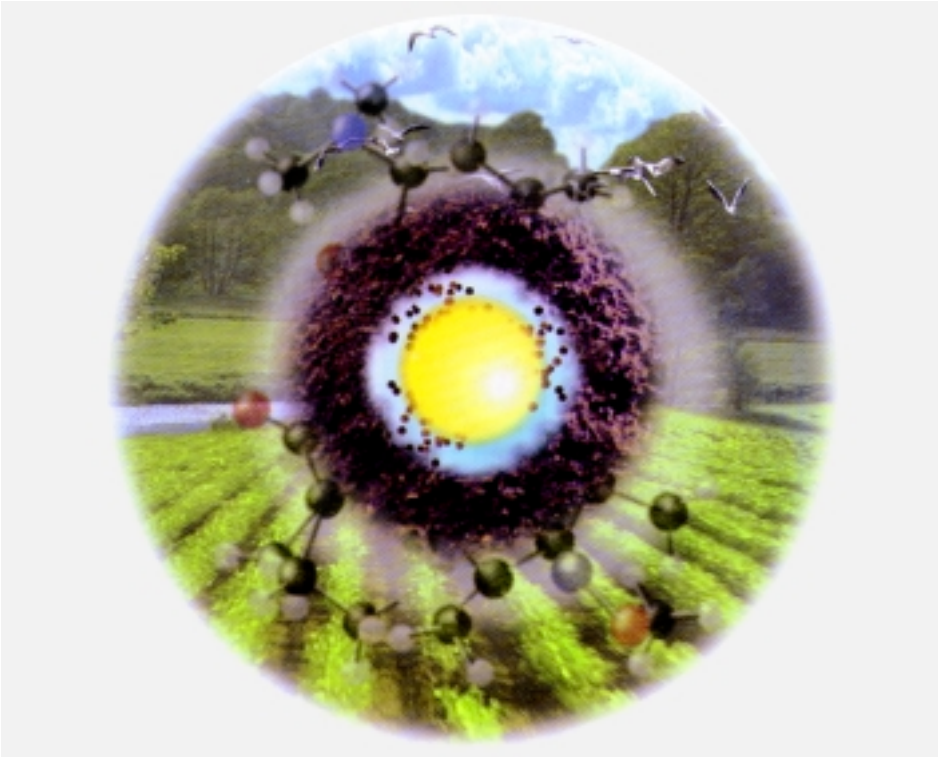
into fertilizers. Could you describe what it is about?

A.S.: The waste management business was started over 15 years ago because of the concern for environmental issues. The in-house developed technology converts city/farm waste into fertilizers and organic manure through the action of various microbes. The process consists of two steps: the first step entails disinfection and deodorisation of the waste to make it odour free; and the second involves conversion into manure. The product Celrich is a soil-enricher. While the company has four plants of its own, eight plants are owned by the franchisees.

C.M.: What is the structure of your deals with municipal bodies ?

A.S.: The deals with the different municipalities vary. While some plants are owned by Excel, others are owned by franchisees or the municipal bodies. The brand of the soil enricher is, however, owned by Excel and the product is marketed under its name. The culture is supplied by Excel. It is the culture which finally decides the quality of the product. So far, the company had to buy the garbage from municipal bodies but with the recent Supreme Court Order the situation is set to change.

C.M.: How do you expect Excel to fare at the end of the current fiscal ?



Excel's four strategic business units — Agriculture, Chemicals, Environment & Biotechnology and Life Sciences are interwoven and interdependent. Together they address every need of every farmer in India, and the world, as visualised on the Annual Report 1999-2000.

A.S.: The havoc played by the monsoon this year would have an impact on the company. Earlier we were expecting a growth of 12 to 15% , but now we feel that the company should end the fiscal with a growth of 8 to 12%.

C.M.: You have tie-ups with a couple of companies like Cheminova and Netafim. Are there any such tie-ups – marketing or otherwise – on the anvil ?

A.S.: The tie-up with Cheminova is a regular one while that with Netafim of Israel is a joint venture with a 15 per cent stake for the marketing of Netafim's products imported from Israel and which are now manufactured within the country. There are no plans for tie-ups at the moment.

C.M.: What are your capital expenditure plans for the coming few years?

A.S.: Our research and development expenditure is need-based and is about 12 per cent of the total turnover. We are not going in for any big capital expenditure at the moment. However, we are looking at accessing funds from certain venture capitalists and institutions, which have evinced an interest in our future plans.

'Kaka' always close at hand as a shining light to the Shroff younger generation, now leading Excel forward and onwords . . .

Excel once again takes active lead in pioneering efforts towards Integrated Crop Management (ICM).

The dissemination of information to farmers about the ideal package of practices for each crop, backed by data generated from All India ICM Demoplots and supervised by Excel's field-force, is a continuous effort towards promoting ICM at the grass-roots level.

Excel's ICM promoters educate the farmer on the integration of bio-organic inputs, eco-friendly products and cultural practices right from soil management to water management, pest management and post-harvest management. This ensures a total input management at all stages of crop production towards lesser costs, higher productivity, better and safer quality of crop, leading to value addition for the customer.

Excel's IPM and ICM scientists and researchers met with the All India Marketing and Sales teams of the Head Office and Zones to review the initiatives and devise strategies to take the concept further, to wider geographical areas and newer crops.

IPM–ICM Strategic Meet at the Corporate Office – March 1999, with Ashwin Shroff at the helm.

C.M.: What are your plans regarding the integrated schemes (IPM and ICM)?

A.S.: The company is looking at providing total solutions to farmers and filling the gaps left out in the existing system. It is in the process of developing watershed management as well as integrated pest management (IPM) and integrated crop management (ICM) schemes which call for a totally different method for solving the problems of farmers.

The IPM schemes involve supply of useful insects, botanical products like Neem, synthetic pesticides in conjunction with the adoption of proper agricultural practices for combating the menace of pests. The company, through its sales staff, is trying to achieve a direct interface with the customer (farmer) and is looking at achieving higher sales through a larger base rather than increased consumption per customer.

Excel is looking at improving the profitability for farmers through a reduction in costs by about 30 to 70 percent through IPM and ICM, while the yield increase by about 15 to 30 per cent. In the last year itself, the company held over 350 demonstrations for which farmers were invited. The company is also looking at post-harvest treatment of crops and is entering food retailing in a small way. It already has a unit at Hyderabad and is keen on providing food that is grown organically. It has started producing herbal products and pharmaceuticals.

C.M.: What would be the scope of the Life Science Division ?

A.S.: The company will give a lot of importance to the Life Science Division, which is a new area and has a lot of scope. Life Sciences will encompass two aspects – health and hygiene, and food and crops. The food and crops segment will be an extension of the agri-business. Where one ends, the other begins. This business will provide the knowledge for IPM and the marketing of in-house and out-sourced products.

C.M.: In chemicals, what are your plans?

A.S.: The company is keen to move from agro-chemicals to polymer additives and has entered into tie-ups with certain companies for the same. We are also thinking of outsourcing our water treatment products. The company will be an exclusive supplier for GE Plastics for polymer additives. It is also looking at value addition in the existing segments such as new intermediates for pharmaceuticals.

C.M.: What is the outlook for the industry in the coming year ? What expectations do you have from the government/budget ?

A.S.: Some shake-out has already begun in the industry. There is no

room for small companies. Only serious long-term players and those with a progressive outlook will survive in line with the global trend. There will be faster development with newer molecules and formulations by the time the Patent Law takes effect in 2005.

We hope that the regulatory pressures on the companies are reduced with fewer regulations and proper implementation. There should also be incentives for R & D for the development of safer and newer products. In the forthcoming budget, we expect the ambiguity regarding excise classification to be solved.

Ashwin could speak with some authority because he had literally grown with the chemical industry. He had been associated with the Indian Chemical Manufacturers Association since 1984 and had held various positions in it. He was Vice President of the Association during 1994-96 and its President during September 1996 to September 1998. In that capacity he had been a leading spokesman of the Indian Chemical Industry and had ably represented its cases before the Government. He has also led several delegations of the industry to many countries for participation at international fora and building up the Indian industry's image around the world.

He was the Convenor of the Group on Futuristic Planning for the Pesticide Industry constituted by the Government of India to prepare a comprehensive report under the *Technology Vision 2020* programme. That report, presented in 1996 had been well received.

In September 1996, Ashwin Shroff was elected as President of the Indian Chemical Manufacturers Association (ICMA), which is an Apex Association of the chemical industry, making significant contribution in the development and enrichment of Technological & Business Process in industry.

Inevitably, then, he was interviewed by *Chemical Business* (March 1999) not only on Excel's performance but on the future of the chemical industry.

C.B.: Excel Industries has been excelling now for several decades and one is reminded of the pioneering and daring work of the Shroff Brothers, starting from your father Champraj, followed by Govindji and Kantisen Shroff. Would you like to look back at the beginnings of Excel Industries and recapitulate all the daring work the promoters have done?

A.S.: I think I agree with the emphasis on "daring work". If you look back, Excel started with a limited resource. It was long on intelligence and short on material resources. A lot of daring and risk-taking was necessary, which ultimately resulted in the type of products and processes that were developed. The spirit that propelled it forward was that independent India had to march on and find its own place under the sun and this could not happen without radical thinking. The motivation to found the company was not just a commercial one, but arose from the freedom struggle and the entire family was involved in it. Excel made explosives,

Beloved 'Pappa' the restless scientist at work in the labs. A source of inspiration to his son Ashwin, from very early age.

even bombs, to fight the British ruling the country at that time.

It was love for the nation and patriotism to make India not only independent politically, but more importantly, economically independent, and unless there was Swadeshi business, how could India possibly grow? The founding philosophy was to boldly venture ahead regardless of risks, daring in technical, financial and political sense, since India was not a free nation at that time.

***C.B.*:** You have frequently changed your product portfolio. Would you like to share with us what the reasons were behind such changes?

A.S.: This phenomenon was more evident in the earlier years due to the philosophy propounded by Mr. C. C. Shroff. He was a restless scientist and wanted to create something new all the time. His credo was: the country needs this product and someone should make it commercially, viable for the customers. In the event, someone did, then it was an opportunity for Excel to move on to something new. This was how the product portfolio changed frequently then. Sometimes, people would copy our technology but he was satisfied so long as the customer benefitted.

C.B.*:* You have stayed on with Endosulfan now for good many years. And you have become a very prominent producer of this in the world. Please tell us your own perceptions about the future of this product in the light of many new insecticides which have been launched and, more particularly, in the recent past products like Fipronyl of Rhone Poulene and Gaucho of Bayer. In the context of these new products, what future do you see for old, persistent type of insecticides like Endosulfan ?

A.S.: One cannot generalise that all products must somehow continue or that whatever is old must perish. As far as Endosulfan is concerned, we are looking at it as an old generation product, which was relevant earlier in a different context and continues to be relevant today and even in the future context because it is an excellent product. It is effective against several important pests. It rapidly degrades in the environment. It kills the target pests and at the same time spares the beneficial insects thereby conforming to the modern concept of Integrated Pest Management (IPM). It is compatible with natural products like Neem and with other bacterial products. This is not so with many current generic products.

People erroneously claim that Endosulfan is an organo-chlorine product. Although there is a lot of weight contributed by chlorine, it does not belong to this category.

The registered 'IPM' logo of Excel was developed solely for a visual identification by a semi-literate farmer-customer who could then by association, recognise its relevance to the Endosulfan/Endocel brand positioning of being an Integrated Pest Management molecule.

Others like DDT, BHC, Aldrin, Dialdrin do a good job killing the target pest, but they do not break down. Consequently they continue to linger in the environment and then get into either the life cycle or the food chain unlike Endosulfan which is not persistent. Therefore, we are promoting it quite aggressively as an IPM molecule which is a need-based pest control. It recognises the role of not only chemical pesticides but also the agronomic practices and other means of pest control.

C.B.: Excel has had forays even into some intermediates and right from the beginning you had some success in making CIS-Butene-2-diol at Bhavnagar. Would you please tell us how is it that you do not perfect the technology for Hexachloro Cyclopentadiene, popularly called HCCP, particularly when more than 80 per cent of the weight is contributed by chlorine?

A.S.: We have started manufacturing intermediates including Butene Diol for Endosulfan. Another was Thionyl Chloride made at Transpek, an associate company at Vadodara. Why have we not gone for HCCP is a relevant question. We have discussed about the merits and demerits and observed that a lot of difficult engineering was associated with it and the corrosion encounter makes the plant costly. Other than Endosulfan, it has limited usage as a flame retardant.

Ashwinbhai visits an IPM demonstration plot and talks to the farmer who shares his experience of Excel's, scientific approach and the propagation of right agricultural practices, that has benefitted him.

We cover it at a reasonable price from a supplier who manufactures it in his high capacity plant. While it is desirable to make this product for captive consumption, we are not subject to any undue economic pressure. Therefore, we have decided not to manufacture it at high cost for single point use and face with difficult engineering.

C.B.: Excel being a multi-location company, in view of the so-called rationalisation that has taken place around the world, even in the field of agro-chemicals, where do you see the future of Excel as a significant global player ? Excel had introduced the all-time great hit in weedicides, the original product of Monsanto (Round-up). Isn't it time for Excel also to come out with some agro-chemical of its own ? Where do you see Excel in terms of new efficacious agro-chemicals?

A.S.: I would say this is a very proper and timely question in the context of the new regime of Intellectual Property Rights (IPR). Indian companies, including Excel, are capable of generating new knowledge and new molecules in the field of agro-chemicals or pharmaceuticals or any other area, which can be patented. The system and economics of our country did not require focus on basic R & D, hence we relied on applied R & D. All said and done, though we began making molecules that were already popular, we did have quite an impact.

If you look at the life expectancy, the food security that India has enjoyed in the post-independence era was, in my opinion, largely due to the fertilizer, agro-chemicals sector and the pharmaceutical sector. So we followed a particular model. Now we are required willy-nilly to go into the WTO and IPR regime. India has the ability to focus and come out with new knowledge. This would require resoluteness on the part of the private sector laboratories, companies and CSIR to explore this area. To do that, training, infrastructure, investment and budget would be required. Since discovering new molecules involves huge investment, the government may offer incentives.

On the inputs side there are adequate incentives. What needs to be done is to provide incentives for commercialisation of knowledge, i.e. on the output side. Incentives should be provided for excise, sales tax and depreciation. Secondly, pharmaceuticals and pesticides should be subject to "fast track" testing i.e. minimum testing to safeguard life, environment and the consumer. Otherwise, the amounts that are spent on protracted testing could be a lot more than spent on discovering the molecule itself.

Technology: Excel has continued to be a technologically sound company and was chosen for the Acharya P.C. Ray Award for Development of Indigenous Technology for Butene Diol.

The government must take a pragmatic approach to describe a certain minimum testing of a product on its discovery. There should be some provisional registration stipulating that, within a certain period, the rest of the data should be generated.

The profits that the product has earned in the meantime could be ploughed back to pay for the research. This procedural change on the part of the government is required to enable the country generate new knowledge.

Patent literacy is something Dr. R. A. Mashelkar has been talking about, which the industry lacks. We shall be happy to collaborate with CSIR and ensure spread of patent literacy. Filing a patent, particularly an international patent, is not costly as much as maintaining it. If you are not going to market in those countries, it will be a sunk cost without any return. Therefore, the costs of research, building a plant and machinery, testing, patenting, maintaining the patent and marketing etc. assume significance.

If you look at the package of R & D and commercialisation of new knowledge in its entirety, it will be a sizeable amount. So, the government must create a conducive atmosphere with incentives and a favourable attitude to the industry. This way anyone in the developing countries can generate new knowledge like their counterparts in the developed nations. But to achieve this, a change in the mindset of the bureaucrats and policy-makers is necessary.

C.B.: Is it true that Tata's are going to delink themselves from Excel ? What will be the impact of this, if it were to happen, on the future of Excel ?

A.S.: Tatas have already delinked themselves in 1997. Tata Group has divested their shareholding in favour of our family. This has not had any impact on our company nor created any disruption in the market for we were not

marketing the products through Tatas, nor were they financing us. This parting took place very, very amicably and it will not make any difference to the future of Excel.

C.B.: Excel has a unique record of having promoted many persons who had worked with Excel to launch themselves as entrepreneurs. Would you like to explain the motivation behind allowing your own employees to launch themselves as entrepreneurs?

A.S.: Every human being has the urge to prove his mettle, individuality and talent. I think that an organisation largely provides the opportunity for people to blossom and put in their creative work and exploit their talents. Companies can provide a person the opportunity to act like an entrepreneur within the framework of the enterprise. When you are managing a particular part of the business, say marketing of a product, you strategize, find out how to create more markets. This is 'Intrapreneurship' within the company.

Sometimes, people feel that there are constraints while working and the company is not able to appreciate their ideas. So long as there is no conflict of interests between what he wants to do and the company's work, you can even help him. Alternatively, we give them a kind of lien on the job and if things do not work out, they are free to come back.

The Trishul Award – 1984-85. For outstanding export performance for three consecutive years.

> *"Every human being has the urge to prove his mettle, individuality and talent. I think that an organisation largely provides the opportunity for people to blossom and put in their creative work and exploit their talents."*
>
> *– Ashwin Shroff*

When they set out, they are equipped with the knowledge and experience they have amassed while at Excel. If someone is able to hold aloft the Excel banner in his own style, he is creating wealth,

Excel – Bhavnagar, took up a challenging assignment of modernising and renovating the Endosulfan plant.

This was aimed to improve Quality, Efficiency, Safety and Productivity; and also to ensure optimal balance of the production process.

With inspirational leadership and committed teamwork, the task was accomplished.

employment and satisfying his urge. Such people we encourage.

Excel has been largely built with freshers. We have not recruited people because they have a certain expertise and technology from elsewhere though this has been a tendency amongst many Indian business houses. We do not favour 'horizontal transfer' of technology at any point in time. We believe in self-sufficiency and not ready-made formulas.

C.B.: What is the performance of Excel in exports? How much of your exports are to the hard currency area relative to the rupee currency area? What are your future plans in the export field?

A.S: We hardly have any rupee currency exports. Following the USSR break-up there isn't much of rupee trade. Our exports have been in the hard currency area. We realise that, in a company like ours, with our kind of products, technologies and expertise, our export potential is far more. We have been primarily an Indian company and must essentially meet the Indian market demands and if there is any surplus left, then we export. We are an Indian entity and do not wish to export at the cost of the domestic demand.

We have ambitious plans for growing exports and there are a number of areas with a growth potential. This would require not merely technology or manufacturing capacity but more importantly the image, credibility, marketing network, market intelligence and ability to service those markets in an effective manner. We continue to take many steps in that direction. We have been one of the oldest Indian agrochemical exporters since the early seventies and export to all the continents. Exports have to be built up as a kind of package because pesticides are toxic, need registration and packaging has to be right. Leak-proof packaging, delivery schedules, right price and quality are parameters that have to be adhered to. People with international exposure who could deal with foreign clients, their expectations etc. are needed. After all this is taken care of, then ISO 9000, ISO 14000 and Responsible Care concepts came in. We have begun to establish our presence abroad and have set up an office at Antwerp three years ago, with warehousing facility. This enables the company to meet the exigencies of the time-sensitive foreign buyers. A customer who has choice of buying from anywhere does not want to go through the hassles of shipping and lead time. So having stocks there is very important. Market is dynamic, so you need market intelligence and this is an ongoing process. We have opened yet another office in Singapore and are starting in Australia soon.

We have not thought of manufacturing activity abroad. We believe that India is a better place for manufacturing, considering the fact that labour cost and environmental legislation etc. in USA or Europe are far more stringent and we can develop the necessary market reach in India. The whole world wants to come to India, set up a shop here and source their chemicals from here.

We have been expanding even in the market segments, from the thrust in agro-chemicals to a broader focus on other products, intermediates for pesticides and pharmaceuticals, water treatment chemicals, sequestering agents, textile chemicals etc.

Earlier we had oil field chemicals and had developed products for ONGC and Oil India. We are looking at the prospects of mining chemicals. Biocide is another area. Chemistry is like a kaleidoscope, you turn it slightly and you get a new design. Change the raw material or process and get a new product. We are in an industry containing these possibilities.

C.B.: How do you find the competition, particularly the low-priced exports from China?

A.S.: The intense competition in the international market is a factor to reckon with. China is a low cost supplier and many buyers find its prices attractive. The costing is artificial. Being a communist state, which has taken the responsibility of creating assets, employment and providing minimum living standards to the people, companies are set up not with the intention of making profit but to provide employment or use resources to create wealth. With that objective, rational costing takes a back seat and they can export at low price. By and large, they can easily outwit any producer by about 30 to 40 percent margin.

India has a very versatile industrial base and Chinese base is even larger, e.g. for Phosphorus, we have four plants in this country as against their forty. The number of plants in China for any product is much more since everything belongs to the state. They are also good learners and scientists and are being exposed to international trade. They are definitely a serious threat. If India and China come together and share some common strength, they can take on the whole world and be the ultimate source of chemicals. Both countries have best of technical capabilities, manpower and costs. But whether this kind of thing can ever happen is anybody's guess!

C.B: Excel is noted for its concern for the environment. Would you like to describe the various initiatives you have taken in this respect?

A.S: As I said earlier, Excel was the continuation of the freedom struggle that made India independent in a true sense. So, the same kind of values is reflected in everything we do, whether it is in the treatment of the employees, the customer, the government or taxation. So it is with the environment.

Any company, business entity or industry is not an island by itself and is a part of the society, drawing a great deal from the community and environment. Hence, one cannot thrive at the cost of the environment, community and neighbours.

The philosophy that drives us is that we have to plough back something to society when we draw resources from it. But how would you translate it into your working? The prevalent attitude amongst most members of the chemical industry is that pollution is a mere nuisance that has to be dealt with, perforce by filling up forms, putting up an effluent treatment plant or more preferably appear to be doing something when actually doing nothing, except, may be, take care of the visiting inspector.

At Excel from the beginning, it was recognised as a kind of responsibility. We do not want to do anything at the cost of the environment. When you throw out the untreated effluent, it only ends up

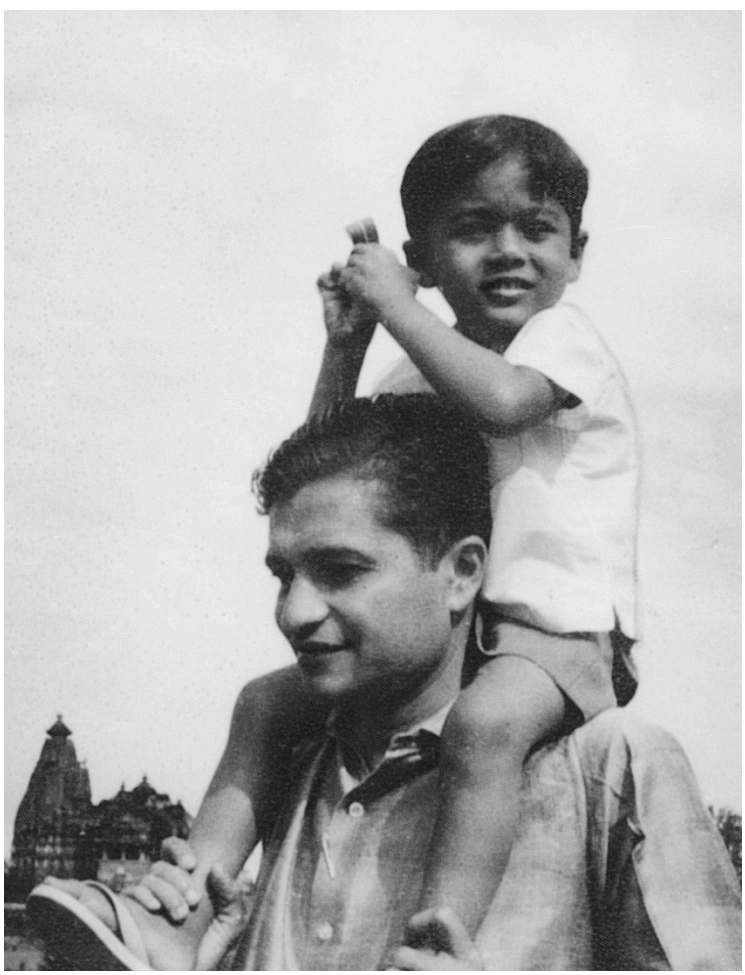
polluting your own neighbourhood and that of your employees. One has to have that kind of care and concern. Sometimes there may be technological and financial constraints, but the basic urge to fulfil one's obligation to society has always been there.

For example, after the gas leakage tragedy incident at Union Carbide at Bhopal, the government formed the Garg Committee. The Committee consisting of eminent people from the field of environment and chemistry listed about twenty companies in Bombay which were potential threats to the environment and could cause another threat like Bhopal. They paid visits to these companies to ensure that there was no such danger to the community. Excel was one of the companies visited by the Committee. Mr. Kantisen Shroff welcomed the Committee and requested for their valuable suggestions in pollution and hazard management and assured the Committee that any lacunae perceived by them would be rectified and the required standard achieved in the fastest possible time. This exemplifies his attitude for the environmental care and concern.

The kind of raw materials used and the processes employed result in different type of effluents and we learn to treat them appropriately. Sometimes incinerators are in vogue and other time biotechnology or Solar ponds. You have to look at the effluent, what it is and use cost effective technology to deal with it. You have to try to convince the Pollution Control Board when they fancy a particular thing and expect you to follow that. You can't be dogmatic or rigid in these matters.

Mr. Kantisen Shroff is not in favour of incinerators due to the series of operations and cost factor. He preferred the break-down of effluents by allowing microbes to work on them and grow trees around the plants, which do a better job of treating the effluents than the man-made effluent treatment plants. Excel has done a lot of pioneering work in this direction, some nice technologies are being developed even now, like bio-tower and bio-remediaton.

C.B.: The family of Shroffs has been well-known for philanthropic activities. Would you kindly give us some glimpse into these activities?



Father Kantisen on a mission and son Dipesh feels this passion from a tender age.

A.S.: I do not prefer the word 'philanthropic' since it implies charity. Our work has not been philanthropic in that manner; we have not given away crores of rupees but have involved to the extent of giving a helping hand when and as necessary.

I think getting involved is more difficult and this has been done. You find sincere NGOs or associations or societies that want to do voluntary social work. All they need is some material resources, management techniques and directions to achieve their worthy objectives. With involvement and understanding, you may become convinced of the rightness of their purpose and help.

As the new millennium began Excel too has begun to see how to handle new opportunities and threats. There have been plans to go in for a deal with GE Plastics whereby anything between 200 to 300 tonnes of high-value plastic additives totalling Rs. 20 crore can be outsourced annually by the US major. Excel is on the high-growth path and hopes to make its tryst with a top-line of Rs. 500 crore in 2000-2001.

Ashwin told *Business India* (17 April 2000): "In the protected environs earlier, inflation was passed on to the consumer, but now the rules of the game have changed. Cost control is something that we are still grappling with. More importantly, it is something that we are addressing on a continuous basis".

In the past Excel was accustomed to go it alone. Now, according to Ashwin, things are changing pretty fast. As he put it: "This arrangement where Indian companies work in harness with global partners is soon going to be common place. For both India and China have a lot of products to offer. Western countries will source from us and the delivery systems will provide the added reliability".

Partnering GE Plastics is only the beginning. S. R. Potdar, President, Chemicals, feels that this is just a sprout that has the potential to become a shoot. He says: "We are factoring in only Rs. 10 crore in the next fiscal".

What is for sure is that once GE Plastics develops confidence in sourcing plastic related products, the sky could be the limit. As Ashwin sees it, a GE alliance is a benchmark and a statement by itself.

Dipesh, Kantisen's son is now the Joint Managing Director of Excel but he reached the height the hard way. Kantisen saw to that.

He was born on 3 February 1960 at his father's residence in Jogeshwari and went to school first at *Sarla Sarjan* at Vile Parle which was close to his home. He was then sent to Bhavnagar where he studied up to VI Standard at *Shishu Vihar*. Back again to Mumbai, he joined *Jamnabai School* at Juhu-Vile Parle. Finally he joined Bhagubhai Polytechnic for getting his Civil Engineering Diploma.

Around 1984, the family had moved to a house in Santa Cruz, away from the Jogeshwari factory premises in part because of the deteriorating health of Gokiben but also to be closer to the school that Dipesh was to attend.

The surprising thing about Dipesh was his interest in carpentry. Even as a child of three, he was happy to play around with carpentry tools and thought no end of Dhanjibhai Mistry who headed the carpentry section of Excel.

Kantisen would encourage his son to get involved in whatever was happening in the factory. While he was studying at Bhavnagar, Dipesh would go to the factory there on his bicycle and was 'appointed' assistant to the laboratory assistant at the fabulous salary of Rs. 15 per month. Dipesh then was hardly ten years old. But even at that age he had learnt a good deal about how to produce Phosphorus.

We are in it together! The young Dynamic Duo that is steering Excel today – Dipesh and Ashwin Shroff.

Had he received encouragement at school – he had by then returned to Mumbai – Dipesh would probably have taken a degree in science. But an unfortunate incident upset him psychologically and made him averse to chemistry.

It happened this way. In his examination Dipesh was asked how Phosphorus was made. Having actually seen with his own eyes the entire procedure, Dipesh was a step ahead of his textbooks. And wrote in his answer paper what he knew. Dipesh was ahead of his textbooks and the teacher, poorly informed, thought the lad was showing pretensions and obviously somewhat piqued, failed him! Worse, he thought Dipesh had some "weird" ideas of chemistry! The result was that there was no further rapport between Dipesh and his school teacher. When he got through his final examination, Dipesh opted for engineering. One of the people who influenced him was his 'adopted' elder brother Kiritbhai, an architect.

Dipesh's ambition was to be a Civil Engineer and work on dams! Kantisen, knowing his son's proclivities never forced him to join Excel but nevertheless

'The Shroff Bhabhis' – Usha Ashwin Shroff and Preeti Dipesh Shroff.

Kirit Dave – The 'elder brother mentor' that Dipesh acknowledges with pride.

provided him *all* the opportunities to learn at the factory premises. At the age of 15 Dipesh joined Excel as a trainee even while he was putting in terms for Civil Engineering. His first job was to look after the Effluent Treatment Plant and was affectionately known as the *gutterwala*!

The training Dipesh received was, to say the least, intense. Once Kantisen asked him to design a 4-storey steel structure and fabricate the components as well. Dipesh knew that there was no point in arguing with his father.

Dipesh graduated in 1979-80 and was sent to Ankleshwar for training at the Khatau plant but then he was soon shifted to Kutch where he was put in charge of 16-acre plot of saline land with a brief to make it productive! This was where he came to learn about microbial action. Part of his job was to see that cow dung, excreta of sheep, goats etc, dry leaves . . . indeed anything organic that could be biodegraded available within a 20 mile radius is collected and brought to the farm. It was not the most exciting job, but it was highly educative. Kantisen would say: *daro mat, aage badho!* (Don't be afraid! Keep moving!). It took about five years before he could come up with the product that was to make history.

That was, so far as Dipesh was concerned, just the starter. In time he was to be brought to Amboli to handle the Operations Department of the Aluminium compounds. In 1986 he was sent to Bhavnagar where the plant, manufacturing Endosulfan was working at a loss. Dipesh swore that he would never return to Bombay unless he turned the fortunes of Bhavnagar operations. He would spend 12 to 14 hours at the factory.

His approach was that he had information and the workers had knowledge and between them they could set the factory into a profit mode. Dipesh worked hard, diagnosed the on-going process, found out where it had gone wrong and had it corrected. All of which took six months but within a year Bhavnagar had recovered and was making profits.

It was during the time of stress that Dipesh heard that Kantisen had been hospitalised and wanted desperately to fly down to Bombay to see his ailing father. But Kantisen discouraged him sternly. He wrote to his son: "I am not going to die. First make the plant profitable and come and see me after that!"

Dipesh had a wonderful way with his staff. He believed in having informal interaction with them. He would often arrange picnics when workmen would talk to him freely about the problems in the factory. That helped a great deal. He would tell his workmen: "We have to succeed. There is no turning back. And we will succeed!" They did. Endosulfan production went up from 4 tonnes to 24 tonnes. Dipesh happily gave the credit for the turn-around to his colleagues, Gosalia, Bala, R. D. Patel and Jitubhai.

At this point the accountant in charge of the Bombay office left suddenly and Dipesh was summoned to take over the job! He knew nothing about accountancy and did not even know what was meant by a voucher. Meanwhile, a Balance Sheet was expected to be produced for 18 months period. Dipesh came out with flying colours. "When one is given responsibility, one learns fast!" Dipesh now says.

There was one assignment where he had to take a painful decision and it came about this way. The family had set up a sugar factory in Chandigarh which was running at a loss. It had been set up by a cousin Shashubhai who had worked on it right from the beginning, putting his heart and soul in the venture. The factory machinery was the most modern, but losses were mounting.

Having studied the situation minutely, Dipesh came to the conclusion that the problem lay in over-investment in equipment. The thing to do, in the circumstances, was to shut down certain units and sell off the unwanted machinery. It was a tough decision to take, made tougher by the fact that his cousin who was running the factory was senior to him by 20 years! Till then Dipesh had been treated as

Entrepreneurial Threesome! Atul G. C. Shroff, Dipesh K. C. Shroff and Ashwin C. C. Shroff, together hold the fort. (L to R)

a youngster. But he had to take decision – and he took it. Dipesh was to learn that many people are afraid to take harsh decisions and would appreciate some one else taking them. Dipesh took his. It was a wise one, as it turned out. But it required courage to take it.

Kantisen was a stern father in a sense and treated everybody equally. Dipesh says, quite unaffectedly: "I have 300 brothers!". Unlike Mahatma Gandhi's sons, Dipesh says he has never felt jealousy. Kiritbhai, Kantisen's adopted son is treated as an elder brother. Kiritbhai stays in Kutch and looks after Kantisen whenever he is there. And what is the source of his strength? Dipesh answers unhesitantly: "Kaka. He inspires". And he adds: "Kaka puts his faith in you. There are no do's and don'ts. He allows you to make mistakes and learn. With Kaka not doing anything, is NOT forgiven!"

Perhaps the last word on Excel's philosophy is best left to G. Narayana who is widely accepted as Excel's *Guru*.

As is well-known, Excel Industries Ltd. was established in 1941 when national patriotism was at its peak. C. C. Shroff, founder of Excel, had one moving ambition: to make India a manufacturer of chemicals on its own strength. C. C. always believed in Indian technology, Indian people and the Indian way of life, management and leadership.

As Narayana has noted, presently Excel is a company close to the hearts of investors, customers, suppliers, people, government agencies, voluntary organisations, science institutions, financial institutions and business associates.

Excel Industries Ltd. made the only Public Issue of Rs. 50 lakhs in April 1971. The paid up capital of Rs. 95 lakhs after the Public Issue, increased to Rs. 1090.50 lakhs, at present.

Apart from the initial Public Issue, Excel never went for rights issue. Rs. 100 invested in 1971 when the first and only Public Issue was made, is now valued at Rs.1,150 with reference to book value and Rs. 43,920 with reference to market value. In the ten years preceding 2000 AD, the dividend has been paid at the rate of 50%, 71%, 101%, 80%, 80%, 70%, 70%, 75%, 60% and 75%.

What makes Excel a unique company in many ways? Narayana specified some of the reasons in a paper read at the International Round Table Conference on Corporate Reputation and Competitive Credibility held in Calcutta between 23 and 26 February 2000.

There are, he said, certain values which were beyond contractual and legal responsibilities. As he saw it, they were:

• Through balanced integration of Corporate Governance and Responsible Citizenship, organisations can contribute to preserve, conserve and reserve the natural resources and serve stake-holders.

• Corporate Citizenship in contractual terms means fulfilment of all agreements with stake-holders, saying what you do and doing what you say.

• Legal aspect of Corporate Citizenship means to be within and along the guidelines of Company Law and law of the nation and international law. The secret of limitlessness is being within limits and then contributing to improve the standards.

• Corporate Citizenship goes beyond both contractual and legal aspects. In India doing what one says and saying what one does is commitment. This is at physical level and is not sufficient.

• The commitment has to be transcend to feeling, thought and spiritual levels.

• Thus Corporate Citizenship expresses itself in the form of sincerity, dedication, honesty and nobility in conduct and intentions.

Narayana summed up his definitions in two statements.

One:

Feeling what one does and doing what one feels,

Thinking what one does and doing what one thinks,

And, finally doing what is good for everybody.

And, two:

AYAM NIJA PARO VETI
GANANAA LAGHU CHETASAAM
UDAARA CHARITAANAAM TU
VASUDHAIVA KUTUMBAKAM

(HITOPADESHA)

Meaning:

"This is mine", "this is theirs", So say,

petty minds, counting in separating way,

For the noble and large hearted person,

The world is family, the integrated one!

And then Narayana summed up the principles in practice at Excel at Board level:

• Chairman's role is different from that of C.E.O.

• 8 out of 11 Directors are non-executive directors.

• No financial institution is represented on the Board.

• The remuneration of Executive Directors are determined by the Board, including annual increments and Commission. The amount of Commission paid is less than 1% of Net Profit.

• Non-Executive Directors are paid Commission amount less than 1% of Net Profit.

• There is a Committee of Directors which meets once in 20 days to attend not only the Share Transfers, but also the matters of Investor Care.

• The role of Management is defined by principles and practices.

• Disclosures are made not only as a register but also as a part of minutes.

In his paper Narayana pointed out that in accordance with the company's philosophy, Excel had extended its assistance and services to farmers during the farmers' crisis in 1997.

He further noted with understandable pride that for 59 years there had not been a single strike or lock-out in Excel. Furthermore, he said, at Excel *gurus* in several fields were most welcome and that the Excel Institute of Technology, Environment and Management ensured that at least 1500 man-days of learning were put in every year.

Excel further contributed Rs. 40 to Rs. 60 lakhs every year to several voluntary organisations throughout India in the fields of Rural Development, Child Care, Woman and Wealth Generation, Health Care, etc.

But above all, he added, for Excel India comes first.

The inauguration ceremony of the Bromine Project – Dipesh and Preeti Shroff performing the Bhoomi Pujan.

The Bromine Plant – the dream project now an actuality.

The Afterword

— By G. Narayana

Excel story is people's story. It is the story of not only Shroffs but also the story of purpose, principles, policies, programmes, plans, processes, procurements, projects, plants, products, practices, profits, problems, progress, prosperity and peace, but mainly it is people story.

Shri M.V. Kamath, the doyen of Indian journalism and the writer par excellence has brought out the panoramic story of how people came together, worked together, succeeded together, added value together and contributed together to serve the country, company, community and industry.

Shroff family members and Excel family members merged together to create company model of *"Vasudhaiva Kutumbakam"* (the world as family).

It is an example of how profits can be made and wealth can be generated with ethical practices. Excel demonstrated how ethics, energy, excellence, economy and ecology can be integrated.

Shri Kamath has done a great service by bringing out well the three streams of leadership styles of Shri C. C. Shroff (Pappa), who was a creative genius, Shri G. C. Shroff (Bhai), who was a financial wizard with clarity for prompt decisions and Shri K. C. Shroff (Kaka) who is a technological and social contributor who brought out best hidden inside people. The three of them and three thousand (plus) others made Excel a great learning organization.

Today India, Indian Industry, Indian Chemical Industry and Excel are encountering a new situation of great challenges. But hidden just behind the challenges are opportunities which are to be searched, found, utilised to create a new working paradigm for new contributions.

We at Excel and our associate organizations shall endeavour to learn, work and contribute in new situation.

In this path, this book "The Excel Story: A Study in Excellence" by Shri M. V. Kamath will be a guide light.

Our deep gratitudes are for Shri M. V. Kamath who authored this excellent book, Dr. (Ms.) Kalindi Randeri who researched and effectively helped Shri Kamath, Dr. N. H. Atthreya who thought of such book and thought of Shri Kamath as its author, Shri Devenbhai Unakar, who coordinated the whole effort, Ms. Gaynor Pais who helped to capture the historic events and connections by collecting and arranging the visual and photographic records in which she was assisted by Shri K. B. Vohra, and Shri Bipin Jha who assisted Shri Devenbhai. We are also thankful to all members of Excel Parivaar, Shroff Family members, well-wishers and associates who responded, participated and contributed in creation of this historical record of spirit of Excel.

Our heartful thanks to M/s Vakil & Sons Ltd. for arranging to print such a magnificient volume with great attention and care.

Let us continue the journey.

Sarve Bhavantu Sukhina
Let all be happy.

Narayana

Vijaya Dashami
7.10.2000

ॐ सर्वे वै सुखिनः सन्तु
सर्वे सन्तु निरामयाः।
सर्वे भद्राणि पश्यन्तु
मा कश्चिद् दुःखमाप्नुयात्॥
ॐ शान्तिः शान्तिः शान्तिः

Darbari Seth and G. Narayana. Together in the support of Excel.

The entire 'Shroff Family', in a historic togetherness, arrive at Bhavnagar to witness the inauguration of the Phosphorus Plant and to salute the undaunted spirit of Excel – The first Company in Asia and second in the World, that dared to tame the hazardous chemical Phosphorus.

The Shroff Family

K.C. Shroff writes :

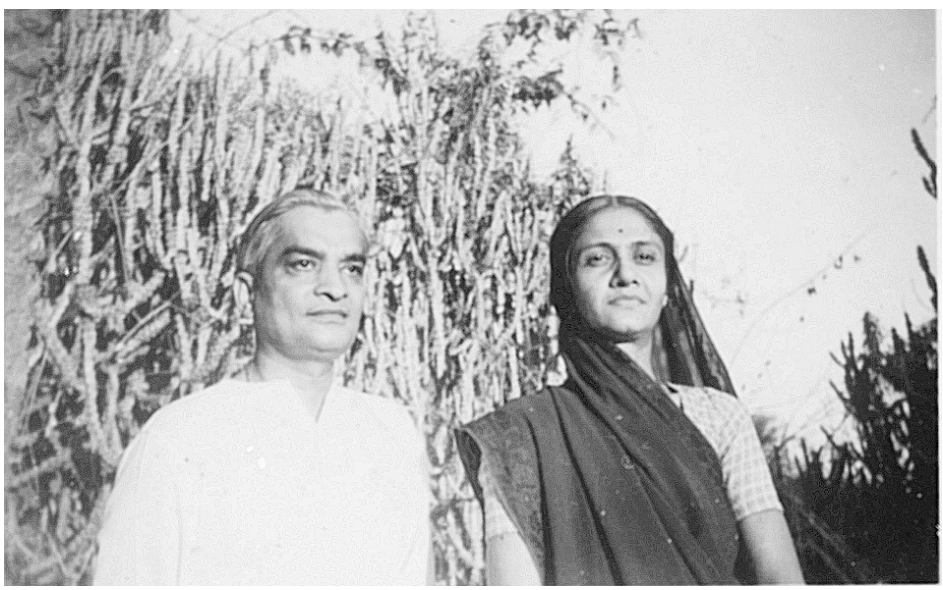
My eldest brother was Devidasbhai. We used to call him as Devubhai.

Next to Ma, in my early years, it was Devubhai's training through personal demonstration that had the greatest impact on me. He taught us such simple things as keeping all our shoes and chapals in proper order. Yes, even today I do line up the footwear properly – even in outside functions as I cannot stand a mess-up of footwear. Similarly he taught us : waste paper – waste materials must be carefully consigned to a waste-paper basket or reused properly. Likewise, after the bath when we come out with our moist towel, this moisture can best be used to clean the mirrors and even window panes. I do that even today when needed.

He had a tool box containing screw-drivers, saw, chisels, a small oil-can and many small things essential to maintain household items in proper working conditions. Putting a drop of oil on the hinges of doors and windows was another routine. Having our *Thali* absolutely clean after finishing the meals was an important lesson that we learnt from him.

He was a strict but very loving disciplinarian. It was the inculcation of these attitudes from the early age that made our factories, fabrication and maintenance departments, attain high standards of excellence.

He built the dark room for our photography studio with the assistance of other brothers. His love of photography and painting was highest amongst the family members. It was he who inspired me to go and meet the principal of St. Xavier's School for getting admission for my metriculation class. It was he who encouraged me to join the fine art academy; again it was he who made me understand the essentiality of using the artists' skills for wealth generation for becoming self-reliant. So, by the age of 16, I was a good artist accepted in the world of book publishers.



Devidas C. Shroff and Pushpavati D. Shroff.

He inherited from my father his sense of social responsibility and he was an active member in the Servants of India Society – a very active society in those days.

The thirties were the years of hard economic depression and he was a victim of that. He joined the army immediately after the Second World War. He was assigned the office functions and, as in the army service, he would get only a short leave every year.

He very much appreciated the establishment of Excel and again, it was he who convinced me to forget – forgo my career as an artist and instead start assisting C. C. Shroff in the factory and so I did though initially somewhat reluctantly but then with full conviction. I gave up my artist career and plunged body and soul in the work, joined hands with our work-force to build equipment, locate old equipment, and be ready with new processes to bring them out from the laboratory.

He too joined Excel after the War was over and brought his special style of management : Cleanliness – thoroughness in training – customer service etc. Those were the days of our business in solvents, celluloid bangles and then plastic toys. His acumen to interact with small and retail trade was of great help, so was his thrift and meticulous planning. The training to his sons and daughters was also very interesting, but his greatest love was for his daughter Sudha.

Suddenly in 1953 he had a severe attack in his stomach and before the doctors could fully diagnose the problem, he passed away.

My Sadhu brother Anand

He was the most handsome of all the members of Shroff family. Quite versatile and being nearer in age to my sister and me, we could remain closer to him. He had a flair for story telling and even when we were kids, we heard stories of Alexander Dumas who was his favourite author. Three Musketeers – Count of Monte Cristo were his most favourite and he would enjoy acting with Swash buckling sword too.

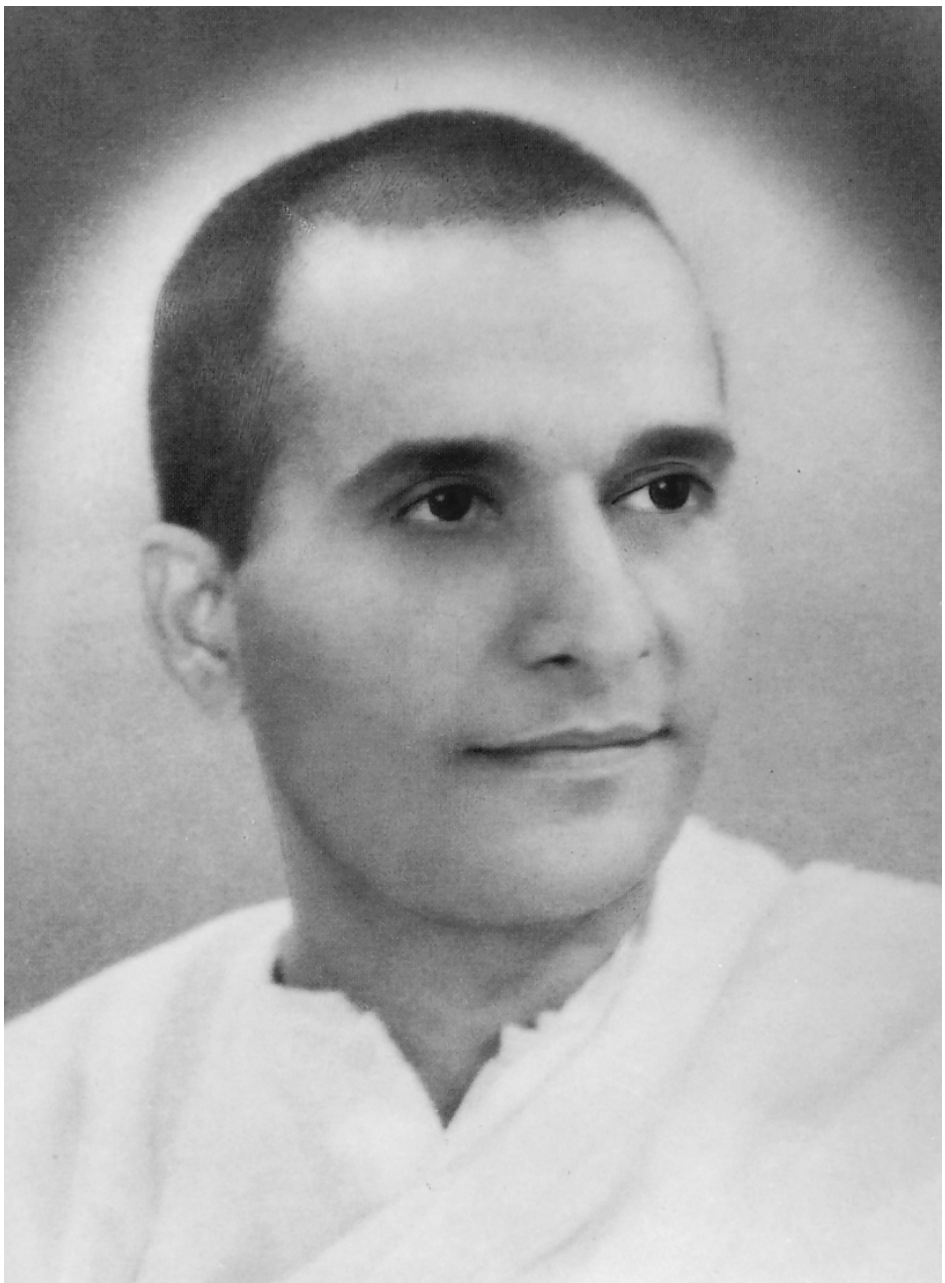
I learnt preparing and flying kites under him.

Uday Shankar was also his hero and he did learn dancing too.

Our economic condition of the '30 made him search for a job after passing his matriculation examination. He found one in a good provision shop organised by a voluntary Bhatia organisation which was established outside a very big Bhatia community building – so he was a hero for the youngsters staying in that building. He would take them on trips. Kanheri Caves – Vihar – Tulsi and surroundings were the popular places.

His fondness was for adventures – Jule Verne was another to lead him to the world of adventure.

But by the mid-thirties Swami Vivekanand became his hero and his fondness of reciting great speeches of Swamiji would electrify us also. He was getting clearer that he has to follow in the footsteps of Swamiji. But the family needed his earning continuously and so he waited till 1939. By that time the family earning was enough to let him go and so he found the Ramakrishna Mission. His personality – his devotion – his loving nature made him a favourite *Bhramachari* to many well-known Swamis of the Mission. He was posted in Madras – one of the very outstanding centres. Those were War years – causing a lot of hardships in rural areas and so he opted to work for the people in rural area. He would sometimes drop in and my mother would be quite worried about his lack of concern for his body – and his reply was: Do you know how little an Indian rural person gets to eat. I have no right to any more. Tears would roll down our eyes too.



Brahmachari Anandji of the Ramakrishna Mission – He followed his heart till the end . . .

The 1942 Quit India Movement had upset many young *Bhramacharis* – What is their duty ? But the senior Swamis could pacify him and sent him to more important works in Gujarat. First in Ahmedabad and then Rajkot. His personality and habit of intensive hard work was making him quite popular with everyone – young – old – rich – poor. He was also the house master for the students hostel.

But his spirit of the fighter will always be uppermost. This was the period just after independence. After partition, Junagadh though in Saurashtra – and though with Hindu majority – had become a problem area simply because the Muslim ruler opted to join Pakistan, and as usual there was vandalism let loose causing fear in

the minds of people. Anand decided to visit Junagadh State, to get first-hand information stating that as a Sadhu he could move more comfortably. He did bring in upto date news. But all those strains broke his body. He fell seriously ill and after that his lower limbs lost their activities. He was paralysed with lower joints.

We all felt Anand should be brought back, and though the Mission felt otherwise we brought him back. And he felt that staying in the factory, being on that premise, he can still maintain his usefulness. That was his beginning. My mother also came with him to stay in the factory. A small cottage was built for him and he would start his work from 8 a.m., move in his wheel chair to the office. His eye for finer details – his sense of work distribution – concern for working discipline was a model of excellence. He could ensure the manifestation of perfection in each individual of Excel.

But his sight was set far beyond and in May 1949 at the age of 35, he passed away very peacefully – smilingly. Leaving behind a tradition of how a business organisation should follow the best of the *Vedantic* principle in business organisation.

Thus, from Anand, Excel got a wide range of inputs of excellence, to build well-rounded people – suitable for this century.

Dr. (Mrs.) Nandini R. Gandhi writes thus about Anandbhai :

Loving, Cheerful, Lively; when one thinks of Anandbhai, many such pictures come to one's mind. His name was Anand and true to his name his mere presence would cheer up every one around.

Right from childhood, he was not interested in living an ordinary life. He had immense patriotism and firmly believed that everybody should work towards making the country free.

"Once one decides to undertake something, one should not fear anything, and if one is afraid then one should not take upon oneself such task at all". This was his philosophy of life.

He believed that whatever work one has decided, one should do and not worry as to what others will say; worry neither about criticism nor condemnation. Once Anandbhai decided to learn dancing and started on in right earnest.

Meanwhile he came across the literature of Swami Vivekananda. He was very impressed and highly influenced by it.

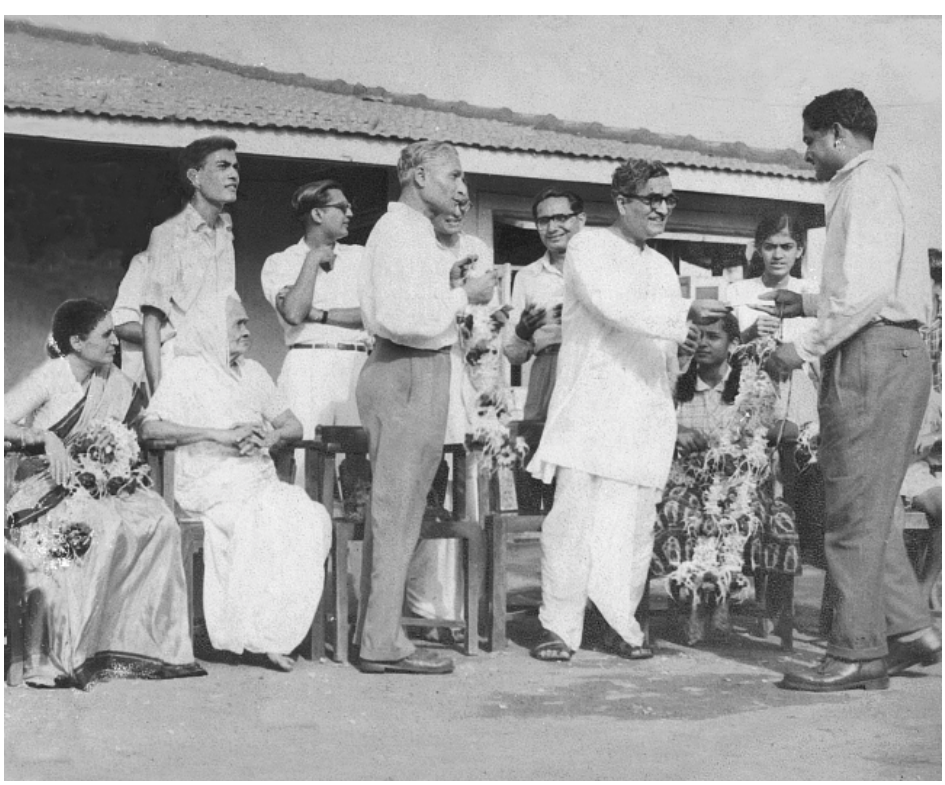
He realised that 'emancipation of one's soul and the well-being of the universe' is the only truth about one's way of life, and on this belief he joined Ramakrishna Mission. He worked in 2-3 *kendras* of the Mission.

Around that time another *kendra* was opened at Rajkot and since he was the only Gujarati follower then, he was sent to Rajkot. While working in the neighbouring villages there, he took ill and was attacked by polio. In those times medical science did not have much knowledge on polio. He was handicapped and so returned home for treatment. But nothing worked.

Though physically he was disabled, his mind, intellect and will-power were very strong and efficiently operative. Determined to overcome the current condition and desirous of doing something, he went to stay in the Excel factory. There he started teaching the children in the night and during the day time he would organise the work of the factory and the office.

He left for the heavenly abode at a very young age.

It is due to his association, today the entire Shroff family ardently follows Ramakrishna Mission; they are always ready to serve physically, mentally and financially through the Mission. To this day all the senior Swamijis of the Mission very fondly remember Anandbhai.



The past comes alive in this file photograph of a function at Excel and 'Ma' graced this occasion. Nandiniben, 'Ma', 'Pappa', Govindjibhai, Kishorbhai, Shashubhai, Babubhai Zaveri and A. B. Zaveri (L to R).

Snehlata C. Shroff, wife of C. C. Shroff – beloved 'Mummy' and 'Pappa', to the Shroff family and to all Excelites.

Ashwin Shroff writes :

Late Smt. Snehlata C. Shroff
(popularly known as 'Mummy')

Wife of Shri C. C. Shroff, born 1918, married to Shri C. C. Shroff in 1935.

She hailed from a family with active participation in cultural activities like Dramas and Music. Her father was a well-known Gujarati playwright and brothers and cousins acted in dramas, wrote, sang and directed music.

Her mother was very religious.

She combined the qualities and traits of her parents and manifested them in her life.

She was a very good singer with many popular recorded songs to her credit.

Shri Krishna Temple, Amboli Factory.

She continued to pursue cultural activities and went on to establish "Pa Pa Pugli", a women's organisation with multifarious activities.

Extremely fond of youngsters and always wanting to encourage them, she liked to gather the neighbourhood children and enact dance, dramas, etc.

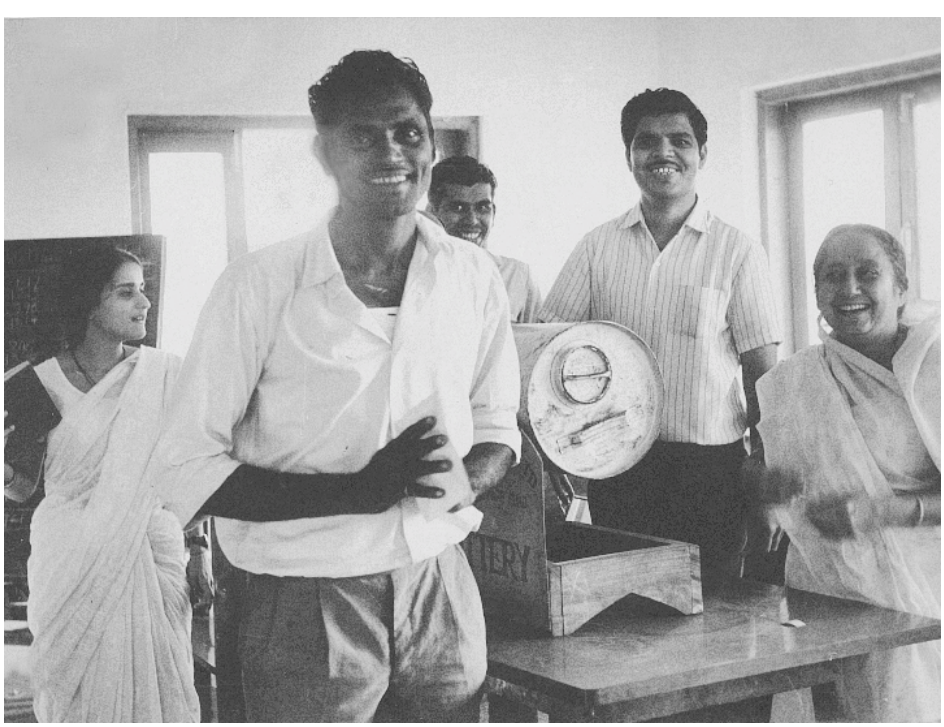
Extremely proud of Excel and its values, she helped carry them further, by regularly staying at Amboli factory guest house, mingling with the work-force, looking after the canteen. She also established a Krishna Temple at Amboli factory and made it into a centre of cultural and religious activities, for the employees and the children of nearby slums.

An excellent hostess, she enjoyed cooking and organise dinners. She helped establish Amboli as the Company's Guest-house for Excel members visiting Bombay Headquarters, with good service-oriented values in the serving staff.

An expert match-maker, she founded the "Bhatia Marriage Bureau", a voluntary service to the community.

A devoted wife and mother, she supported C. C. Shroff in all his activities (including selling all her jewellery to raise money for founding Excel !)

She passed away in 1997, at the age of 79.



'Mummy' actively participating in a Lottery Draw function, along with the employees and seen enjoying herself at it.

Creativity personified – the inside of SHRUJAN, Bhujodi, Kutch

Smt. Chanda Shroff
(popularly called 'Kaki' or 'Baa')

Wife of Shri Kantisen C. Shroff.

Like him, she was also an artist by temperament and training. Common interest in art is what brought them together. They were married in 1957.

K. C. was always staying on the Jogeshwari factory premises, along with mother Gokiben. Kaki also stayed at Jogeshwari factory with them.

Their common concern for the less privileged of society, along with common interest in art, helped the establishment of Shrujan Trust, in 1969, to preserve and propagate the traditional Kutchhi embroidery and other arts. The repeated and recurrent droughts in the Kutchh district, made people suffer. Their pride and self-respect would not allow them to accept doles. Kaki founded Shrujan to provide livelihood to Kutchhi women, whose embroidery she took to Urban Markets, in India and abroad.

'Kaki', Chandaben – the founder of SHRUJAN – a labour of Love.

Today, Shrujan provides respectable earning to over 2000 women, in 85 villages of Kutchh.

The Creative abode called SHRUJAN.

Late Shri S. D. Shroff
(Shashikumar, popularly called "Shashubhai")

• Eldest son of Shri Devidas C. Shroff – the elder brother of Shri C. C. Shroff, the founder.

• After schooling in Bombay, joined the company in 1948.

• His specialities were –

1. An engineering bent of mind, fond of mechanical things e.g. cars and automobile engineering, machines, fabrication, projects erection.
2. Fast decision-maker.
3. Precise – effective use of diary as tool, for planning and organising.
4. Impressed by the New Management Sciences evolving in early '50s, fond of books on Management. Brought in Dr. N. H. Atthreya, Dr. S. K. Parukh and other Management *Gurus*.

• Contributed to products like Ferric Chloride, Sulphur Dioxide, Phosphoric Acid, Oxalic Acid etc.

• Was a part of the team that conceived Yellow Phosphorus Plant.

• At the time of association with Tatas through Tata Fisons, as part of restructuring, "Shroff Technical Services Pvt. Ltd." was established. He went on to head that company and made it into an independent entity later on.

• After that, he headed Punjab Chemicals & Pharmaceuticals Ltd. (PCPL), a company promoted by Excel with the Punjab State Government. He was the M.D. of PCPL at the time of his passing away in December 1997, at the age of 66.

• Was married to Shaila.

• His son, Salil, has taken over the management of these companies.

Shri Rajju D. Shroff

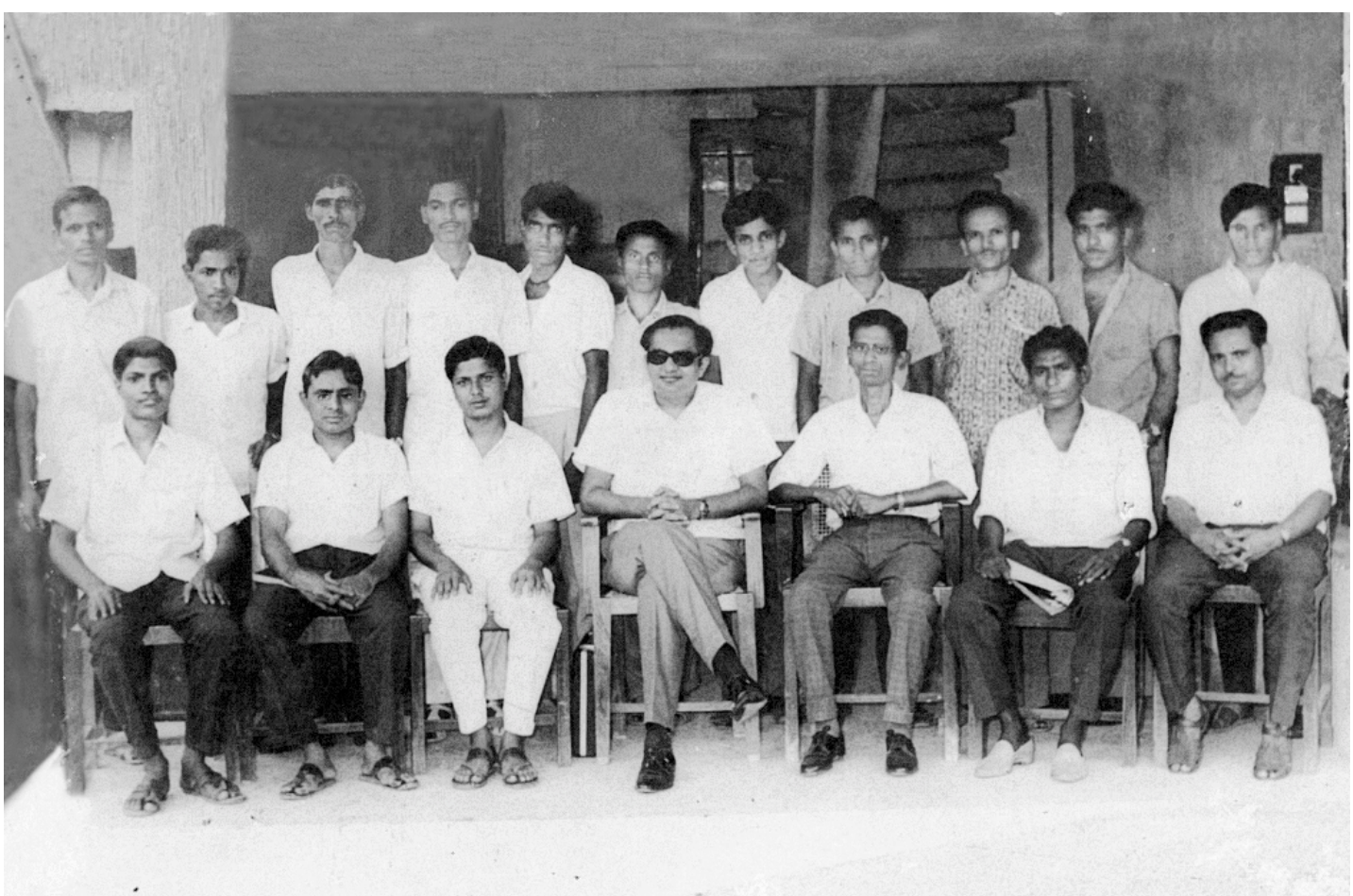
Rajnikant, the second son of Shri Devidas C. Shroff – the elder brother of Shri C. C. Shroff.

A very creative and energetic person from his childhood, with some adventurous and dare-devil acts to his credit. Someone who cannot take 'no' for an answer. A fighter for his rights and views.

He graduated in chemistry from Bombay University and joined Excel in 1955. Soon, when Excel decided to put up a factory in UK to make Mercury salts, he along with younger brother Kishor and Manchhubhai – a brilliant Adivasi boy, were deputed to manage the factory.

During his stay there, he met his life-partner Sandra.

Befitting his nature, Rajjubhai enjoyed working with hazards and played



Shashikumar D. Shroff and fondly called Shashubhai in his inimitable dark-glasses style (centre) with his earliest team-mates, some of whom are still with Excel and recognisable.

important role in developing Phosphorus-based chemicals, Red Phosphorus, Aluminium Phosphide and other products.

His fierce independent mind encouraged him to establish United Phosphorus Ltd. in 1970 which has gone on to become a major Agrochemical Company with world-wide presence. Sandra has been deeply involved in managing United Phosphorus.

Both have been active in community services and industry associations.

Their sons, Jai and Vikram, have been active in managing United Phosphorus Ltd.

Shri Kishor D. Shroff

The youngest son of Shri Devidas C. Shroff – the elder brother of Shri C. C. Shroff.

Immaculate in dressing and looks, and careful about neatness and orderliness (which he inherited from his father), he joined Excel midway through college career.

He specialised in being close to shop-floor operations and people on the shop-floor whom he would visit regularly, and interact with.

A very affectionate and family loving person.

He is a devoted nephew and younger brother, to C. C. Shroff and Rajju Shroff respectively, eager to assist them as a dedicated soldier.

After serving Excel from 1955 till 1973, he joined his brother Rajju in establishing and nurturing United Phosphorus Ltd., till 1994, after which he decided to devote time to family and his farm in Kutchh, along with his wife Ranjan.

Late Miss Renuka Shroff

C. C. Shroff's daughter, born in 1939.

Extremely devoted to her father and family. She was a mature person even at young age, good at studies and a favourite of her teachers.

Renuka Shroff on her wedding day.

She enjoyed sports especially Badminton, and Mountaineering, Horse-riding and Swimming.

She used to don boy's clothes as a youngster.

Seated – 1st Row (L to R) : Priti Prakash Shroff, Jai Jyoti Bhatt, Vishwa Atul Shroff, Kruti Praful Saraiya, Ravi Ashwin Shroff, Paritosh Tushar Dayal, Hiral Tushar Dayal, Pratik Tushar Dayal, Jyotibhai Bhatt, Hrishit Ashwin Shroff.

Seated – 2nd Row (L to R) : Chetna Praful Saraiya, Jyotsna Bhatt, Shruti Atul Shroff, Usha Ashwin Shroff, Ranjan Kishor Shroff, Sandra Rajju Shroff, 'Chachi', 'Bhai', 'Bhabhi', 'Mummy', Shaila Shashu Shroff, Rupam Salil Shroff, Hansa Harish Shroff.

Standing (L to R) : Prakash K. Shroff, Tushar C. Dayal, Dhiru K. Shroff, Harish K. Shroff, Rajju D. Shroff, Atul G. Shroff, Jai Rajju Shroff, Ashwin C. Shroff, Shashu D. Shroff, Kishor D. Shroff, Salil S. Shroff, Ramila K. Shroff, Asha A. Kapadia, Campubai.

After graduating in chemistry from Bombay University, she joined Excel in 1960. An eager learner, she used to treat the humblest worker on shop-floor with great respect, earning their affection and respect in return.

Her main contributions at Excel were Oxalic Acid and Acrylic Sheets.

She was eager to learn New Management Sciences and learnt under Prof. K. J. Shone, a Management Expert from UK.

Reluctant to get detached from the family she loved so much, she was persuaded to marry at last in 1964. Very unfortunately, and immediately after her marriage to Dr. Dilip Bhatia, she was struck by a severe attack of meningitis and passed away at young age of 25 in 1964.

Shri Atul G. Shroff.

The only son of Shri Govindji C. Shroff, born 1947.

Like other contemporary children of the family, was encouraged to and liked to spend time at the factory of Excel on holidays and vacations, and thus 'inducted' into business, at very young age.

Atul G. Shroff.

After schooling, he pursued Engineering Studies at Vallabh Vidyanagar, Guajrat.

Joining Excel in early '60s, he contributed to managing Amboli unit in Bombay, Excel's second factory.

He participated actively in establishing the Roha unit of Excel, established in '75, now the second largest of Excel.

Besides engineering related subjects, is greatly fond of Shop-floor Management, HRD and Projects.

In '81, he decided to test his management and entrepreneurial skills and shifted to Vadodara (Baroda) to take charge of Transpek Industry Ltd., a company promoted by Shroff family. He has been heading Transpek and has participated in a number of other enterprises in Vadodara.

He has been active on the Vadodara Industrial, Social and Management Scene.

His wife Shruti, has made her mark in the field of community and rural development through the Shroff Foundation Trust, established in 1980. The Trust has been serving Adivasi area of Chhota Udepur as also those neighbouring Vadodara.

Shri Praful M. Saraiya

A shrewd entrepreneur with sound commercial acumen. Very good Business Analyst. An effective communicator.

Son-in-law of Shri Govindji Shroff, married to his elder daughter Chetana.

A mechanical engineer by qualification, he was associated with Excel, from 1973 to 1980. He contributed to shop-floor operations at Amboli factory, prior to taking up responsibilities in the commercial area, especially Purchase and Materials Management.

His ability to cultivate and maintain good relations with suppliers along with his interest in growth of his colleagues laid foundation for a strong Materials function at Excel.

He went on to establish the Parul Group of Companies, viz. Parul Chemicals, Prerana Chemicals and Shroff Engineering Pvt. Ltd., all based in Vadodara.

Chetana, a very family-loving person, has been a great supporting life partner to Praful.

Shri Tushar C. Dayal

A Chartered Accountant by qualification, and proud of his professional and objective outlook and temperament.

Son-in law of Shri Govindji Shroff, married to his younger daughter Hiral.

After working with the reputed firm of A. F. Ferguson & Co., Chartered Accountants, joined Punjab Chemicals & Pharmaceuticals Ltd., Chandigarh in 1984 and contributed to Accounts and Commercial functions till 1987.

He joined Excel thereafter in April 1987 in Accounts & Finance, and later, headed that Function till May 1989. During his tenure, he helped to put the Function and its systems on strong footing, as also established good rapport with the company's bankers and lenders, and helped in managing the finances during a difficult period. He contributed significantly in turnaround of the company during 1987.

To nurture his entrepreneurial ambitions, he shifted to Vadodara and has been Managing Director of Transmetal Ltd., a chemical intermediates manufacturing company, since August 1993.

His involvement in social contributions is intensive and he supports the activities of VRTI, Shrujan and Shroff Foundation Trust.

He has been active in the management education activities of Baroda Management Association.(BMA)

Hiral has pursued artistic talents and has been involved with voluntary work and voluntary agencies.

Smt. Usha Shroff

Daughter-in-law of Shri C. C. Shroff, wife of Ashwin Shroff.

An M. Com. in Cost Accounting from Bombay University, married to Ashwin in 1967.

An ambitious career oriented woman, from a well-know business family of

The Shroff Get-together – Hotel Cecil, Matheran – 15 March 1978.
(L to R)
Row 1 : Salil, Mehul, Jai.
Row 2 : Neha, Hemal, Kanan, Kirit, Atul and Purvi, Praful Saraiya, Hiral, Dipesh.
Row 3 : Kiran and Kishorbhai, Ranjanbhabhi, Ashwinbhai and Anshul, Sudhaben and Mihir, Chandubhai Dalal, Shrutibhabhi, Chetnaben and Khyati.
Row 4 : Sandrabhabhi and Vikram, Rajjubhai, Jyotsna and Jai, Jyoti Bhatt, Rameshbhai, Kaka, Shashubhai, Shailabhabhi.
Row 5 : Mummy, Bhabhi, Bai Phoi, Govindjibhai, Chachi, Kaki and Ami.

Usha A. Shroff.

Bombay, she had her schooling in New Era School, one of the best Bombay schools, priding itself on imparting good values and confidence in its students, besides knowledge.

She joined Excel in 1969 in the Accounts Section.

Fairly soon, with entry of computers and their various applications in accounts, payroll etc, Excel decided to experiment and induct computers. Usha was part of the team that undertook the exercise.

Later on, when it was decided to set up the C. C. Shroff Research Institute, in memory of Excel's founder, she was part of the team which helped establish the Institute.

Later still, she went on to set up a number of companies, all part of the Anshul Group of Companies involved in chemical manufacture, indenting and leasing and finance.

An able organiser with leadership qualities, she enjoys organising functions and family get-togethers.

Miss Ramila K. Shroff

A niece of CC / GC / KC Shroff, she was associated with Excel for a long period, from 1961 to 1995 till her retirement.

A graduate of Bombay University, she assisted in the office administration and commercial matters. She was a trusted lieutenant to Shri G. C. Shroff.

Fond of looking after people, she contributed to efficient management of the company canteen.

A meticulous person, she carefully kept custody of important statutory records and documents of the company.

She provided a supportive umbrella to all the lady staff members as an elder sister.

Late Shri Dhirubhai K. Shroff

Lived upto his name, Dhairyasinh, meaning "Patience", through the meticulous and consistent working style.

Dhirubhai K. Shroff.

After schooling, he joined Excel and was a dedicated soldier, assisting Shri C. C. and K. C. Shroff in various shopfloor assignments. He was also associated with stores and inventory management.

He passed away suddenly at the age of 58.

Shri Prakash K. Shroff

He is currently the President of Agri Business Division. He joined Excel in July 1967, after completing his Electrical Engineering studies from Maharashtra Board of Technical Education.

During his long tenure, he has been involved in various assignments and roles, of Production and shop-floor at Amboli unit, Projects Management (for projects of Excel as also external customers), R & D and Technology matters, and Personnel Management.

A very creative and unconventional thinker, he has come out with very innovative solutions to different problems a number of times.

Likes to nurture and support his colleagues.

Ashwinbhai and Ushabhabhi with sons Ravi and Hrishit, along with 'Chachi,' Bhai and Mummy.

Darbari Seth, a distinguished Technocrat, Visonary and Dynamic Leader. Director of Excel from 1966 to 1999 and Chairman of Board during 1982-1999.

S. R. Potdar – President, Chemical Business; Prakash Shroff – President, Agri. Business; M. L. Shah – President, Life Sciences and Environment & Biotechnology Business (L to R).

Outstanding Performers

Late Shri C. R. Bhatt
(Period : 1940s to 1980s)

A B. Sc. with Chemistry, a contemporary of C. C. Shroff, one of the finest chemists associated with Excel.

Expert in inorganic chemistry, especially in metal salts – of silver, gold, copper, mercury and zinc.

His field of expertise was recovery of metals and their salts from ores, scrap and wastes.

He taught his colleagues to take care up to the last drop of any chemical, which led to accounting in grams level of efficiency in tonnes of production. Both these took care of efficiency in material consumption as also minimising wastage and environmental pollution.

He also contributed in developing high purity analytical reagents, IP and BP grade chemicals which were acceptable to multinationals like Parke-Devis, Glaxo and Pfizer.

He was like an elder brother, or a father figure to many of Excelites, who benefitted even in personal life from his sane advice.

He was known for his thrift, for which some even considered him a miser. But he had helped many people and small welfare organisations with no expectations of name or return.

Shri K. K. Chhaya
(Period : 1940s to 1970s)

A chemistry graduate with honours, from Bombay University.

Had a very good command over theoretical and analytical chemistry.

An expert at material balance and calculations of efficiency of production, and played a vital role in accounting systems of production.

He was one of the pioneers in introducing continuous processes from batch processes in Excel, e. g. in oxalic acid and ethylene dibromide pilot plants.

He developed, with the help of Shri M. P. Mistry, the process for removing arsenic from phosphoric acid, precisely, with simple operations, which were less hazardous.

He represented Excel in many committees of Indian Standards Institute for a number of years for formulating product specifications and test methods to be used at national levels.

He inculcated team spirit amongst his co-workers in developmental activities.

He loved cricket and many a times represented Excel in the game matches.

Shri Y. S. Mehta
(Period : 1950s to 1970s)

Great lover of technical books, because of which he came to be regarded as moving encyclopedia.

Basically he was the think-tank for R&D activities in Excel.

His contribution was significant in the process improvements and development of a range of products like CPW, Camphor, MEMC, Methyl Bromide, Dicalcium Phosphate and Ethylene Dichloride, etc.

Among his strong points were meticulousness and innovativeness in process simplification, though at times to the extent of being fastidious in approach.

Late Shri J. M. Vyas
(Period : 1960s to 1980s)

Though a science under-graduate, his insight and persistence helped Excel to develop products like Camphor, Malathion (with and without solvent process), Rogor, Ziram / Thiram, Glyphosat.

Development of versatile products like DTCL and specially its continuous distillation glass column were his main contribution. In those days, this distillation glass column was popularly known as 'Mama's Magic Column – he was the maternal uncle of one Shri R. T. Bhatt and in course of time he became 'Mama' to many in Excel.

He had developed expertise in handling, testing and developing glass apparatus in India which till then were being imported. This he did with the help of local glass blowers (e.g. Gerg Scientific Glass).

He gave valuable suggestions to M/s Gujarat Machinery Mfgs. Ltd. for the development and handling of glass-lined equipment in India.

Late Shri S. K. Patil
(Period : 1960s to 1970s)

Post-graduate in science, with organic chemistry as his forte.

He was a major contributor in the development of products like Malathion and Rogor.

He was in-charge of Amboli site of Excel.

He was a straight-forward person and was known for his talking straight on the face though mild tone and soft language were equally the characteristics of his pleasant personality.

Late Shri P. V. Kango
(Period : 1960s to 1990s)

A very soft-spoken person but a tough and clear negotiator who forged friendship with and between persons of divergent views.

Good at liason work, especially with government offices.

Represented Excel in the committees of Indian Standards Institute for many years.

In later period of his career with Excel he looked after and coordinated the work of Bhavnagar site and subsequently of Lote and Roha sites.

Shri Saifeebhai Degani
(Period : 1940s to 1980s)

Involvement with Excel since its very inception, and was among the most trusted persons all his life in Excel.

In the early days when money was not so easily available, he used to conserve resources, and wisely allocated it amongst Excel employees.

He had very good managerial ability which moved him to various departments and functions where dedication and priority of attention were essential.

(***Note:*** There could be quite a few more who would deserve mention here. Some who are still active and have carved out a niche for themselves are listed as Excel Alumni in the chapter on **A MIDWORD** earlier).

10

Kantisen C. Shroff: The Man and His Thoughts

A dedicated brother, a devoted husband, a thoughtful father and a loving grandpa, some of the letters – still available – to his son and grandchildren make very revealing reading.

An undated greeting card to Chini, sent on her birthday says:

Dear Chini
Twenty-one twelve
That's your birthday
and smiles
for
miles and miles
which will carry
for the year round
That's what we
Wish
Again and again.
Dada Dadi

* * *

Another undated (but written on Vasant Panchami) letter is addressed to Krishni, Chini, Chikoo, Pritee (Preeti) and Ami. It says:

We are celebrating the birthdays of Chikoo and Dipesh.

Ba is organising the dinner tonight for all.

Gotubhai is here since noon. Dipesh has gone to Mandvi to show the sites to his other two colleagues.

So Gotubhai is helping photographing Ba's new museum collection with Sushil, Jai, Nehal, Devji, Darshan and Ashokbhai helping prepare the frames.

It is a great sight.

Dipesh has got over his acidity and reduced in circumference. May be Chini cannot play as well as before.

Anyway I hope you will like the healthier Papa and Gotubhai.

Dada.

* * *

A letter dated 26 March 1998 is addressed to Krishni. It says:

Dear Krishni,

Getting dearer every day.

We left Bombay on 5th.

Daily we remember your very lovely smile and also the hug that you gave to Dadi.

We enjoyed looking at your very playful fish running around in water and a very lovely girl playing on the beach.

Come to Kutch as soon as your exams are over.

Now bathing under our waterfall will be extremely enjoyable.

Golu and Hetal will also join you.

Now Shetur are ready and many flowers have started giving a lot of fragrance.

Your fragrance will add more to all that.

Dada, Dadi and Kirit Kaka

* * *

On 2 June 1998 writes a letter to Chini. He says:

My dear Chini,

We received your loving note and the news of your plants that Chikoo, Shrila and you are going to take care as your babies.

We are learning to do the same. So your knowledge of rearing plants will be useful to us also.

At night we still sleep in the open as it is better than an air-conditioner.

Rajni still enjoys running around and making mischief with everyone.

Soon another cow is going to give birth to a baby.

So by the time you are your mummy's age, we will have a big group of animals for you to love and care.

Varsha is still in Bhavnagar.

* * *

Krishni and Chinmayi 'Chini' – Grand-father's pets – Daughters of Dipesh and Preeti Shroff.

A month later Kantisen is writing another letter to his grandchildren (8 July).

Our very dear Chikoo, Chini and Krishni,

We Kutchis have our very own new year. It is related to the normal advent of time of monsoon in Kutch. We have our own Hindu calendar. You all know Divali and the new year in the month of Kartik. Our's occur in the month of Ashad's 2nd day of the moon. I reached right in time to celebrate with my colleagues.

Luckily the rain has come making us even forget the damage of the cyclone because now new crops will be fine. There will be enough grass for our cattle and water tanks are already getting full all over Kutch. Our wells are getting full also.

Our Hira and Moti, our cows, buffaloes, calves all are happy with this new cool climate.

But the damage that the cyclone has done needs lots of work for reconstruction and for that a very good dynamic group has emerged. I am also with them. We are working on long-term programme that will continue for more than 10 years. Just as Shrujan is working since 30 years, will be working when you grow up. So also all of you will be helping in this work also of building whole of Kutch. All the new subjects you are learning will be useful in Kutch just as your Pappa and mummy worked in Bhavnagar to build Excel you will work to build Kutch. I can see you all working in crafts, cattle, farming, engineering, in management.

These days my involvement in many things in Kutch can make me visualise all these great works of yours.

Grandpa Kantisen had originally started by writing: "My very dear" etc but then he struck out "My" and substituted it with the word "Our".

* * *

On 10 July 1998 Kantisen is back with another letter to Chini.

(At the top he writes: "I am asking Jai Didi to put your letter on the notice board for all to read). His own letter says:

Dear Chini,

Your letter to Ami, Jaididi, Kiritkaka and Dada.

We all enjoying Kutch. The new rains have made everything green and so this Sunday, Jai Didi, Hetal, Golu, Sanjay and elders went on a trip to Lakhond Hill and Golu and Hetal reached the top first. The breeze is beautiful every day.

Yesterday evening I was playing with Rajni and every other animal has grown big and are learning to help us in work.

Now I am asking Kirit Kaka to give his impressions.

(What follows is Kiritkaka's letter).

* * *

A letter dated 16 September 1998 to Chini says:

Our very dear Chini,

Your Nani Mummy with friends was here and all of us were remembering all the wonderful skills you all possess. What great jewels you all are.

We are eagerly looking forward to your toys creation. When Kirit Kaka was your age, he too used to make very lovely toys.

You are all very lucky to have such talented elders who also enjoy teaching you.

I too was lucky. I was the youngest, so everybody used to help. No I am the oldest – so also everybody is so helpful.

Is it not all so wonderful.

I got up and checked up about your present to Heeraben. Yes, everybody in the house has liked it.

Can I also wait for a present for me.

Dada

(It may be noticed that at no time does Kaka use exclamatory marks. And, incidentally, he spells 'wonderful' with an extra 'l' as he does 'helpful' also with an additional 'l'.)

* * *

Chini gets another letter from grandpa on 28 September 1998.

Dear Chini,

Varsha and Hira masi, Golu and Archanaben, Kantibhai and Gulab,

'Chickoo' Chaitanya Dipesh Shroff.

Shushil and all his colleagues, are sending their greetings to you.

How many days you went to play the garba.

Did you use your *chaniya-choli* that you had put on to show me.

* * *

A letter to Chini written on 31 January 1999 says:

Dear Chini,

Today I decided to remove (after one month of its use because I liked the sketches)…

So I thought Chini should have it. I showed to Dadi – and my intentions of posting them to you.

Dadi said: "She has already asked for these drawings".

So your message reached me without your telling me. I am adding two more cards.

Your photos at Jai Didi's function are very lovely. Ami will send them to you.

Dada's love.

* * *

Kantisen takes time off to write a brief post card to Chini on 14 February 1999. It says:

Dear Chini,
So glad to learn from you that your Dad tells you about Champrajbhai.
You and Chikoo and Krishni can build great teams if you learn more about how we all were nurtured.
Not only learn
But practice his teachings.
Love to all of you.
Dada.

* * *

A very lovely letter is sent to Chini on 15 June 1999. It says:

Dear Chiniben
I was talking with Ba and I realised – you are watching me from your photo and you were watching so intensely that I too started looking attentively at you.
Your smile with that intense look made me see a similarity between your face of the photograph and Mona Lisa.
I am glad – I am having my Chini's portrait to talk with daily in the morning.
Dada

All the letters were brief. The language used is simple. The sentences are short. No question or exclamatory marks are ever used, sometimes not even the full stops. The letters are matter-of-fact. There is no moralising, but messages come through clearly enough. There is no emotional profusion, but Dada's love comes through without any embellishment.

* * *

Of the many letters he wrote to his own son Dipesh, three are reproduced here.

The first letter is dated 21 July 1998. It says:

My dear Dipesh,
I was so happy hearing your report on our A.G.M. The love that our shareholders showered on all of you. The appreciation of our work in Kutch.

Can we learn a good lesson out of it. What is respected most is our way of life. Our purity, our selflessness.

Thinking further on this subject I feel like quoting Swami Vivekananda's full sentence – his full advice to his disciples before he left his body.

When he told his disciples that he will leave his body now, they were frightened – how can they carry on his work? He said: "Leaving my body I will still be with you. Just remember this much: Purity, selflessness and constant learning is power. It will reach you anywhere".

Since my childhood I am also seeing it. Ma and Bhabha's purity and selflessness has ensured our growth.

Not physical alone, but overall growth.

Physical wealth is not all that important. It can come but it can go too.

What will be our real asset is our own concern for others. Our collective wisdom.

I saw the manifestation of this with our Delhi colleagues the most.

Tell me – could you have visualised such great response from the farmers, from the community.

From our colleagues themselves?

How it occurred – why it occurred?

They drew the inspiration from you. For them you were the example. Your concern for the farmer made them see the possibilities – newer opportunities.

You saw that again in your last visit to Kutch.

Could you have visualised all the great things that occurred? Then who does it? How it happens?

How so much excellence emerge in everybody?

We are taught God is everywhere in everyone. Can we not know that He manifests. Again and again. I experience it. He means it. He holds our hands. When needed He carries us forward. I have full faith in Him.

When we see problems – problems beyond our capabilities to solve, our need to depend on Him totally is real. We learn to allow Him to carry us onwards.

That experience is so great, being aware that He carries when the need is maximum.

How bad was Excel's situation around 1986.

Who carried us through. Can we agree that it was His will.

The human race – most of them at least are suffering because they as individuals want to solve their problems. Quite often at others' cost.

You have learnt to solve problems of others for the good of others. So help comes from known or even unknown quarters.

But the good works get done.

It is only our good work that lasts. That shines. That removes darkness.

In Kutch – because we formed an effective coordinating group, co-relating everybody's excellence, we are earning more and more respect. More important – we are gaining confidence to do the right things – right big things – right relevant things. You will realise when we say "Industry is the manifestation of excellence in men". This is the industry we are talking about. Can I end by passing to you the advice that Badoda had given me 25 years ago.

"Sincerity, devotion, industry and faith – FAITH above all can take us to the right destination – We just carry on."

Yes, We just carry on – carry on His work.

Love to all of you.
Ka

* * *

As he wrote to his grandchildren, so he writes to his son. It is as if he is speaking to him and not writing to him. The sentences are short. So are the paragraphs. Inferences are drawn from known facts. *Faith* is simply stated.

The letter to Dipesh written on 16 October 1999 is very much in the same mode. The address is not given. It runs as follows:

Dear Dipesh,
I am having the most adventurous time with Gaynor. Since 2 hours re Vietnam. If Papa could set up a factory in England in 1956 – you can set up one in Vietnam in 2000.
But with a big difference.

Papa wanted to prove the superiority of our technology.

You all want to prove the superiority of our Value System and Intellectual Property responsibility.

Gaynor is planning to take the Vietnamese friends to Kutch. But before that she should experience the great work – so that she can articulate and create similar models in Vietnam.

If Samrat Ashok sent his son and daughter to Shri Lanka to preach the message of Buddha, you can demonstrate our values in Vietnam.

Demonstration is greater than preaching.

To this letter Gaynor adds one line:

I agree wholeheartedly with Kaka.

* * *

Kantisen's letter to Dipesh dated 25 October 1999 is self-explanatory. It is marked: "Most important and Very Urgent". It says:

My dear Dipesh,

Since one month, I am out of Kutch – and getting exposed to both the global realities and Excel's crying needs.

Happily I am seeing the solutions to both the problems.

For that I am seeing – you have to play your true expected role. The role of Executive Director – head of two divisions.

Excel has grown.

New situations have arisen.

New demands are coming up.

– and till you become tall enough to meet all these demands, there is no answer. No one else is expected to own up, to grow – to fulfil these demands.

Whether one talks I.S.O. 14000 or Sigma Six or Responsible Care, you have to be spiritually tall enough.

But you have to grow beyond.

Learning to take care of the Mother Earth.

Enough lessons on how to reach that point are written – and demonstrated.

You have to reach there.

Kaka

* * *

To understand Kantisen C. Shroff, one has to go through his writings down the years. His output in terms of letters, articles, essays etc. is truly enormous.

Writing about "Prelude to Trusteeship" on *6 October 1975* he had this to say:

Since about two years we were discussing Trusteeship amongst ourselves. We went through Gandhiji's articles and studied different aspects of his life. To get our thoughts cleared we went to see Vinobaji to get his guidelines:

He gave us a few points to proceed on:

(a) The five partners – Government, Society, Financier, Producer and Customer, should share the benefits of production equally.

(b) The head of the organisation should function like a father, turn into a *Vaanaprasthi* – train juniors, and then hand over responsibilities down the line.

(c) Work for villages. Use talents and part of the wealth for the well-being of villagers.

(d) Remember, *Karmanaivadhikarasthe ma phaleshu kadaachana.*

Working on these guidelines, two papers were drafted: "Ideal Trusteeship" and "Towards Trusteeship".

Then we went on to ask the vital questions – How do we start? What size of a company do we start with? What type of cadre? With what business? With how much capital? We felt that too small a company would not be meaningful and too big a company might be difficult. We concluded that perhaps a company with a strength of 500 to 1000 may be good.

So we decided that at Excel we must start implementing some points from Kantibhai Mehta's note:

I. Sharing in decision making, sharing in execution and sharing in benefits.

II. The benefit gap between the manager and worker should be less than 5:1.

We felt that if the sharing in decision taking has to be done, a proper profile of knowledge and skills of every individual should be done and that it should be done by involving the individual.

The Oxalic Acid Plant was chosen to start with, and the following data was produced:

1. Chart of existing organisation structure.

2. Functional skills required in the coming year and the organisation of such skills.

The Shareholders' visits to Kutch, Bhavnagar, Roha and Jogeshwari sites –
A common annual feature for Excel to play host to its esteemed shareholders who have the interest to visit and experience the culture of Excel.

3. Skills inventory.
4. Recruitment and training needs for future requirements.

This data gives us an idea of capability for decision-making down the line, the structure of the executive process and the nature of benefits to be accorded to each person.

When such details were worked out for all the plants of our Jogeshwari Factory, the functions of the top-level executives became increasingly clear. These executives then re-organised themselves to take over added responsibility from the Head Office.

The logical extension of such work leaves the Head Office solely with the function of co-ordination and training. With the re-organisation of Roha, Amboli, Jogeshwari and Bhavnagar to such heights, the Head Office, divested of all executive functions, becomes a 'Centre of Co-ordination and Development', not of administration!

Suddenly we realised that we were driving at the Hindu management system – the Brahmin class keeping the minimum for themselves and functioning as teachers only – divesting themselves of executive powers. These were left to Vashishtas and Vishwamitras.

Then we understood why the Shankaracharyas are still there but not the dynasties of any kings; why Chanakya preferred the hut and gave the Prime Ministership to Rakshas: How Gaurang Prabhu Chaitanya stood up against the religious onslaught but no king could; that the same was the case with Nanak, Vallabhacharya and Ramdas; what Gandhiji meant when he asked our leaders to remain out of government, when he asked them to disband the Congress. Then we could understand his ideas of the village Sevak.

In the Annexure we have put down the structure of the Oxalic Acid Plant because there the full details of the above process are available. Such data will emerge of the whole factory soon.

Similar notes are being prepared on village work in Kutch and on involvement with educational and other institutions like Lok Bharati, Shardagram, Dnyana Prabodhini, Patkar College, Bharat Scouts and Guides, Development Council for Organic Chemical Industries, Ramakrishna Mission.

* * *

28.11.1977:

On Creativity and Group Dynamics: Some Experiences, Some Thoughts:

In our family we grew up as 'us' and not as 'I'. Most of the activities were done together. Playing, working, learning – and so no work was drudgery, no work was difficult. There was somebody to help . . . .

The early research work of Late C. C. Shroff in the kitchen, too, was of similar nature. We brothers helped – he discussed, asked for ideas and implemented what looked best to all of us. Not that we succeeded always. We failed. We failed more often than not, but those failures too made us discuss and learn. It was never passing the blame.

Late C. C. Shroff could see the future, the possibilities and the validity of this style for future, growth and so he maintained this style even in his service and in Excel . . . .

From 1968 Excel has done projects outside Bombay and quite often helped others, too. Others in difficulty. Solutions occurred under group dynamics only.

Then what is this Creative Group Dynamics? Where it differs, and how and when it is effective:

1. Clarity of understanding on what is expected.
2. The possible roles of participants.
3. But no fixed ideas on our status.
4. A continuous dialogue amongst the group, reviewing the project, the progress and the problems.
5. Thus our awareness of areas of ignorance and possible sources of knowledge.
6. Capability to accept ideas from such knowledge people – be they very learned or illiterate, old and experienced or young and fresh.
7. Even in execution, handing over the responsibility to the right person or persons so that no worrying on hierarchical position.
8. The senior-most man's function is to present the objectives – discuss/ keep track – do the required follow-ups – help the team member recognise the progress and problems whenever need arises, add new members or re-organise for effectiveness. It is common practice for cricket or dramas. It is even more needed and effective in industry or public projects.
9. What might be the qualities of the Chief. Open mindedness – courage, smiling, resource conscious, clear in objective, capable of taking blame, physical involvement.

Where the mind is without fear and the head is held high;
Where knowledge is free;
Where the world has not been broken up into fragments by narrow domestic walls;
Where the words come out from the depth of truth;
Where tireless striving stretches its arms towards perfection;
Where the clear stream of reason has not lost its way into the dreary desert sand of dead habit;
Where the mind is led forward by thee into ever widening thought and action –
Into that heaven of freedom, my Father, let my country awake.

– RABINDRANATH TAGORE

ANNEXURE

TEN CASE STUDIES

IN

RESEARCH & DEVELOPMENT

IN EXCEL INDUSTRIES LTD.

BY

N. H. ATTHEREYA

(SEPTEMBER 1967)

[Commissioned by : Indian Institute of Public Administration, New Delhi]

I. PHOSPHORIC ACID (THERMAL) PURER PRODUCT

The Problem of Plant Size	
Plant Capacity	: 5 tonnes per day
Development and Capital Cost	: Rs. 5 lacs
Annual Production Value	: Rs. 45,00,000
Work Cycle Conception	: 10th March 1958
Consumer	: 20th June 1958

Significance

1. Manufactured for the first time in India with indigenous know-how and equipment.
2. Apart from the foreign exchange savings accruing due to discontinued import of the chemical, we were strategically better placed to serve the following industries – Pharmaceutical industry with particular reference to Penicillin and steel industry.
3. We acquired intimate *knowledge* of Phosphorous technology and this has taken us to the field of Phosphorous chemicals.
4. We acquired skill in handling this hazardous item (Phosphorous) with all its eccentricities.
5. We gained *confidence* in our faith that conventional sizes of the plant (50 tonnes as against our 5 ton capacity) are not necessary for efficient and economic production. Things can be slanted to local needs.
6. The normal practice is to utilise phosphorous produced by the arc process in two stages for conversion to Phosphoric Acid. Initially Phosphorous is converted to Pentoxide and finally absorbed and hydrated to Phosphoric Acid. This involves elaborate equipment and design, complicated and costly. The maintenance and control are also cumbersome. We simplified it all the way through and achieved the single stage direct conversion of Phosphorous to Phosphoric Acid.

	Steps	Manpower	Man-days	Problems and Pointers
1.	I.C.I. Approached us for Phosphoric Acid, since imports were restricted and the demand was increasing.	Research Chief Technical Chief	_	_
2.	We visited the two leading manufacturers of Phosphoric Acid in Europe to study their handling techniques. Also we studied B.I.O.S. T.V.A. Report, and Encyclopedia		10	_
3.	On our return we started laboratory scale studies on Phosphorous handling and its behaviour under different conditions.	Research Chief Technical Chief	15	White Phosphorous catches fire when it comes in contact with air even at room temperature. The manufacture of Phosphoric Acid involves the design of the burner with correct spraying values for full oxidation, bearing in mind the corrosion values at the high temperature because of the highly exothermic reaction.
4.	We chose to design a stainless steel reactor.		_	The flame temperatures are above 20000°C. Hot Phosphoric Acid or Pentoxide are corrosive for all metals and only graphite or special bricks are recommended as material of construction. We did not have either.
5.	We built our small plant of Scale 1 Tonne per day using Oxygen initially.	Technical Chief Mechanical Engineer 2 Chemists 2 Operators 3 Workers	200	We had problems of cost and handling of cylinders. After initial trials, we substituted Oxygen by air.

	Steps	Manpower	Man-days	Problems and Pointers
6.	With the experience gained from a manufacturing unit, we built our big plant (5 tonnes capacity).	Technical Chief Mechanical Engineer Chemical Engineer 2 Chemists 2 Welders-cum-fitters 3 Operators 6 Workers	410	Production was low (about 50%). This was studied and to correct the situation, Para Cooler, Sharp pressure, Regulator, pumps etc. were introduced.

II. OXALIC ACID

Significance

1. A Plant with foreign collaboration started in 1958 with 25 lacs capital has not started producing yet.
2. In less than a year we developed the know-how, built the plant (cost 30% less than imported) and produced the goods from indigenous raw-materials.
3. More, we exported it to Europe at internationally competitive prices.
4. We used a process which was considered not modern and in a sense 'Condemned'.
5. We got new insight in chemical-engineering and corrosion technology.

Making a 'Condemned' Process Work	
Plant Capacity	: 500 tonnes p.a.
Development and Capital Cost	: Rs. 5,00,000
Annual Production Value	: Rs. 12,00,000
Work Cycle Conception	: December 1961
Consumer	: October 1962

	Steps	Manpower	Man-days	Problems and Pointers
1.	A party with an imported plant worth Rs. 25 lacs at Baroda – not functioning since 1958 – contacted us for help – and we were not keen for that process, and we thought of making it by Carbohydrate oxidation (Sugar and Nitric fuming tried in Lab. in the presence of catalyst).	Research Chief Research Chemist	10	Oxalic Acid is an essential chemical required by Textiles, Leather, Ceramic, Pharmaceuticals, Laboratories, etc. 300 tonnes of it has been imported annually and price has remained very high.
2.	We referred to Encyclopedia, Industrial Chemical Book, B.I.O.S. Report, Drawing etc. We surveyed the availability of raw materials such as Sugar, Nitric Acid, Oxygen etc.	Research Chief 2 Research Chemists	6	_
3.	(a) We confirmed the quality of Oxalic Acid produced by the above process. (b) We conducted laboratory experiments to ascertain problems of temperature control, frothing etc.		75	_
4.	We fabricated the Pilot Plant (100 kgs. per day capacity). Experiments were carried out in 500 litres glass-lined reactors with a set-up of Nitric recovery. We produced 100 kgs. Market testing confirmed the quality.	Project Officer 2 Plant Chemists 1 Supervisor 10 Workers 1 Welder/Fitter	500	Recovery of Nitrous fumes back into Nitric Acid economical (Air and Oxygen were tried for oxidation of Nitrous fumes). Temperature and frothing problems were controlled.

	Steps	Manpower	Man-days	Problems and Pointers
5.	We upscaled the plant to 300 kgs. per day capacity. Necessary instrumentation with modifications were tried out. We found that blower at the end facilitates addition of sugar. Heat exchangers were tried for better absorption system. Study of corrosion and heat transfer were carried out.	Development Officer Industrial Engineer 2 Welders/Fitters 15 Workers 2 Supervisors	950	Raw material problem. Sugar under control. Approached D.G.T.D. for licensing of sugar – were refused. We were told: "It is an 'obsolete' process, don't go for it". We proved its economy by exporting Oxalic Acid to Europe! Started own Oxygen plant, but came up; problem of cf cylinders and their conveyance. Designed and made most of the pilot plants equipment in our own workshop.
6.	We upscaled it to 1000 kgs per day capacity. Model was made to have 3 D. view. After gaining confidence on control over reactors, bigger capacity reactors with necessary modifications were designed.	Development Officer Carpenter 2 Welders/Fitters 2 Assistants 2 Plant Chemists Pump specialist	310	Since sugar was not available, we tried jaggery and we got satisfactory results.
7.	We went for refinements, Good absorption system with Para Coolers as heat exchangers were tried for better Nitric recovery. Lead and stainless steel replaced wherever possible.		_	Fuming Nitric was not available, so we tried Dilute Nitric from 56% to 85%.

III. METHYL BROMIDE

Significance

1. First time in India
2. Saving of foreign exchange to the tune of about Rs. 9 lacs per annum.
3. We proved our confidence in *simple and flexible plants* as against complex and unwieldy ones. *This incidentally will help us in our transportation problem and catering to regional requirements.*
4. The plant design is such that though the material is toxic the workers are not exposed to any danger.

Single State – Simple Design	
Plant Capacity	: 100 tonnes p.a.
Development and Capital Cost	: Rs. 50,000
Annual Production Value	: Rs. 1,00,000
Work Cycle	
Conception	: 15th February 1966
Consumer	: 20th January 1967

	Steps	Manpower	Man-days	Problems and Pointers
1.	Enquiry from Govt. Plant Protection Department		_	_
2.	We looked into the literature – Scientific encyclopedia, Bromine and its Compounds by Z.E. Jollph.	Research Chief	3	_
3.	We chose the process and confirmed it by doing various experiments in the laboratory. The book says it is toxic and hazardous. We wanted to check whether it can be handled without undue hazards.	Research Chief	5	_

	Steps	Manpower	Man-days	Problems and Pointers
4.	We discussed and consulted with actual users, CFTRI, Plant Protection and Quarantine Dept., Bombay, Directorate of Plant Protection, New Delhi, Dr. Pingle, Director of Food and Storage to ascertain the precautions to be taken.	Research Chief Technical Chief Chemical Engineer Project Engineer	8	Methyl Bromide specification (1932) of cylinders was referred to the Director of Explosives for its availability in India. They advised us to write a letter and get the cylinders imported. This was too expensive. We tried methyl bromide filling in Japanese cylinders, but could not get certificate for it. So we decided to get the required specifications. Tata Chemicals Ltd. was referred for getting Bromine. They were not willing to selling the same as they had thought of the same project and it was on their list for last 16 years. We moved to Delhi for further negotiations.
5.	We learnt that it is not as dangerous as made out to be in the books. We built the pilot plant. The above knowledge helped us to go for simple design (Re.Valves, Packing etc.)	Electrical Engineer Wireman Mechanical Engineer Four Fitters Welder Two Pipe Fitters Glass Erector Five Workers Project Chemist Two Draughtsmen	325	We studied toxicity problems, rain and weather protection, air movements and other data.
6.	We manufactured in the Pilot Plant (60 kg. per day) and sold to the customers who were pressing us for delivery and they confirmed the quality to be good.	Project Chemist One Chemist Chemical Engineer Six Workers	90	We had a problem of warning agent. We could not sell for the time being. We applied for a licence and got the imported agent.
7.	As we understood the problems of handling and transfer of Methyl Bromide, we could simplify the transfer procedure and equipment.		_	Customers complained regarding the yellow colour. It was found that it was because of the cylinder.
8.	We built a bigger plant of 100 tonnes per year to cope up with India's total requirements.		150	We faced the situation as the problems arose. We tackled them and made improvements. We had safety problems. We had corrosion problems.
	Considering the safety devices, we observed that chilling is a better device than compressing the same, because the corrosion of compressor can be avoided and import of certain machinery can be avoided.	Mechanical Engineer Four Welders Three Pipe Fitters Project Chemist		We improved our design as we worked out the problems. A better design is better learned by proceeding through pilot plant stages. We have observed that this technique is more effective and economical.

IV. ALUMINIUM PHOSPHIDE

Significance:

1. First time in India
2. The current saving in foreign exchange is Rs. 50 lacs per year
3. Since there is *only one other manufacturer in the world*, it provided us the professional challenge and satisfaction.
4. 15% of food grains (15 million tonnes per year) is said to be lost because of insects and this grain preserver can *cut down this waste* considerably.
5. Our *price is 30% less* than that of the imported variety.

Cutting Waste of Food Grains	
Plant Capacity	: 100 tonnes p.a.
Development and Capital Cost	: Rs. 2,00,000
Annual production Value	: Rs. 20,00,000
Work Cycle Conception	: 30th May 1966
Consumer	: 15th August 1966

	Steps	Manpower	Man-days	Problems and Pointers
1.	The Government was importing increasing quantities of Aluminium Phosphide which has the properties of: (i) Fumigating large storage area with very small quantity (ii) Killing a large number of insects of stored grains and in all stages of development.		–	There is only one other manufacturer in the world today. This provided us the professional challenge.
2.	We referred to the following: B.I.O.S. Reports Indian Patents	Research Chief	5	–
3.	We conducted Laboratory experiments. We carried out study of standard tablets to find out their reactivity and behaviour.	Research Chief One Chemist	30	How to overcome the danger of Phosphine – the gas that generates on exposure – which is highly inflammable and toxic was a problem. It became necessary to intoduce other chemicals which should generate gases alongwith the Phosphine to: (a) neutralise and prevent inflammability (b) leave a harmless residue.
4.	Various additives were mixed and different tablets were made. The idea behind the experiments was to choose the proper additive so that: (i) the main danger of inflammability can be avoided (ii) the binding media can help in mixing as well as in releasing the formed tablet from mould.	Mechanical Engineer Plant Chemist Two Workers	40	To get thorough mixing we started using household mortar and completed the study over it. Sufficient data were obtained. We found that even a small device like Moulinex mixer can certainly fulfill the mixing requirements. It appears from the literature that high pressure is to be given to form tablet and therefore a complicated machinery has been suggested. To understand the kind of high pressure required, we started with punch, die and hammer. Experiments made with these equipments made clear how to impart the high pressure and how much. We built our small device based on the derived principles and that was the way we made our own tableting machine.

	Steps	Manpower	Man-days	Problems and Pointers
5.	We made a number of tablets. They were analysed by our quality control department and we standardised the tablet as per required specifications.	Mechanical Engineer Plant Chemist Two Workers	–	–
6.	Approval was obtained from the Department of Agriculture, New Delhi.		–	–
7.	Was delivered to the consumers.			

V MERCURIC CHLORIDE

Significance

1. First time in India and with indigenous know-how and equipment at a cost and quality comparable to the best in the world.
2. Our price is 15% lower than the imported price which enables us to export this item on a competitive basis.
3. We got insight in mercury technology and skill in handling this tricky material. With the result we moved into agricultural chemicals (pesticides) based on organo-mercurials.

Opening New Vistas	
Plant Capacity	: 250 flasks Mercury per month.
Development and Capital Cost	: Rs. 50,000
Annual Production Value	: Rs. 24,00,000
Work Cycle Conception	: June 1952
Consumer	: April 1953

	Step	Manpower	Man-days	Problems and Pointers
1.	During the Korean war, 30,000 flasks of mercury were imported at a very low price. As the war situation became more serious, Government of India as a precautionary measure banned the export of Mercury that had come in. Meanwhile, the international price began to rise. So, it was thought fit to convert surplus Mercury into chemicals and export them. This gave us an opportunity to start the manufacture of Mercuric Chloride.		–	–
2.	We referred to encyclopedia, Thorpe's Dictionaries.	Research Chemist.	5	–
3.	We made small quantities of Mercury chemicals by the conventional process of Nitric and Hydrochloric acid.	Plant Chemist 2 Operators	45	There was corrosion and the product was not very pure.
4.	We heard of a new chlorination process being used in Europe.		–	–
5.	We thought out different systems of continuous burning of Mercury vapour in chlorine, since chlorine was freely available. We studied the behaviour of Mercury in chlorine atmosphere at elevated temperature in a glass tube.	Reaserch Chemist Two Chemists Three Operators	85	The problem was one of non-availability of Quartz equipment.

	Step	Manpower	Man-days	Problems and Pointers
	This led us to design a burner kept at elevated temperature with arrangements for simultaneous controlled feed of chlorine, and mercury. This way all contaminations and corrosions were eliminated.			
6.	We found out a process of manufacture of Mercuric Chloride led by direct chlorination.		_	_
7.	This has helped us build a compact unit, where production could be regulated and quality guaranteed.	One Chemist Three Operators Three Workers	4000	_

VI. METHOXY ETHYL MERCURIC CHLORIDE

Significance

1. Manufactured for the first time in India with know-how developed indigenously. This was imported in increasing quantities as the importance of this type of product in *agricultural productivity* came to be realised. There is considerable saving in foreign exchange and more so in the years to come. Country's demands are met. *Export* potential is high.
2. *Process efficiency* is higher by about 10% over what is recorded in the literature.
3. Confidence in handling complex Organic reactions our boys acquired.
4. Skill in handling such poisonous and dangerous chemicals is another acquisition.

Sophisticated Technology in Mercurials	
Plant Capacity	: 300 kg per day
Development and Capital Cost	: Rs. 50,000 approx.
Annual production Value	: Rs. 14,00,000
Work Cycle	
Conception	: 19th Sept. 1961
Consumer	: 16th February 1962

	Steps	Manpower	Man-days	Problems and Pointers
1.	BAYERS approached us for this material and offered to get us the process know-how from their Principals in Germany.		_	_
2.	Certain legal formalities were to be complied with before know-how can be given. This took some time.		_	_
3.	We meanwhile decided to work out the process ourselves.	Research Chief	_	_
4.	We studied Fiser and Fiser, Thorpe's and B.I.O.S. Reports.		5	_
5.	We made laboratory samples	Two chemists and Physician for consultation.	40	_

	Steps	Manpower	Man-days	Problems and Pointers
6.	We started studies on stability and poisoning effects and remedies.		_	Problems came up since the product is: (i) highly poisonous (ii) corrosive to the skin (iii) unstable at intermediate stages. Different effects of chemical intermediates on Human beings gave us an insight on built-in safety necessary in the plant.
7.	Party pressed for delivery since their import licences were exhausted. We promised delivery in *two* months. We also informed them we do *not* need their know-how.		_	_
8.	We assembled a plant with available spare equipment instead of fabricating a new one since we were pressed for time.	Four Fitters Five Helpers One Chemist	50	Knowing the hazards of the product we decided to train the best operators of the factory for this job. We also took our experienced Chemists since quality was of paramount importance.
9.	We took small charges initially in the assembled equipment.		_	We observed slight variations in quality. We checked and established minimum standard of performance.
10.	On taking more charges we understood the reaction mechanism fully. We rationalised the equipment on the basis of functions and this led to simplifications.		_	The last step of stabilising the product needed imported expensive special mixing equipment. We *substituted* this with a two stage unit made up of a wooden ball mill and pulveriser.
11.	Even as the production was on, the plant got standardised.		_	_

VII. SULPHUR DIOXIDE

Significance

1. First time in India (in 1956)
2. Saving in imports estimated at Rs. 10 lacs per year.
3. We gained knowledge, skill and confidence in handling the liquefaction of gases.
4. The standard procedure gives Sulphur Dioxide largely diluted with air. Concentration and purification indicated complex equipment together with corrosion problems, and the standard size is 10 tons per day. Our size is 1 ton per day. We developed a procedure which is much simpler and having this additional advantages of lower cost and no corrosion.
5. This is very essential for refining Kerosene Oil.

A Simpler Design to Enter Liquefaction of Gases	
Plant Capacity	: 1 Ton per day
Development and Capital Cost	: Rs. 1,50,000
Annual Production Value	: Rs. 6,00,000
Work Cycle	
Conception	: June 1956
Consumer	: December 1956

	Steps	Manpower	Man-days	Problems and Pointers
1.	Stanvac Refineries wanted pure liquid SO_2 for their refinery. They needed about a ton a day.			
2.	We referred to: Chemical Engineering Handbook by John H. Perry.	Research Chief Technical Chief Plant Engineers	16	_

	Steps	Manpower	Man-days	Problems and Pointers
3.	We voted for the unconventional process of reacting Sulphur with Sulphuric Acid.		_	Though aware of corrosive conditions involved, we could visualise a compact plant where those corrosions were provided for.
4.	We conducted laboratory experiments to study reaction rates, temperatures and gas purity. Simultaneously studies were made on materials of construction.	Research Chief Technical Chief Plant Engineer	22	We had problem of carry over of sulphur with evolved gases.
5.	We made the Pilot Plant (capacity 50 kg per day) and found gas generation is satisfactory.	Research Chief Technical Chief Plant Engineer	45	We had the problem of removal of moisture to required low level. Different drying towers were designed and studied. We fabricated our own submerged pumps. Here we collected sufficient data on problems of corrosion of (i) main reactor (ii) gas flow pipelines.
6.	We made the next Pilot Plant (capacity 250 kgs per day).	Technical Chief 1 Plant Engineer 2 Supervisors 9 Workers Electrical Engineer Workshop Supervisor Two Fitters One Welder	410	The modifications we effected included (i) Submerged pump (ii) M.C. of reactor (Special C.I.) (iii) Graphite column over the main reactor. (iv) Graphite lined stirrer. (v) Plastic balloon as a gas holder.
7.	Incorporating our findings, we built our big plant capacity 1 ton a day	Plant Engineer 2 Draughtsmen 2 Plant Supervisors Electrical Engineer Mechanical Engineer Fitters-cum-welders Lead Welder 15 Workers	825	_

VIII. TITANIUM TETRACHLORIDE

Significance

1. For the first time in India this was manufactured with know-how developed indigenously. This was imported till this period.
2. This was urgently required for defence needs.
3. This experience has prepared us for tomorrow's technology. We can now handle problems of the manufacture of Titanium Dioxide (the most important white pigment) and Titanium metal which is imported for defence and chemcal industries.

Tomorrow's Technology	
Plant Capacity	: 100 tons p.a.
Development and Capital Cost	: Rs. 20,000
Annual production value	: Rs.1,25,000
Work Cycle Research Commended	: 10th March 1954
Product Delivered to Consumer	: 6th Nov. 1954

	Steps	Manpower	Man-days	Problems and Pointers
1.	Air Force approached us for this chemical to be used as smoke screen. (One lakh of rupees worth).		–	–
2.	It is a corrosive chemical and fumes heavily in presence of moist air.		3	–
3.	We referred to B.I.O.S. Reports, Encyclopedia of Kirk and Othemer and Thorpe's Dictionaries.		33	–
4.	We tried out the process in the laboratory and collected samples.	2 Experienced Lab. Attendants (non-matriculates).	12	–
5.	We sent samples for approval.		–	–
6.	We tried out a larger scale, using large Ceramic reactor.	2 Operators	32	We had problems of heat transfer, reaction not completing, heavy fuming; and the whole factory had the smoke screen effect for some days. We decided to have heating chamber separate. This made it possible to use narrow silica pipes as our reactor.
7.	Using tubular reactor, we got the product. We used the material from the scrap yard to make such reactor.	4 Helpers 2 Laboratory Attendants	60	But we had these problems: (a) Poor yields (b) Reaction not complete and therefore heavy fumes. We studied the physical chemistry of solid state reaction and we realised the importance of fine grinding and thorough mixing.
8.	We erected pulverisers, edge runners and briqueting machinery. We got better reactions.	4 Fitters 4 Helpers	120	On continuous operation, we found difficulties in transferring hot material from heating chamber to reactor and therefore we got poor yields. There was also the problem of removal of small quantities of unreacted mass remaining in the reactor.
9.	We designed different types of feeding chambers. We also designed discharge systems that can stand corrosive conditions above 500°C.	–	–	We found that using a 4" x 4" silica pipe as a reactor and 6" Ceramic pipe as condensor more than 500 lbs. of pure product can be produced in a day.
10.	We delivered the material according to agreed delivery date.		–	–

IX. PLASTIC MONOFILAMENT

Significance

1. For the first time in the history of the world, polythelene was processed to replace Cane for use in furniture and also to give a face lift to the furniture industry.
2. Since its advent, this declining industry has staged a come back, and today over 3000 craftsman are engaged in it.
3. The import of natural cane got automatically stopped.
4. We got new and deeper understanding of plastic technology.

A New Use for New Material	
Plant Capacity	: 70 tonnes p.a.
Development and Capital Cost	: Rs. 30,000
Annual production Value	: Rs. 10,00,000
Work Cycle	
Research Commended	: 15th Dec. 1958
Product in Hand	: 20th Sept. 1959

	Steps	Manpower	Man-days	Problems and Pointers
1.	While on a visit to Europe we saw different products made out of this new Plastic low pressure polythelene. We saw the possibilities of drawn monofilaments – they can become as strong as steel.	Research Chief.	–	–
2.	We got samples of low pressure polyethelene and extruded it on our machine.	Apprentice Textile Engineer	30	The extruder was fabricated by ourselves and this exercise has provided us with detailed understanding of the process.
3.	We established temperature and pressure conditions.	–	–	–
4.	We designed special dies.	Diemaker	20	Die design variables gave us proper insight into drawing technique.
5.	We started building the drawing and orienting equipment.	Three Fitters Textile Engineer	90	The machines used in foreign countries use a large number of drives and special rollers to make it automatic. We decided to simplify the design and depend more on the talent of trained operators.
6.	We took initial runs and produced filaments of required strength.	Three Operators with extrusion experience Textile Engineer	20	The anticipated market was ropes and fishing nets. But we found that the Indian Sun was effecting ropes and the product turned brittle. As for fishing net, this product though very strong was poor on abrasion resistance.
7.	We searched for new avenues for this product under Indian conditions.	–	–	Market potential was not big for items like filter clothes, sewing nets and curtains.
8.	We asked ourselves why round filaments? Why not flat?	–	–	The popularity of good cane furniture was a pointer and good cane was imported and costly. (Rs.35/- per kilo)
9.	We made modifications in the die and produced suitable sections for the furniture use. We tested the product for use in furniture. We found it too springy and slippery.	Die Maker Fitter	19	–

Steps	Manpower	Man-days	Problems and Pointers
10. We made the Plastic sections softer and more pliable. This involved modifications in both the extruder and the drawing machine as also the temperature and the pressure.	–	–	–
11. Tests were made on different types and designs of furniture to understand the problem of weaving.	–	–	–
12. We made further modifications.	–	–	–
13. On the basis of the above experience, we built new extruders and drawing machines to assure quality production.	Fitters Electricians Engineer Sub-contractors	40	–
14. Large number of demonstrations were arranged and Craftsmen given training in the art of using this material.	–	–	Variegated colours gave it much greater advantage over the cane as material for furniture.
NB: Wherever no reference is made to the manpower used, it means the Research or Development Chief was on the job.			Today, it has virtually replaced natural cane. India is the first country to use it this way. For the first time, natural colour (as against painted) was introduced in cane furniture.

X. MICRONISER

Significance

1. First time in India
2. For a cost 1/7th of what was quoted by a manufacturer abroad.
3. We got the confidence of designing and developing our special equipment as well.

A New Equipment	
Grinding capacity	: 50 ton/month
Development and Capital cost	: Rs.5,000
Work Cycle Conception	: 10th May 1966.
Consumer	: 25th August 1966.

Steps	Manpower	Man-days	Problems and Pointers
			It is necessary under certain conditions and for certain purposes to grind various chemicals to very fine powder. Number of these chemicals are sensitive to heat and are inflammable. Also they have to be so fine that they remain in suspension in water after including necessary wetting agents, for a long time. This is particularly so in case of pesticides to be sprayed in fields. There was no such pulverising equipment available in India.

	Steps	Manpower	Man-days	Problems and Pointers
1.	A party approached us for Micronised Sulphur. Thus gave us the start.		_	We asked for a quotation from abroad. The party quoted the price as Rs.35,000 and delivery date 6 months. There is of-course the time to obtain licence. We decided to try making it ourselves.
2.	We referred to the following: Chemical Engineering Handbook, Book of Machine Designing etc.	Chemist, Engineer	10	_
3.	In one of our trips abroad, we have seen a Jetomizer device. We corresponded with the party and obtained the drawing and literature.		_	_
4.	During a visit to R.R.L., Hyderabad, we saw a Jetomizer. In principle we found the device is the same as that of Microniser. We got our team to look at it in some detail.		12	The diference between the two is: Jetomizer is vertical with two jets while Microniser is horizontal with multiple jets.
5.	We fabricated our small Jetomizer for trial purposes from wood.			Wood was chosen as the material of construction for these reasons:– 1. Less hazards due to avoidance of metal contacts 2. Cheaply and locally available 3. Ease of fabrication.
6.	With the working experience of this design, the Microniser machine was made. We made changes as per our requirements and the trials were taken on Microniser.	Mechanical Engineer Chief Carpenter Work Foreman 2 Fitters	40	Micronised Sulphur was tested for its fineness. It was very near to the required quality for marketing. Microniser required more air compared to Jetomizer, but still it has got advantages over the later: 1. Finer particle size. 2. Same size of machine gives more production. 3. Ease of material handling. 4. Ease of replacement of eroded portion rather than replacing the whole unit. 5. Can serve the purpose of blending and grinding. Microniser and other accessories for manufacture of wettable sulphur were fabricated in our own workshop.
7.	Sulphur was then on micronised to a size of 3 – 4 microns.	Mechanical Engineer 1 Plant Supervisor 2 Fitter-cum-welders 20 Workers	_	_

Index

*Page numbers in **Bold** types include Illustrations*

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

Y

Z

The Excel Story begins in 1941. The Second World War then already two years old. German submarines were patrolling the seven seas and import of raw materials to India was becoming increasingly difficult. Enter at this stage a bright young science graduate just out of college with a vision to establish an indigenous chemical industry. Nothing daunted him. Starting production in a cow shed – that was where Excel Industries started. C. C. Shroff's dreams have since then been realised a hundred-folds thanks to his two brothers, Govindjibhai and Kantisen. This is the story of the growth and spread of Excel Industries in the last sixty years. It is a story of much daring and great cooperative effort – that Kantisen names *Sahaviryam* . . .


EXCEL - VISION OF HARMONY & GROWTH
EXPORT