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Mangalore Chemicals and Fertilizers Limited: Strategic Renewal

Mr. D. P. Mehta, the Managing Director (MD) of Mangalore Chemicals and Fertilizers Limited (MCFL) gleaned over the half-yearly financial results for the year 2001-2002. He was pleased that MCFL, which was referred to the Board of Industrial and Financial Reconstruction (BIFR) in 1994, had been successfully piloted towards financial and operational recovery. However, he was concerned about the future of MCFL.

Mehta, a Chartered Accountant by qualification, had moved to MCFL in 1990 as the Head of finance from the UB Group seconded to revive MCFL. As the new MD of the company, in 1996 he had accepted the challenge to lead MCFL to recovery. Having achieved it, what should be the future strategy of MCFL? Should it diversify? If yes, what should be the direction for its growth and diversification? Mehta was however, aware that the business expansion strategy of MCFL would depend on how the UB Group Chairman, Dr. Vijay Mallya, looked at the fertilizer business. Would Mallya like to lead a well-diversified business portfolio, or would he like to strengthen his main business (liquor and beer) of the Group? In either situation, Mehta wanted to ensure that MCFL continued to be profitable and generate sufficient cash flow. He knew that the key to ensure this was institutionalization of productivity improvement plans implemented in MCFL.

But there were concerns about Mehta's career plan from now (2002) onwards? Would he continue to manage a ₹ 6 billion turnover company like MCFL or would he like to move on to greater challenges of managing larger and more complex organizations?

The Indian Fertilizer Industry: an overview

Ever since independence, Indian fertilizer industry was characterized by demand outstripping supply. The Government of India (GOI), as a part of its overall operational plan to achieve self-sufficiency and food security, encouraged production of fertilizers and systematically controlled all operational aspects of this industry. The GOI had kept the fertilizer industry under its tight control by specifying norms for all important aspects of this industry such as licensing, manufacturing , working capital , plant capacity, choice of technology, plant location, distribution of fertilizer and capital (including foreign exchange component). Consequently, most of the industry capacity was created, owned and operated by the GOI. Subsequently, in the late 1960s and through the '70s, the cooperative and the private sectors were encouraged to augment industry capacity. From 1977 to 1979, to ensure health and growth of the industry, it was placed under the 'Retention Pricing Scheme' (RPS). Unit-specific(fertilizer plant) retention price for each type of fertilizer manufactured by the unit was decided based on the norms determined for the unit, considering all variable costs,

Prepared by Professors Sunil Kumar Maheshwari and N. Ravichandran., Indian Institute of Management.

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fixed costs, depreciation and a 12 percent post-tax return on capital employed. Under RPS, complete fixed cost was recognized at a normative level of 80[1] percent plant capacity utilization.

Formation of MCFL

In 1950, several State Governments approached the GOI to set up fertilizer plants in their respective states. Karnataka enjoyed a significant surplus power generation during the 1950s and '60s. In October 1960, the Kane Committee[2] preferred the port city of Mangalore for a fertilizer plant for the following reasons: (a) Surplus of electrical energy supply at low cost of ₹ 0.05 per KWH; (b) Existing port, though it required substantial development for oil jetties; (c) Abundant availability of water in the area; and (d) Geographical distribution of Urea plants in different locations.

The Kane Committee report also emphasized a need for a developed port, direct rail link, and augmented power supply to ensure effective operations of the proposed fertilizer plant. Accordingly, Malabar Chemicals & Fertilizers Private Limited was incorporated by Dugal Enterprises in July 1966, to produce Urea by using Naphtha, a petroleum-based feedstock. In 1969, Dugal Enterprises withdrew from the project.

Karnataka State Co-op Marketing Federation and Karnataka State Agro Industries Corporation joined as promoters in 1969. Rallis India also subscribed an equity capital of ₹.[3] 4 million. Simultaneously, the GOI amended the license of the company to produce 217,800 tonnes of Ammonia and 340,000 tonnes of Urea per year. The company was renamed Mangalore Chemicals and Fertilizers Limited (MCFL).

MCFL: Initial Years

P A Narielwala, a former director of Tata Industries, was appointed as Chairman of the MCFL Board on 23rd July, 1971. His close proximity to the Nehru family enabled him to effectively manage critical issues related to the plant. He could convince financial institutions to extend the financial packages to establish the MCFL project even under crisis situations like the Bangladesh war. Mrs. Indira Gandhi, the then Prime Minister, inaugurated the plant in January 1975. Ultimately, commercial production of urea started in the year 1976.

MCFL achieved 94 percent utilization of rated capacity during 1978-79. Narielwala resigned at the instance of the Government of Karnataka in July 1979. Thereafter, officers of the Indian Administrative Service (IAS) managed MCFL until its takeover by the UB Group in September 1990. Some of the senior officers stated,

> These IAS officers, except Nayak (CMD between 1980 and 1982), would enjoy the perks associated with the position but could make only marginal contributions towards improving the operations, profitability and competitiveness of MCFL.

[1] It is neutralized at 90 percent plant capacity utilization for newly set up natural gas feedstock based plants.
[2] Kane Committee was set up by the Government of India in 1960 to evaluate and recommend different locations to set up new fertilizer plants.
[3] 1 US $ ~ ₹. 7.50 in 1971 and Rs. 49.00 in 2002.

Project Cost

MCFL, incorporated as a private limited company in July 1966, was converted to a public limited company in January 1967. The original estimated project cost of ₹ 400 million was revised to ₹ 580 million in 1971. The project was completed in 1975-76, at a total investment of ₹ 749 million. The increase in project cost was primarily financed by deferment of interest, borrowings from promoters and loans from financial institutions.

Infrastructure Development in the Area

MCFL needed the services of the Mangalore Port with an oil jetty to procure naphtha and a railway line for fertilizer movement to the relevant markets. The government had assured MCFL promoters that it would develop the Mangalore Port by 1970. However, the oil jetty became operational only in May 1975. The rail link between Hassan and Mangalore, which was scheduled to be operational in early 1974, opened for goods traffic only in May 1979.

Plant, Technology and Operations

Humphreys & Glasgow, London, constructed and commissioned the MCFL plant on a turnkey basis. The plant had facilities to produce Ammonia and Urea and several resources for power, water and material handling. At the project stage, it was decided to use electric-drive motors instead of steam driven motors based on the State Government's assurance of adequate power availability to the project.

Urea production is a continuous process. Uninterrupted power supply is a prerequisite for efficient plant operations. Any power supply interruption in the plant requires nearly 4 to 6 days to restart the plant and stabilize production at a cost of nearly ₹ 8 million. MCFL had signed an agreement with the Karnataka Electricity Board (KEB) for uninterrupted power supply of 30 KV for 10 years beginning January 1973. However, in reality, frequent power disruptions adversely affected the plant operations right from its inception, resulting in production losses.

MCFL expanded its capacity to produce 3,600 tonnes per year of Ammonium Bi-Carbonate (ABC) in August 1982. Later, in 1984, MCFL also commissioned a production facility to produce Di-Ammonium Phosphate (DAP). This new plant was based on a then newly developed (unproven) technology from Toyo Engineering Company Ltd. (TEC), Japan. In 1984, TEC had only tested its prototype plant. They had no experience in implementing the technology on a full-scale commercial version. When it was commissioned at MCFL, the technology failed. All attempts to revive the plant proved unsuccessful. By the end of 1984, it was clear that there was no option but to abandon the plant. Under considerable pressure, TEC supplied new plant and machineries based on the proven conventional technology for manufacturing DAP. However, MCFL had to spend on civil construction, electrical fittings and commissioning of the plant. The new plant to produce DAP was commissioned in July 1987.

Captive Power Plant

To address the perennial problem of power interruptions, MCFL decided to have its own captive power plant. A team of MCFL engineers sought government approval to install six diesel-generating (DG) engines, of 6.5 MW capacity at a cost of ₹ 64 million each to meet the required load of 31.4 MW. Wartsila AB, Finland, supplied these DG engines. Soon after commissioning the DG engines in 1986, MCFL realized that it needed two additional engines to meet the plant load requirement. In reality, DG engines operated only at 85 percent of their capacity in Indian conditions and a spare engine was required for maintenance, breakdown and unanticipated emergencies.

MCFL finally procured the additional DG engines in 1988. A revised statement of fixed expenses and the actual cost of the captive power plant was submitted to the government for recognition of the additional two engines in the capital cost and, accordingly, to raise the RPS. However, the GOI, declined to recognize the additional costs and to re-compute and revise the retention price of Urea for MCFL.

Though the captive power plant was available for the company it could not be operated at the rated capacity due to frequent breakdowns in the absence of timely maintenance.

Manpower

The employee strength in MCFL doubled during 1975-1991. The manpower strength had been reduced since then. Of the 1,041 permanent employees in the year 2000, 217 officers were employed at the factory, 98 officers were at the Head Office and Area Offices, 625 workmen at the factory and 101 workmen at the Head Office. Apart from permanent employees, MCFL employed contract labour for several functions.

Table 1: Number of permanent employees

Year	1975	1980	1985	1986	1991	1996	2000	2002
Manpower	589	789	986	1086	1232	1250	1041	887

Source: Company Records

All workmen (including contract workmen) were members of different employee trade Unions affiliated to national trade Unions like INTUC, HMS and BMS. Amongst them, INTUC had 60 percent membership.

Table 2: Number of contract labour

Year	Loading			Canteen	Janitorial Services	Total
	Urea	DAP	ABC			
1996	142	38	12	84	14	290
2002	118	45	15	69	12	259

Source: Company Records

MCFL experienced a series of industrial strikes from 1980. In these strikes, the MCFL Unions enjoyed the support of other Unions in the city, including the Mangalore Port Union. Vitriol had been common in the plant. Until 2001, MCFL lost approximately 330 production days on account of strikes and Union sponsored employee non-cooperation. The production quantity loss was estimated as 383,221 tonnes of Urea alone, not considering DAP and ABC. Senior managers recall that Union leaders had become totally indifferent to the operational

performance and financial status of the company. They were only concerned about their rewards and incentives.

In one such incident, the labourers went on strike in 1981. The Unions demanded a 100 percent hike in wages. Mr. Nayak, the then MD of MCFL, refused to consider and negotiate the Union demand on wage increase. The Chief Minister of Karnataka summoned him and advised him that the management should concede to the Union demand. The MD refused to respond positively. In another incident, he declined the Chief Minister's request to reinstate two dismissed employees of MCFL. These incidents hastened the replacement of the MD. Such events occurred regularly over a period of time. This made the Union members and their leaders believe that it was easy to pressurize or overrule the management through political pressures and maneuvers. Employees had become aggressive and indiscipline at the workplace was common.

Marketing

MCFL had initiated its marketing activities even before it began commercial production of Urea. It laid emphasis on creating its own brand. MCFL aimed at providing a wide range of agricultural solutions to farmers in villages. These programmes were aimed at creating awareness about the 'Mangala' brand of fertilizer from MCFL. A Chief Agronomist was recruited in 1972 to plan and provide modern agronomic services to farmers in the area around Mangalore. MCFL procured 1,300 tonnes of Urea in the same year from the government for its seeding programme in a few select districts of Kerala and Karnataka. Field demonstrations were routinely arranged to promote the 'Mangala' brand. Seeding programmes were frequently disturbed in subsequent years due to shortage of fertilizer in the country. In 1972, MCFL also expanded its sales team to 31 and invested significantly on their training.

'Mangala Farm Service Centres' were set up to promote scientific and profitable paddy farming. The project commenced in 1974 to encourage the efficient usage of fertilizers and was field-tested in five districts. The project was further extended to the 'Mangala Cotton Package Plan' whereby an insurance scheme for cotton growing farmers was developed jointly with General Insurance Corporation (GIC) of India.

Narielwala had preferred direct marketing of fertilizers to the then existing practice in the country of marketing through government agencies. According to Narielwala, this approach created conflicts, especially with government marketing agencies. In 1977, MCFL responded to this conflict by entering into trading on a large scale. In 1978, MCFL initiated the distribution of imported fertilizers on behalf of GOI. The imported fertilizer was bagged in standard bags by MCFL at the port under the brand 'Sumangala'. Necessary infrastructure for this new trading activity was created at considerable cost. Under the quota fixed by the government, the trade volume increased by 50 percent during the years 1978-85. Though the company initially planned to distribute imported fertilizer from two western ports, by 1984, it was forced by GOI into receiving and distributing fertilizer from four ports— Krishnapatanam on the East coast, Karwar, New Mangalore and Old Mangalore on the West coast.

Table 3: Import of Urea and DAP by MCFL (Unit: tonnes)

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Quantity	36159	150345	190069	223583	220010	231143	493989	558435	428055	77196

Source: Company Records

There was a sudden glut of fertilizer in the market in 1986 due to drought in a number of Indian States. MCFL had already committed to purchase 428,005 tonnes of imported fertilizer in anticipation of demand in Karnataka. As a consequence of an adverse demand-supply situation, MCFL could not sell the anticipated quantity. This resulted in an inventory of 360,761 tonnes at the end of 1986. A claim of ₹ 336.8 million was raised on the GOI (₹ 324.1 million towards inventory carrying cost and ₹ 12.7 million towards cost of standardization). The Government approved and paid ₹ 144.1 million against the claim. Inventories of both, the imported fertilizer and the indigenous fertilizer had to be carried over four years and could be reduced to a reasonable level only by 1990.

The market area, farmer price and dealer margins of different fertilizers were determined by the government. MCFL's marketing department, like in other fertilizer companies, passed on additional incentives (usually trade discounts) to dealers to push their own brand 'Mangala' during the lean seasons.

One of the key activities of the sales executives at MCFL was to monitorand collect receivables from dealers. Attractive cash discounts were offered as a strategy to hasten settling of account receivables.

Dividend Declaration for the year 1987-88

In spite of the poor financial performance of the company, MCFL declared a dividend resulting in a payout of ₹ 16.35 million for the year 1987-88. The annual accounts were prepared in a manner that a net profit of ₹ 1.06 for the year 1987-88 and a profit brought forward from previous years of ₹ 29.26 million (total ₹ 30.53 million) were shown.

The reported profit for the year included an income of ₹ 250 million from sale of the abandoned DAP plant. MCFL entered into a sale and lease back agreement with a consortium of 8 leasing companies whereby the plant and equipment would be retained in the company on lease against 60 monthly rental payments. Three consortium banks stood as guarantors to these lessors for the regular yearly lease payments by MCFL. These three banks were supported by a counter-guarantee of the State Government and the State Government, in turn, took a back-to-back guarantee from the company to facilitate the lease agreement. The sale proceeds from the dead plant were reflected as an additional income in the Profit and Loss account, leading to enhanced income.

Further, the Profit and Loss Account for the operations of the same year (1987-88) also incorporated an income of ₹ 253.07 million towards the claims on the GOI against additional inventory carrying costs against imported fertilizer. It could not be realized and was finally reflected as loss, in the Profit and Loss accounts in 1992-93.

Takeover of MCFL by the UB Group in 1990

Lower RPS due to refusal to recognize capital expenses on two DG sets, frequent plant breakdowns, lower capacity utilization, perpetual labour problems, and yielding middle

management resulted in financial losses for the company. Financial performance started declining sharply from late 1980s. In 1990, MCFL had lost more than 50 percent of its net worth. The accumulated losses of MCFL had crossed ₹ 0.74 billion. It was referred to BIFR under the Sick Industrial Companies (Special Provisions) Act (SICA), 1985 as a 'potentially sick' company (where more than 50 percent of a company's net worth was eroded) in March 1990.

As the Government of Karnataka saw no hopes for revival of the company under its own management, they invited offers in 1990, through public notices. Among other, MCFL management, the UB Group and KRIBHCO, responded and expressed an interest in reviving this company.

There was an internal assessment of MCFL by a team from the UB Group who concluded unanimouslynot to bid for MCFL, realizing that there was no hope of its revival. However, Dr. Mallya overruled them by saying,

> Profits are staring you in the face. Three years down the road MCFL will start making profits.

Finally, the Government of Karnataka, Financial Institutions and Banks accepted the UB Group's proposal for reviving MCFL. The UB Group took over the company in September 1990.

MCFL Between 1990 and 1996

The UB Group appointed Mr. N. B. Chandran, retired Chairman and Managing Director of Fertilizer and Chemicals of Travancore Ltd., Cochin, previously Chairman of Hindustan Fertilizer Corporation Ltd., as the MD of MCFL. During Chandran's leadership MCFL continued to face serious operational and financial problems.

The labor unrest and periodic stoppage of work by resorting to 'go slow' continued to be a norm in his tenure.

Further, the Rehabilitation Scheme of 1990, under which the management was handed over to the UB Group, could not be fully implemented and MCFL did not receive the funds from the financial institutions and banks under this scheme. Instead, the creditors and lenders started pressurizing the MCFL management to pay back their dues. Mehta, the then Chief Financial Officer, recalled,

> Dr. Mallya was very keen to take over MCFL in spite of its huge contingent liabilities. Stepping in by the UB Group also created a feeling among creditors that a big 'money bag' had walked in. The lenders pushed for payment of their dues while the various State Government agencies started issuing notices for recovery of liabilities which the erstwhile State Government management, itself, had considered to be contingent.

Reference to BIFR in 1994

The financial health of MCFL continued to deteriorate, as the plant could not be operated at the rated capacity. MCFL was referred to BIFR in 1994 as a sick company (where 100 percent of a company's net worth is eroded). None of the Indian suppliers or creditors came to the

assistance of the sick company, including the financial institutions and banks, which had signed an agreement to help in the revival process. This reference to BIFR provided legal protection from immediate recovery claims of banks and financial institutions. Mehta recalled,

> In 1990, MCFL was overdrawn ₹ 1.06 billion from banks against a sanctioned credit limit of ₹ 320 million. Government ownership had facilitated such overdraws from Government-owned banks and financial institutions. However, the same banks and financial institutions would not extend any help after the transfer of ownership to a private group. MCFL had to buy Naphtha, the feedstock, on cash payment basis as IOC denied any credit facility to MCFL.

MCFL's Path to Recovery (1996-2001)

By the end of financial year 1995-96, MCFL was struggling under severe financial constraints (Exhibit 14), frequent labour conflicts, low employee morale and repeated plant stoppages.

On October 25, 1996, Mr. Chandran passed away after a brief illness. The Chairman, Dr. Mallya, nominated Mr. D. P. Mehta, then Head of finance, to takeover as the new Managing Director on October 28, 1996. Mehta had already been looking after the day-to-day management functions in Chandran's absence on account of his long illness. Mehta, a Chartered Accountant by qualification, had moved to MCFL in 1990 as Head of finance as part of a five-member team from the UB Group seconded to revive MCFL.

Assembling Achievers

According to Mehta,

> The most important factor that led to recovery of MCFL was our ability to quickly assemble a team of achievers at the top. I perhaps had the best top management team. For example, I persuaded Mr. S. Kannan, a retired manager from Kudremukh, to join MCFL as Company Secretary and Mr. Divakara Bhatt as Head of Personnel. These were the best decisions I took in 1995-96. Kannan and Bhatt had a sound grip and extensive knowledge on legal and IR issues and advised me on all such matters. They had faced several difficult situations, including IR tensions, throughout their careers. Whenever I was confronted with a labour problem, I relied on them for advice and suggestions. Today, the HR and Legal departments in MCFL work in close collaboration. As a matter of fact, Kannan, Bhatt and I examine every communication that is sent to the Union to ensure that we aren't making any inadvertent mistakes.

Mehta soon had a management committee in position consisting of G. V. A. Shastry (Senior Vice President—Works), Divakar Bhatt (Vice President—Personnel and Administration), A. Rudrachary (Vice President—Finance), and S. Kannan (Company Secretary).

Favourable Litigation

MCFL took recourse to courts of law to mitigate some of its financial problems. MCFL had accumulated some of its liabilities on account of certain technical reasons. On January 2, 1984, KEB had sanctioned high cost energy (Re. 0.66 per unit against normal rate of Re. 0.30)

to the extent of 3372600 units per month during January, February and March. MCFL required an increase in demand of 7693 KVA. However, KEB increased demand only by 2640 KVA. MCFL surrendered the increased demand on February 7, 1984. But, KEB had raised the bill for the full demand in February and a claim of ₹ 9.351 million (₹ 3.315 million towards principal and ₹ 6.036 towards interest) in 1996.

Similarly, in 1996 when MCFL started production, the power plant had inadequate capacity. Two DG sets had burnt down in quick succession. To keep the plant running at optimum levels, MCFL was forced to draw additional power from KEB till these DG sets could be repaired or replaced. KEB had verbally agreed to the consumption of additional power but at a premium price. MCFL had accepted the condition and drew additional power before a formal agreement was signed with KEB. However, when KEB sent the formal agreement MCFL had already drawn power for 19 days from the KEB. The KEB then asked MCFL to pay a penalty for this unauthorized consumption estimated at ₹ 25 million. As no conciliation was possible, MCFL was forced to refer KEB's claims to the court.

Mehta stated,

> We had to fend off one creditor or the other regularly. We were forced to redress many matters through the legal process. It was here that the experience of Kannan proved very helpful, as we had to ensure we won the cases we fought. There was no way that we could afford to pay out unjustifiable sums against unreasonable demands given our critical cash position and the desperate need to maximize production.

Retention Price Revisions

Mehta took initiatives with the GOI for upward revision of retention price for MCFL products. The retention price is decided for each plant based on the following factors: (1) variable cost of production, (2) transportation cost, (3) fixed cost (full recovery of fixed cost is allowed at 80 percent capacity utilization), and (4) profit margin for the dealers, retailers and the company.

Recognition under the retention price scheme of the full investment in the captive power plant was most important. Mehta said,

> In this industry, most manufacturers would go for steam turbines to generate power as they are more reliable and low on recurring maintenance costs, though the initial capital investment is high. However, we were the first fertilizer plants to opt for diesel generating engines for our power plant. We estimated the need for six DG engines and installed them. Consequently, only six engines were recognized in our retention price. Months later, it was realized that an additional two DG engines were needed for optimum generation. Thereafter, to get the additional capital cost recognized in the retention price by the GOI was very difficult. In fact, our repeated requests had been turned down.

Mehta persisted. He met senior government officials in the Ministry of Fertilizer and Chemicals at Delhi and once again explained the logic of the past decisions of MCFL and justified the genuineness of the claim and the need for assistance to revive the company. According to Mr. Mehta, it was his perseverance and honesty of purpose that found a

positive response with the concerned officials in the ministry. They asked for a proper technical data to justify on the requirement of eight-DG engines. Mehta recalled,

> Shastri has been with the company since inception and was aware of the technical reasons behind the decision to install the additional two DG engines. He compiled actual operating data for the past ten years, included the breakdowns, maintenance shutdowns, etc. The mathematical calculations indicated that we needed more than six engines. With one engine on standby and one under maintenance, we finally succeeded in convincing the officials on the need for eight DG engines.

The capitalization of two additional DG engines significantly improved the retention price of urea produced by MCFL.

Monitoring Cash Flows

One of the immediate challenges for Mehta was to ensure adequacy of working capital. It was extremely difficult for MCFL to get funds from any external agency on having been declared sick. Mehta adopted a two-pronged approach to improve cash inflow. First, he tried to get cash released from all possible sources. The power plant was in a very bad shape in 1996. MCFL negotiated supply of spare parts on credit with Wartsila, the original vendor, and realized some cash against earlier breakdown claims pending with the insurance company for a considerable time.

Second, Mehta stressed the need for stretched credit from vendors and, at the same time, faster collection from the market to better manage the working capital. The cash cycle management consisted of buying raw material (on cash and credit), conversion into Urea/DAP, selling—converting to accounts receivable, collection and redeployment back to buying raw material. The major manufacturing cost in fertilizer was feedstock (Naphtha) for Urea and Phosphoric Acid for DAP. Office Cherifien Des Phosphate (OCP)[4] provided phosphoric acid on 180 days credit that was worth ₹ 600 to 800 million at any point in time. Further, MCFL encouraged its dealers not to avail their 30 days credit facility but to regularly avail the cash discount offered in lieu thereof.

The Government deregulated DAP in 1992. Consequently, DAP became financially unattractive for MCFL as it was difficult to sell DAP to farmers at double the price prior to decontrol. MCFL continued its production as credit supplies of phosphoric acid from OCP became a source of its working capital. Mehta stated,

> We continue to remain in the DAP business because it is our lifeline. As long as we are making a positive marginal contribution, we will continue to manufacture DAP, because in Urea business we have to pay for supplies much faster. We have depended on a single supplier for Phosphoric acid. We have even defaulted at times but with prior intimation to the vendor with an assurance that it would be paid within a specific period. We availed credit of 180 days to 240 days from this supplier, who is the largest Phosphoric Acid producer in the world. They were like bankers of last resort to us.

Mehta worked closely with other suppliers as well. He would go every year to the International Fertilizer Association conference, meet all the suppliers and new technology

[4] A Government of Morocco company. It is the largest Phosphatic Acid manufacturing company in the world.

licensors. He talked to the other major suppliers, like transport operators and equipment suppliers and convinced them that a MCFL default will never be a permanent default.

However, business relations with Indian Oil Corporation (IOC) have been qualitatively different. Before 1992, IOC used to provide 10 days credit to MCFL. In May 1992, MCFL issued a cheque under duress, on the hope that it would not be presented by IOC for the next few days. However, the local IOC manager presented the cheque, probably due to pressure on him for cash collection. The cheque was dishonoured. Thereafter, IOC imposed a 'cash and carry' condition on MCFL.

The Head Office and Regional Office of IOC frequently took a hard line with respect to credit to MCFL. The local officials were helpful as MCFL was the largest account for IOC in the area. In one critical incident in 1996, a long strike at MCFL lasting 116 days came to an end with the intervention of the Chief Minister of Karnataka. However, there was no cash available at MCFL to buy Naphtha to commence production. MCFL managers approached the local IOC officials and convinced them to sell Naphtha on credit as IOC was supplying Naphtha on credit to other fertilizer manufacturers. The official concerned agreed to extend 45 days credit pending confirmation from his Head Office, which he was confident of obtaining. Mehta said,

> It normally takes a long time to get such permissions. In the meantime, the credit facility was made available and the production of Ammonia and Urea restarted. This was a key event in the revival process of the company.

While, MCFL ensured long credit with suppliers, collection time was reduced to the lowest possible limits.

Capacity Utilization

To earn a satisfactory profit in this industry, the plants needed to achieve more than 80 percent capacity utilization. The production process required continuous and uninterrupted power supply. In 1996, the captive power plant was in bad shape with two engines having completely broken down and needed immediate replacement. MCFL negotiated with Wartsila for replacement of the two irreparable DG engines on credit.

Mehta stated that he motivated managers to experiment and think 'Out of the Box' to find ways to enhance production volumes. Mehta stated,

> I have always believed that persons must be encouraged to think 'big', to think differently. If one looks for routine type of options, the business can't be run successfully. When I made the suggestion that we must de-link from the KEB, the managers around the table thought I had gone crazy!

Mehta further recalled,

> The major problem was that the managers were not used to considering all possible options, however radical they may be. There was also a lack of confidence. Our decisive actions and the success that followed made the engineers more confident. This helped to build and increase their self-confidence.

The engineers believed they could not produce more than 85 percent of the production capacity of the plant, as the plant was perceived to be old and unreliable. So, Mehta called in

technical experts and asked for ways to achieve higher levels of plant utilization. They suggested some fine-tuning to the operations of the Reformer and other critical equipment to increase throughput of reformers and thereby, increas Urea production. To further exploit the situation, a decision was taken to import make-up quantities of Ammonia, taking advantage of the lower international price, and thus supplement the higher cost of own manufacture. Consequently, urea production considerably increased. MCFL achieved 100 percent capacity utilization in 1996-97, for the first time ever since its inception. One of the senior managers stated,

> This singular achievement had a tremendous impact on employees and this boosted their morale.

To remember the achievement, it was decided by the management to give a silver plate to all employees with the following inscription:

"Member of the Winning Team
Mangalore Chemicals & Fertilizers Ltd.
First ever Production of 340,000 tonnes of Urea
1996-97"

In recognition of this achievement, the memento was to be presented to individual workmen, before their families, at a function organized in the industrial colony. However, the Union leaders disrupted the function for the reason that the value and type of memento should have been discussed with them before. They demanded a memento in gold of a higher value. Finally, the silver plates were given to workers six months later after the wage settlement was signed and without any celebration.

Plant Technology

Some of the managers stated that they could achieve high production because the technology of the plants were inherently good. When the Reformer and other major equipment in the plants were opened up for Phase 1 of the Revamp programme in March 2000, the experts stated that they had not seen a plant in better condition in spite of so many years of operation.

Mehta stated,

> The technologies for both the Urea and Ammonia plants are among the best in the world. Therefore, we were able to operate at high loads. Exploiting this became a matter of necessity. We took our chances, as we were sure of the technology. We carefully checked all the safety parameters before we went up on production. Yet, sometimes, in the middle of the night, I would get a call that the main steam line had burst. We would be forced to shut down the plant. We took well-informed and calculated decisions.

Mehta accepted that his non-technical background made him question the engineers on fundamental assumptions. He would frequently ask engineers, "W*hy things can't be done differently?"*

Cost Management Initiatives

Mehta started symbolic cost reduction measures in 1996 itself. He stated,

> I started cutting down on my office expenses, such as daily purchase of fresh flower bouquets. We sold all the corporate office cars. Drivers were transferred to the plant to fill the need for operators to drive heavy vehicles and were trained for a month on the new job. We stopped the liberal use of courier services and our mail was dispatched by ordinary post. Use of STD telephone calls were drastically cut down. We were the first in the industry to switch from jute bags to polypropylene bags for packing fertilizers, which was later adopted by other fertilizer firms as well.

MCFL was continuing with KEB only because of the heavy load required at startup. For this limited facility, a large monthly amount was being paid to KEB towards a minimum demand without the actual utilization of power. Mehta decided to de-link from KEB in 1996. Mehta said,

> Initially, the managers did not think this is technically possible.

As he was firm on achieving this, he set an objective to the technical team,

> To come up with a technical solution to virtually de-link from the KEB, not reasons for it not being possible.

Finally, the managers came up with a workable solution entailing an investment of ₹ 6 million in collaboration with a Pune-based agency, which had successfully implemented its solution. In 1998, MCFL continued its cost reduction initiatives. Mehta stated,

> Two matters needed to be tackled urgently. First, the workers had to appreciate the need for manpower rationalization. Secondly, the rampant overtime had to be brought to zero.

Overtime, without any advantage to the organization, has been a matter of serious concern to the company for years. In certain areas, for instance, in the wagon loading section, workers would get paid overtime even during normal working hours if they were asked to perform any work other than their stipulated tasks. There was informal understanding amongst them to ensure equitable distribution of the high overtime payments. Approximately 25 percent of the workers earned as much as ₹ 2.5 million per year as overtime wage alone.

Mehta sought the services of a reputed management institute to study and recommend rationalization of manpower throughout the Company. He stated,

> I wanted an authoritative independent report which would reflect the prevailing overstaffing at MCFL and give recommendations to right size.

Simultaneously, Mehta had the manpower requirement internally assessed as well. While the independent study recommended a reduction of 170 permanent workmen and 21 officers, the internal study suggested a reduction of 105 workmen.

Senior managers quizzed Mehta on how the reduction could be achieved. MCFL hired the services of a consultant, with hands-on experience and having a good understanding of different industries in general. He elucidated why and how to reduce manpower. This

consultant also suggested to MCFL managers that they should be selective in accepting applications under a Voluntary Retirement Scheme (VRS) that was being proposed.

Mehta gave the manpower study report to middle level managers as well as the departmental Heads to sensitize them on the issue. He said,

> I have a benchmark with me now. I asked managers to implement manpower reduction having a rationale on hand.

Every manager was asked to prepare a list of persons working under him whom he considered fit for VRS. Mehta clearly stated that acceptance of VRS applications had to be selective so as to retain valued people. He then set targets for the managers to encourage and persuade their list of non-performers to apply for the VRS. Internally, the VRS was coined as 'Selective Retirement Scheme' (SRS). Against the targets set, feedback was sought on a daily basis.

One hundred and three persons accepted the first VRS in 1999, 123 more accepted the second VRS in 2000, and another 120 persons accepted the third VRS in 2001. By this, almost all the troublemakers, as perceived by the managers, had accepted VRS.

Mehta recalled the incident in his own office. His own secretary decided to avail the benefits under the VRS on her own. This had a 'domino effect'. Many of the other secretaries and staff in the organization started speculating whether the MD's own secretary had been asked to leave. Expecting drastic changes in the work environment, many more identified persons quickly applied for VRS. All the peons in the corporate office were persuaded to accept VRS.

Industrial Relations

MCFL had undergone a 116 days-long strike that ended in March 1996, nearly six months before Mehta's takeover as the MD. The strike had a serious adverse impact on MCFL's production and cash flows. Industrial relations were not peaceful even after the end of the strike. VRS implementation further agitated the Unions. In January 2001, the Union again served a notice of strike. Mehta stated,

> When I received this strike notice, we carefully assessed whether the managers could run the plant alone. We then asked the managers to lead the Union to strike. With careful planning and a great deal of determination, the managers rose to the challenge. The Union found itself in a situation where it had no option but to go in for a strike.

Mehta met political leaders in Bangalore and Delhi to brief them about the background of events happening in MCFL. He also explained to them that the choice was between running the plant profitably and shutting it down forever. Yet, some politicians spoke to the Group Chairman Dr. Mallya, in favour of the Union and suggested that the management should reconsider its stand and come to a negotiated settlement. But, Mehta did not yield to pressures. Eventually, the State Government banned the strike forcing the Union to call off the strike after 44 days.

At the time of resumption of work, security guards were instructed to permit only those workmen posted for duty for the shift to enter the premises. Employees, including Union leaders, were asked to stand in a queue and were frisked before entering the plant. Frisking was made compulsory before entering the plant for the first time in MCFL's history. The

controlled entry of workmen prevented the Union leaders from the usual phenomena of bursting crackers and other celebrations inside the plant after a strike. They could not project the end of the strike as a victory for them and the Union in general. Further, those employees who helped the management during the strike were assigned key operational locations whereas those who supported the strike were reassigned other work positions in the plant. After the reduction of manpower through successive VRS, time had come for flexibility in operations through redeployment of people. This could be achieved at the end of the strike in 2001. With this, the management succeeded in implementing manpower rationalization to targeted levels.

Issues Before Mr. D. P. Mehta in 2002

Mr. D. P. Mehta successfully turned around MCFL through his business acumen and hard work. He had the trust and support of the Group Chairman, Dr. Mallya. His positive interventions and consistent improved performance of MCFL made revival scheme of BIFR feasible in the year 2000 (Exhibit 7).

Having turned around the company, Mr. Mehta needed to plan and respond to several emerging issues. What would happen to the future profitability of MCFL if the government removed the subsidy and RPS? Now that the plant was achieving capacity utilization, what systems and procedures were needed to ensure that it continued to perform well and, possibly, go beyond the current production volume with reduced downtime? Was there a need for major capital investments and or technological upgradation. How would this be financed?

The fertilizer market is likely to become more competitive in the near future. The RPS may not exist for too long. In such a changed scenario, what would be the role of the Company's brand and how should it be managed? What would be the appropriate distribution structure? How should the finished inventory be managed? What were the support systems both in the plant and the regional offices that needed to be introduced and strengthened?

The labour and manpower resources over a period of time had been managed from a state of hostility to a state where it was possible to understand and cooperate towards MCFL interests. Did the employees extend real support or were they supportive because of the environment? What was to be done to make the individual employees become proactive contributors to the growth of MCFL? How does one move from controlled empowerment to commitment? What kind of emotional and financial compensation would make MCFL a preferred place of employment?

Finally, Mehta was concerned about how long he should preside over and oversee MCFL operations? Was he to plan for a succession? What systems and procedures were to be initiated to strengthen the performance of MCFL?

Exhibit 1: MCFL: Milestones

1999: Trading of granulated fertilizer, 17:17:17 commenced.
1996: Mr. D. P. Mehta, VP (Finance) takes over as the Managing Director of MCFL.
1994: Reference to BIFR as a sick company.
1990: Reference to BIFR as a potentially sick company. Transfer of MCFL to UB Group through an approved scheme.
1987: Commercial production of DAP started.
1986: The Captive Power Plant commissioned.
1982: Commercial production of ABC started.
1979: Government of Karnataka takes over MCFL management.
1976: Ammonia and Urea plants commissioned and commercial production begins March.
1972: The construction work of Ammonia and Urea plants inaugurated on October 15 by Sri D. Devaraja Urs, the then Chief Minister of Karnataka
1971: The Company was renamed Mangalore Chemicals and Fertilizers Ltd.
1969: The Government of Karnataka (GoK) stepped in as promoters after cancellation of agreement with IDIC.
1966: 'Malabar Chemicals and Fertilizers Limited' promoted by the Tatas and International Development and Investment Corporation (IDIC).

Source: Company Records

Exhibit 2: MCFL products, processes and facilities

Products:

Ammonia is the intermediate compound in the manufacture of other major products like Urea and DAP and is produced for captive consumption.

Urea, a nitrogenous fertilizer, sold under '**Mangala'** brand is suitable for all crops and soil conditions. It is offered in rounded prills form for free flow and ease of application, and is completely soluble in water.

Di-Ammonium Phosphate (**DAP**), the phosphatic and nitrogenous fertilizer in black granular form, is hygroscopic, free flowing, completely soluble in water and is suitable for most crops and soils, and is recommended for initial application. DAP is sold under the brand name '**Mangala**'.

Ammonium-Bi-Carbonate (**ABC**) is a food grade product used in bakery industry, leather industry and as leavening agent in the manufacture of biscuits. This white crystalline product is sold under the brand name '**Ambica'**.

Granulated fertilizer N:P:K (17:17:17) supplies three major plant nutrients, viz. Nitrogen, Phosphorous and Potash in a single application in the ratio of 1:1:1. This too is granular, free flowing and soluble in water to ensure easy application in the field and is sold under the brand name '**Mangala'**. It is suitable for different crops and soil conditions.

Other Chemicals (Liquid Nitrogen and Carbon dioxide): The Company sells these in small quantities. The liquid Nitrogen and Carbon dioxide produced are in excess of its own requirement. The former finds its use in hospitals and veterinary centres whereas the latter is sold to Prax Air Ltd., Panambur.

Process Description

Ammonia: Raw Naphtha, a petroleum product is the main raw material for the production of Ammonia. It is first disulphurised and passed through primary reformer tubes along with required quantity of steam to yield Hydrogen (H_2), Carbon Monoxide (CO), Carbon Dioxide (CO_2) and Methane (CH_4). The required heat is supplied by burning the fuel outside the reformer tubes. These product gases are passed through the secondary reformer along with required quantity of air and steam to yield CO, H_2 and Nitrogen (N_2). The CO is then converted into CO_2 in two stages and then separated for use in Urea synthesis. The product gases consisting of N_2 and H_2 are compressed to about 175 atmosphere pressure and passed through the converter at 400^0C to produce gaseous Ammonia. The gaseous Ammonia is condensed and the liquid Ammonia thus obtained is either sent to Urea manufacture or stored in Horton Sphere. MCFL has an industrial license to produce 2,17,800 tonnes of Ammonia annually.

Urea: Ammonia (NH_3) and Carbon Dioxide (CO_2) are the main raw materials for Urea production. Initially, NH_3 and CO_2 are passed through a high-pressure condenser where Ammonium Carbonate is formed. This is sent to autoclave where a portion of it is converted to urea. The unconverted Ammonium Carbonate is stripped into NH_3 and CO_2 in a high-pressure stripper using fresh CO_2. This process is called Stamicarbon CO_2 stripping process, a technology by Stamicarbon b.v., Netherlands. The mix is recycled into the condenser along with fresh Ammonia to dilute Ammonium Carbonate to again form concentrated solution of Ammonium Carbonate. The cycle thus continues.

The Urea solution thus coming from the stripper is separated and concentrated in a low-pressure section consisting of a rectification column, a flash vessel and a series of evaporators. The molten Urea solution coming from the final evaporator is sent to a revolving prill bucket at the top of the prill tower. The Urea solution is sprayed in the form of fine droplets by rotation of prill bucket. The droplets are solidified into prills before reaching the bottom of the prill tower as they come in contact with an upward flow of air. The prills of Urea are collected and sent to bagging or storage in silo. MCFL has an industrial license to produce 3,40,000 tonnes of Urea annually.

Di Ammonium Phosphate (DAP): As the major diversification to produce Phosphatic fertilizers, the MCFL set up a DAP plant of capacity 1,38,000 tonnes/year (Revised to 1,80,000 tonnes/year in 1999) using imported NH_3 and Phosphoric Acid (H_3PO_4) as raw materials. Toyo Engineering Corporation, Japan and Toyo Engineering India Ltd., Mumbai, were the contractors for setting up the plant on turnkey basis. A terminal has been set up to store and handle imported NH_3 and H_3PO_4 at the port.

NH_3 and H_3PO_4 are fed into a preneutraliser to produce slurry of Mono Ammonium Phosphate. The slurry is then sprayed in a rotary granulator on a rolling bed of recycled fine DAP material with simultaneous Ammoniation to produce DAP. The wet granules thus obtained are dried in a rotary drier to less than one percent moisture and sent for screening. The oversized products are crushed and along with fines are recycled into granulator. The product is cooled in a fluidized cooler and sent for bagging or for storage in the silo.

Ammonium Bi Carbonate (ABC) The plant capacity is 10,000 tonnes/year of ABC and is based on complete indigenous technology. The main raw materials, NH_3 and CO_2 are first bubbled through water in a carbonation tower to form Ammonium Carbonate. The Ammonium Carbonate so formed is fed to a bicarbonation tower where it is further reacted with CO_2 to form slurry of ABC. This slurry is pumped to a centrifuge to separate crystals of ABC from the mother liquor. The wet ABC crystals are dried in a rotary drier and sent for bagging.

Utilities and Other Facilities

Utilities: To cater to the requirements of different plants MCFL has set up: a) Cooling water system of 14,400 m^3/hr circulation rate, b) De-mineralizing plant of 180 m^3/hr capacity; c) Nitrogen plant capable to produce 650 m^3/hr of gaseous nitrogen and 50 m^3/hr of liquid nitrogen; and d) Instrument air compressor system

Product Handling: Product handling units having four streams for Urea and three streams for DAP have been set up for bagging and dispatch.

Additional Boilers: To improve the efficiency of the Ammonia and Urea plants an auxiliary boiler was set up in 1982.

Purge Gas Recovery Unit (PGRU): To increase the productivity of Ammonia plant a purge gas recovery unit was set up in 1983.

Captive Power Plant (CPP): To prevent the interruptions in power supply and to avoid energy wastage during shutdowns and startups of the plants due to frequent power interruptions and periodical power cuts, MCFL has put up a Captive Power Plant of 48 MW capacity. The CPP meets the main plant power requirement of 35 MW.

Imported Ammonia and Phosphoric Acid Terminal (IAT): To cater to the raw material requirement of DAP, the Company has set up handling and storage facility for imported Ammonia and Phosphoric Acid at New Mangalore port. The terminal facilitates ship unloading along with storage of 10,000 tonnes of Ammonia in one tank and 16,000 tonnes of Phosphoric Acid in two tanks.

Water Reservoir: Mangalore City Corporation/Karnataka Urban Water Supply and Drainage Board supply the factory's requirement of 2.5 MG/day of clarified water from Netravathi River. In order to overcome the problem of water shortage especially during lean season, MCFL constructed two reservoirs of 6 MG and 18 MG capacity within the factory premises.

Bulk Storage (Silo): For storage of main products viz. Urea and DAP, MCFL has constructed two silos of 30,000 tonnes and 10,000 tonnes respectively.

Urea Hydrolyser Stripper: This unit at a cost of Rs 80 million was added in the Urea plant in the year 1990 for treating the effluents from Urea and Ammonia plants and to reuse the effluent water for cooling tower make up.

Pipeline for Discharge: The Company has recently laid 650 meters of HDPE pipeline, of which 500 meters are inside the sea for rainwater discharge collected in the cold pond during monsoon periods.

Source: MCFL Company Documents

Exhibit 3: Industrial Unrest (History)

Year	Month	Description	Duration (days)	Production Loss (tonnes)
1980	September	Due to problems in Ammonia Plant and Labour unrest on 30th	1	1591
	October	Shutdown due to Labour Strike	4	5464
1981	March	Shutdown due to labour strike	16.5	23488
	April	Labour unrest	3	4680
	December	Labour Unrest (to protest lay-off)	2.75	4120
1982	January	Due to labour problem (Inter Union rivalry)	9	13390
1987	July	Labour Unrest (Demanding promotion confirmation)	22	31200
	August	Labour Unrest (Same reason)	22.5	31930
	September	Labour Unrest Due to High Court stay-order	2 3.5	2489 5045
1990	December	Plant stoppage on 29th & 30th due to Urea Loader (MMC) unrest	1	1151
1992	August	Shutdown on 5th due to labour unrest and subsequent suspension of manufacturing operations	20	27510
	September	Labour Unrest	21.5	30900
	October	Labour Unrest till 15th Maintenance jobs in progress startup delayed due to slow labour response	10 12	14632 17296
	November	Maintenance jobs/startup activities (delayed by the workmen)	10.5	15139
1994	January	Industrial relations problem till 28th	20	28320
1995	October	Industrial relations problem and delay in startup activities 4th to 15th	8	11726
	December	Industrial relations problems from 16th and consequent lockout from 26th	10	14420
1996	January	Industrial relations problem and consequent lockout	31	31930
	February	Industrial relations problem	28	29870
	March	Industrial relations problem	27	31930
2001	March April May	Strike call from INTUC 19th	13 30 1	5000*
		TOTAL	**329.25**	**383221**

Source: MCFL records

Exhibit 4: VR Schemes in 1999 and 2000 (key dimensions)

Item	1999	2000
Name	Voluntary Retirement Scheme—1999	Voluntary Retirement Scheme—2000
Period	January 28, 1999 to March 31, 1999	Valid for 30 days from 21/12/2000
Eligibility	Employees who have attained 40 years and 10 years of service except Directors of the Company and employees against whom disciplinary proceedings are pending	Employees who have attained 40 years and 10 years of service except Directors of the company.
Withdrawal	Applications once submitted cannot be withdrawn	Applications once submitted cannot be withdrawn
Amount	15 days salary for each year of service and 30 days salary of each year of balance service left before superannuation	30 days salary for each year of service and 30 days salary of each year of balance service left before superannuation. In addition 12 post-dated cheques, each equivalent to one month's salary as on the effective date of acceptance of VR will be issued.
	Amount shall be paid in lump sum	Amount shall be paid in lump sum
Maximum Amount	₹ 0.5 million	₹ 0.5 million
Employment	Only regular employment will be considered for the computation of the amount of VRS	Only regular employment will be considered for the computation of the amount of VRS
Salary	Salary means basic pay, FDA & VDA for workers and Basic Pay & VDA for officers	Salary means Basic Pay, FDA & VDA
Benefits	All normal benefits like PF, Gratuity, and Superannuation. LTA, Encashment of Earned Leave, Medical Reimbursement, etc. will apply	Same + sunperannuation benefit is also payable to the extent accumulated, as a special case without reference to the benefit Clause 10 & 13I) of the scheme
Income Tax	In pursuance of approval from the Chief Commissioner of Income Tax, no income tax is payable in case the employee opts for the scheme on or before 31/03/99	The payment of compensation under VRS - 2000 is subject to the provisions of the Income Tax Act as may be applicable.
Dues	All outstanding dues to the company including outstanding housing loans taken from HDFC will be adjusted against the total amount	All outstanding dues to the company including outstanding housing loans taken from HDFC will be adjusted against the total amount
Notice	No notice period was required	No notice period was required
Effective date	The effective date of retirement will be the date of acceptance in writing communicated back to the employee	The effective date of retirement will be the date of acceptance in writing communicated back to the employee
Claim	An employee who ceases to be in employment by VR scheme shall not have any right or claim for re-employment in the company for self or for any other relative or person at any time	An employee who ceases to be in employment by VR scheme shall not have any right or claim for re-employment in the company for self or for any other relative or person at any time
Right	The company reserves right to accept or reject any application without giving any reason.	The company reserves right to accept or reject any application without giving any reason.
Withdrawal of scheme	The company reserves right to withdraw or extend the scheme at any time it deems fit.	The company reserves right to withdraw or extend the scheme at any time it deems fit.

Exhibit 5: Voluntary Retirement in MCFL

Category/Scheme	1999	2000	2001	Total
Officers	18	34	00	052
Workmen	33	71	13	117
Contract workmen	04	19	03	026
Total	55	124	16	195

Source: Company records

Exhibit 6: Rehabilitation Scheme of 1990

MCFL had the following liabilities that were addressed in the relief in 1990.

	Unit (₹million)
Term loan from FIs	510
Term loan from Banks	068
Accumulated interest on cash credit from banks	400
Irregularity on cash credit account	640
Unsecured loans from Government of Karnataka	109
Overdue interest on government loan	040
Total	1767

Relief suggested in the scheme

a) Reduction in rate of interest on existing terms loans to 11.5 percent for FIs and from 15 percent to 13 percent for Banks with effect from April 1, 1989.
b) Funding of interest on existing term loans from April 1, 1989 to March 31, 1991 and conversion of the same into equity/preference capital at par.
c) Waiver of penal and compound interest with effect from April 1, 1989.
d) Reschedule for payment of existing term loans to be repaid in 28 quarterly installments starting from the second quarter of 1993.
e) The repayment schedule of existing as well as additional term loans will be drawn for 10 percent repayment each in the first and second year and 16 percent each in the five years thereafter.
f) Providing fresh term loan at reduced rate of interest of 12.5 percent (FI) and 13 percent (Banks).
g) Reduction in the rate of interest on cash credit account of Banks from 16.5 percent to 15 percent with effect from April 1, 1990.
h) Funding of interest on the cash credit account of Banks calculated from April 1, 1989 to March 31, 1991.
i) Conversion of core irregularity in the cash credit account into working capital term loans which would carry interest at the rate of 10 percent and would be paid in 28 quarterly installments starting from second quarter of 1993.
j) Conversion of unsecured loans and overdue interest of Government of Karnataka into interest-free subordinate term loans repayable after loans of institutions/banks were completely repaid.
k) Interest free deferment of payment of sales tax on purchases of raw materials and sale of finished goods and turnover tax subject to a maximum up to ₹ 50 million per annum for a period of 3 years commencing form April 1, 1990. The period would be extended up to 2 years if required. The deferred taxes would be repaid in 10 half-yearly installments from the first half of 2000.

Conditions for the relief from Financial Institutions:

a) UB Group would bring in up-front, ₹100 million by way of fresh equity into the company.
b) MCFL would raise a further equity of ₹400 million. Shortfall in raising the equity would be undertaken by UB Group.

Obstacles to implement the Conditions for the relief from Financial Institutions:

CCI did not grant permission for issue of shares for ₹ 100 million to UB Group on private placement basis. However, CCI permitted issue of shares worth ₹ 100 million to KSIIDC. CCI allowed UB to raise equity worth ₹ . 258.3 million in following manner.

a) On rights basis to the existing shareholders ₹ 246 million.
b) Employees (including Indian working Directors) ₹ 12.3 million.

Revised relief from Financial Institutions:

All the grants were retained with following modifications.

a) Grant of loan for ₹ 234 million (instead of earlier stated ₹ 300 million) as under
   1. Term Loan from IDBI ₹93.6 million
   2. Term Loan from IFCI ₹46.8 million
   3. Term Loan from ICICI ₹46.8 million
   4. Term Loan from IRBI ₹46.8 million

b) Assistance of ₹ 66 million for replacement of HP condenser.

Revised Conditions for the relief from Financial Institutions:

1. Acceptance by participating institutions namely IDBI, IFCI, ICICI, and IRBI.
2. Payment of up-front fee @ 1 percent on loan of ₹234 million.
3. A charge of 2 percent by way of liquidated damage would be levied for defaults in payments of principal, interest and up-front fee.
4. Lead institutions would have right to convert loan into equity.
5. Rehabilitation package would be subjected to review every year.
6. Relief from financial institutions will be effective only after the sanctions of assistance/loan from the Government of Karnataka and banks.
7. UB Group would bring in ₹100 million equity directly or through KSIIDC route.
8. First tranche of right issue for ₹250 million would be fully subscribed (UB would pick up the unsubscribed component).
9. Reconstitution of the board in consultation with IDBI.
10. Obtain all the relief from consortium of banks and Government of Karnataka as stated above.
11. The company would pursue for revised retention price in view of additional capital expenditure.
12. Second tranche of rights issue for ₹150 million would be fully subscribed (UB would pick up the unsubscribed component) as per the programme of IDBI.
13. MCFL will take all necessary permissions for the revamp of DAP plant.

Source: MCFL internal documents

Exhibit 7: BIFR Scheme 2000

(₹in million)

Cost of the Scheme (Over the rehabilitation period i.e. 2000-2006)			**Funds required till March 31, 2001**
Capital expenditure		1750	600
Crystallized dues (institutions - & Banks -	801.4 1439.6	2241	2241
Leasing/guaranteeing /assignee Banks/companies		278.7	140
GOK Loans and sales Tax deferment		56.7	0.00
Total		**4326.4**	**2981**

Means of finance till March 31, 2001

(₹ in million)

Particulars	**Amount**
Deposit with IDBI (273.6) and Banks (1440)	1413.6
Bank finance for working capital	500
Promoters contribution	200
Interest on deposits with institutions (121.5), Banks (299.6)	421.1
Refund of portfolio funds	47.6
Internal Accruals	398.7
Total	**2981**

The total cost of the scheme including the waivers on the part of Institutions/Banks/other agencies (aggregating ₹1929.1 million) was ₹. 4910.1 million while the waiver/write off of interest as shown in the profitability statement indicated ₹1212.4 million. The balance amount of ₹. 709.7 million pertained to the compound interest of institutions (₹. 410.6 million) and banks (₹. 306.1 million).

Relief and Concessions

A. Financial Institutions (IDBI, ICICI, IFCI, IIBI, UTI, Insurance Companies)

A) To adjust ₹. 323.6 million against total principal amount of ₹ 639.3 million.
B) To accept balance term loan of ₹. 315.7 million to be paid by the company on interest free basis.
C) To accept payment of 30 percent of the simple interest aggregating ₹. 162.1 million against total interest dues.

B. Government of Karnataka

To defer (i) interest free subordinate loan of ₹. 145.9 million and (ii) sales tax deferment of ₹. 137.3 million) for a period of 5 years to be repaid in 5 equal annual installments there after on an interest free basis and waiver of electricity tax of ₹. 432.4 million on captive power generation.

C. Fertilizers Industrial Coordination Committee (FICC), GOI

To recognize the rehabilitation capital expenditure (estimated at ₹. 1750 million) incurred in a particular year in the first month of the next year as against recognition in the base year of 3-year pricing period.

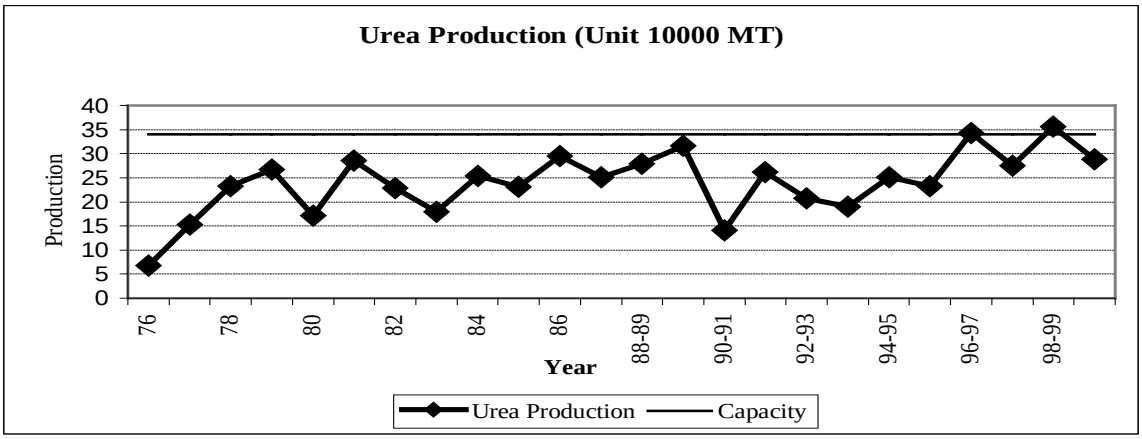
Source: MCFL Documents

Exhibit 8: Tenure of Chairmen and Managing Directors in MCFL

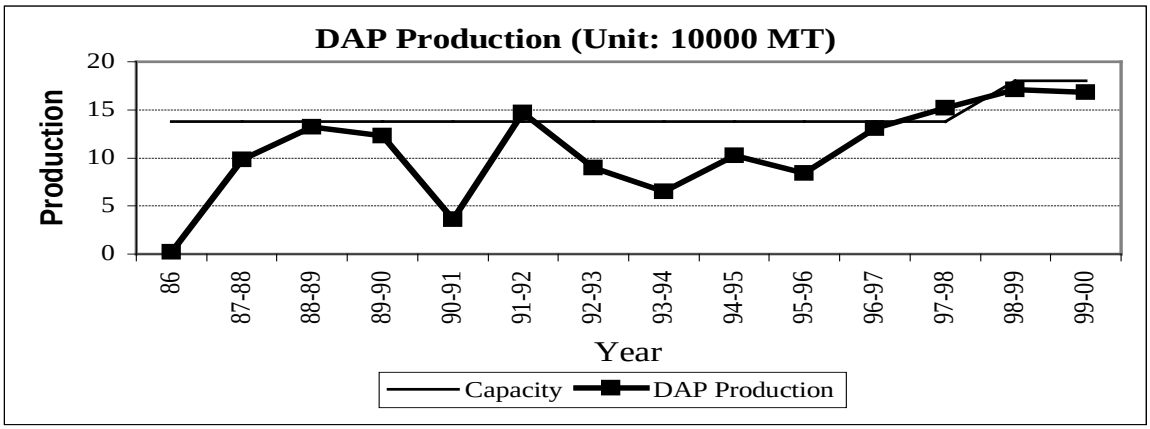
Name	Designation	Tenure
D P Mehta	M.D.	1996-
N B Chandran	M.D.	1990-96
Dr. Vijaya Mallya	Chairman	1990-
J Alexander, IAS	C.M.D.	1988-90
A B Datar, IAS	Chairman	1987-88
K P Surendranath, IAS	M.D.	1987-88
AB Datar, IAS	C.M.D.	1982-87
P R Nayak, IAS	C.M.D.	1980-82
B K Shridhar, IAS	M.D.	1978-79
F J Heredia	M.D.	1975-78
PA Narielwala	Chairman	1971-79
NR Seshadri	M.D.	1971-75
C M Poonacha	Chairman	1969-71
M Subramanyam	Chairman	1968-69
Dr. G.S. Dugal	Chairman	1967-68

Source: Company Records

Exhibit 9: Production of Urea, DAP and ABC by MCFL



Source: Company Records



Source: Company Records

Exhibit 10: The Indian Fertilizer Industry

Fertilizers are those substances that supply plant nutrients and improve soil fertility. The three essential ingredients for plant are nitrogenous fertilizer (N), Phosphatic fertilizer (P), and potassic fertilizer (K). The optimal mix of these three ingredients is determined by the type of crop, soil conditions, climatic conditions, and other factors. In India the optimal NPK ratio is 4:2:1. However, in actual practice there have been deviations from this ideal mix due to price disparities between the three and lack of awareness among farmers.

Fertilizer industry was recognized as a core sector for public investment in the industrial policy of 1956. The other important aspect of evolution of fertilizer industry in India was the Fertilizer Control Order (FCO) of 1957. Based on this order, government decided to fix the selling price to the farmers (farm gate price) of all the nitrogenous fertilizers as well as the realizations to the manufacturing units individually on the basis of Tariff Commission recommendations, chief accounts officer of the ministry of finance and Fertilizer Association of India (FAI).

Based on the recommendations of the committee, retention pricing scheme (RPS) was set up in November 1977. Under the scheme, the realization to each producer, that is, the retention price, was set for each plant. These measures have been successful to enhance the production capacity in the country. Today, India is one of the largest producers and consumers of chemical fertilizers in the world.

The average per hectare consumption of fertilizer nutrients in India has increased from less than 1 kg in 1951-52 to about 90 kg during the end of 1999-2000. Yet, it is still one of the lowest in the world. Further, the consumption of chemical fertilizers in the country is unevenly distributed, being much higher in regions with assured irrigation.

Against an all-India average consumption of 90 kg/hectare, states like Punjab and Andhra Pradesh consume over 135kg/ hectare, while economically underdeveloped states like Madhya Pradesh and Orissa consume about 30 kg/hectare.

Country Consumption

Country	India	China	Egypt	Bangladesh	Pakistan	USA
Kg/Hectare	90	370.7	345.4	135.4	113.1	107.1

Source: Company Records

The production of urea has steadily increased and is almost matching demand and supply conditions in the country presently. Manufacturing units with more than 0.5 million tonne capacity are indicated in the table below.

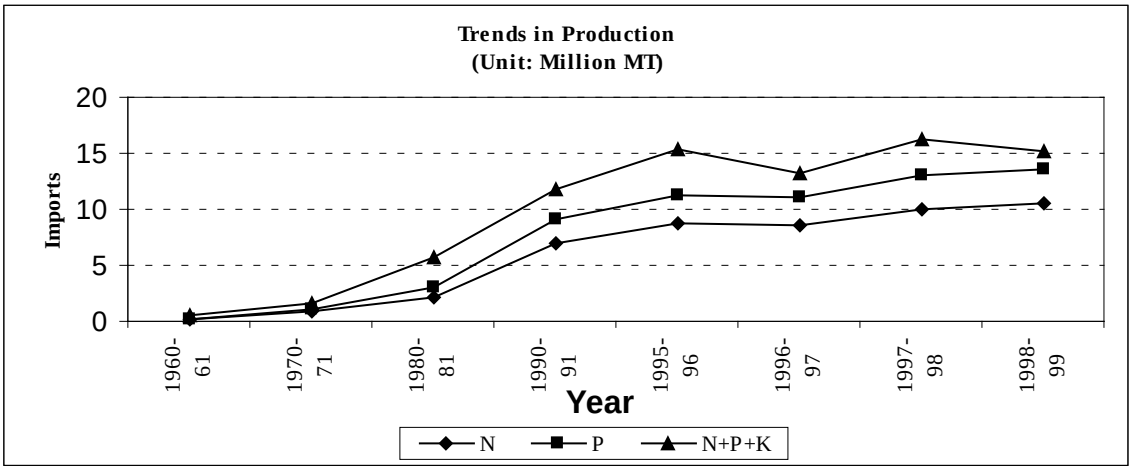
Urea Producing Units with capacity of more than 0.5 million tonnes per Year: 1951 – 2000

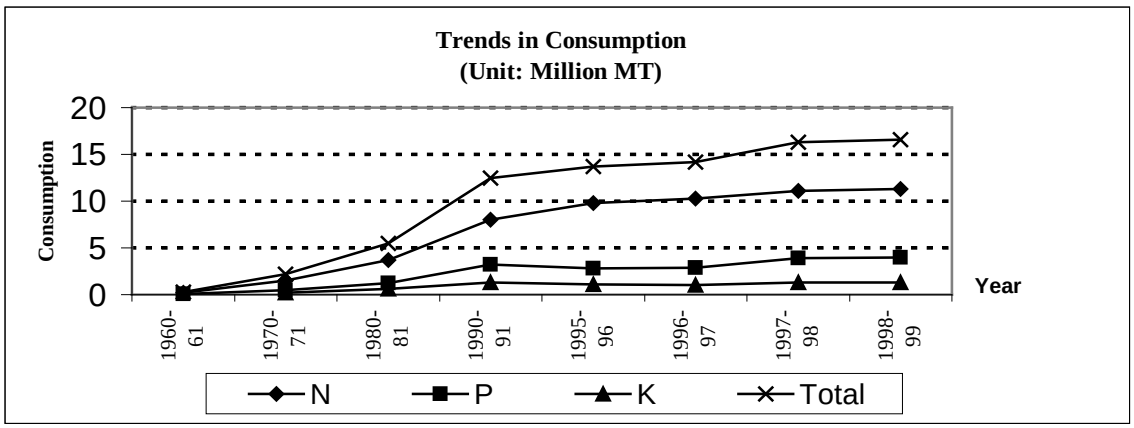
Year	Unit	Feedstock	Sector	Capacity (Lake/tonnes)	Project cost* ₹. in 10 million
1970	ICI-Kanpur	Naphtha	Private	6.75	52.12
1975	SPIC-Tuticorin	Naphtha	Private	5.12	73.56
1979	NFL-Bhatinda	FO/LSHS	Public	5.12	239.30
1979	NFL-Panipat	FO/LSHS	Public	5.12	223.50
1982	GNFC-Bharuch	FO/LSHS	Private	5.94	445.00
1985	RCF-Thal	Gas	Public	14.52	890.00
1986	KRIBHCO-Hazira	Gas.	Cooperative	14.52	890.00
1988	NFL-Vijaipur	Gas	Public	7.26	507.35
1988	IFFCO-Aonla	Gas	Cooperative	7.26	647.84
1988	Indogulf-Jadishpur	Gas	Private	7.26	701.52
1993	CFCL-Kota	Gas	Private	7.26	1153.15
1994	TCL-Babrala	Gas	Private	7.26	1479.74
1995	OCFL-Shahjahanpur	Gas	Private	7.26	960.00
1996	IFFCO-Aonla Expansion	Gas	Cooperative	7.26	960.00
1997	NFL-Vijaipur Expansion	Gas	Public	7.26	987.30
1997	IFFCO-Phulpur Expansion	Naphtha	Cooperative	7.26	1190.00
1997	IFFCO-Kalol Expansion	Gas	Cooperative	1.50**	149.71

Source: Company records

Growth: At present, there are 64 large sized fertilizer units in the country. Of these apart from other fertilizers 39 units produce urea and 18 manufacture. Besides these units, there are 79 medium and small-scale manufacturers. The country is self-sufficient to the extent of 92 percent in case of nitrogen nutrients. Therefore, the government decided to stall any additional capacity in urea. As of the year 2000, the installed capacity of nitrogen i.e. (N) nutrients was about 11 million tonnes and that of phosphate (P) nutrients was 3.6 million tonnes, making India the third largest producer in the world.

Urea being the most affordable fertilizer dominates the nitrogenous fertilizers, constituting more than 80 percent of consumption. DAP is the dominant Phosphatic fertilizer accounting for 58 percent of consumption, followed by single super phosphate (SSP) with a 20 percent share.





Source: Company Records

Fertilizer Prices and Subsidy: As the industry is governed by RPS, the difference between the RPS and farm gate price is provided as subsidy. The government subsidy bill for nitrogenous fertilizers stands at ₹. 87 billion out of total subsidy bill of ₹. 132 billion on all fertilizers. There is mounting pressure on government to reduce the subsidy bill and phase out the RPS.

Fertilizer Subsidy (Unit: ₹ in 10 million)

Year	Food Production (tonnes)	Subsidy on Nitrogenous		Total	Subsidy on Phosphatic and Potassic Fertilizers	Grand Total
		Imported	Indigenous			
1992-93	179	996	4800	5796	340	6136
1993-94	184	762	3800	4562	517	5079
1994-95	191	1166	4075	5241	528	5769
1995-96	180	1935	4300	6235	500	6735
1996-97	199	1350	4743	6093	1672	7765
1997-98	192	826	6600	7426	2596	10022
1998-99	202	238	7360	7598	3790	11388
1999-00	205	750	8000	8750	4500	13250

Source: Company Records

Incentives to Domestic Fertilizer Industry: To encourage investment in the fertilizer sector, the following concessions are available to the domestic industry:

1. Nominal duty on import of capital goods for setting up of new plants/modernization of existing units.
2. Deemed export benefits to indigenous supplies of capital goods to fertilizer projects provided such supplies are made under the procedure of international competitive bidding.
3. Nominal duty on import of fertilizer raw materials and intermediates.

No new grassroots urea project till 2003/04: The government has decided not to allow the setting up of any new grassroots urea project till the year 2003/04, considering the near self-sufficiency achieved in urea production and the reduction of urea imports to less than 2 per cent of the country's current consumption. However, already approved projects in the public/cooperative sectors would be allowed to go ahead with their construction.

Government has also decided not to give any guarantee to new units on the continuance of the existing Retention Price Scheme (RPS) on a long-term basis. Such units could, however, receive subsidy support on the basis of the long term marginal costs worked out on the basis of gas/LNG (liquefied natural gas) as feedstock. They would get the benefit of the RPS only as long as it lasts, according to an official release of Government of India.

Nitrogenous Fertilizers: Nitrogenous fertilizers are classified in three groups based on the chemical form of N in the fertilizer. They are ammonical, nitrate, and amide. The principal source of Nitrogen in all these fertilizers is ammonia. The feedstock generally contains sulphur, which renders active catalysts ineffective. Hence, all feedstock are desuphurised. The principal variable cost for this fertilizer is the cost of feedstock. The cost of natural gas feedstock (approximately ₹ 2500 per tonnes of Urea) is nearly one-third of the cost of other feedstock-Naphtha and Fuel Oil for urea. Government has been reiterating its intent for the last few years for fertilizer plants to switchover to gas based plants.

It takes nearly 0.7 tons of naphtha to produce a ton of urea. Naphtha prices have been fluctuating widely in recent past. It increased to ₹ 9,700 per ton at port locations on 1 August 1999 compared to ex-refinery price of ₹ 7,100 as on 1 April 1999. The price was even higher in the interior at ₹ 10,250 per ton. Some manufacturers have started substituting domestic ammonia with cheaper imported ammonia because the increase in the price of Naphtha.

The feedstock policy for nitrogenous fertilizers had hitherto envisaged establishment of new plants based mainly on natural gas. One of the options being considered envisages the installation of a re-gasification facility at Haldia in West Bengal and the construction of a pipeline connecting the fertilizer plants in the eastern sector with an inter-link to the HBJ pipeline.

Phosphatic Fertilizer: The grade of this fertilizer is determined by its solubility in water and citric acid content. Rock Phosphate is the raw material source from which all phosphatic fertilizers are produced. As this rock is insoluble in water, it is converted into phosphoric acid or single super phosphate (SSP) to produce this fertilizer. In India 70 percent of DAP capacity is based on phosphoric acid, and 80 percent of it is imported.

This fertilizer was decontrolled in 1992, causing its price escalation. It resulted in excessive of urea. The consumption of phosphatic fertilizers declined from 3.32 million tonnes in 1992 to 2.67 million tonnes in 1993. Since then government announces ad-hoc subsidy on this fertilizer while controlling the selling price. The subsidy is not on the cost-plus basis. It is determined on the basis of prevailing international price of ammonia and phosphatic acid.

The subsidy on this fertilizer has increased from ₹ 3.40 billion in 1993 to ₹ . 30 billion in 1999 even though the selling price DAP increased from ₹ 4700 per tonnes to ₹ 8300 per tonnes in the same period. The subsidy on indigenous DAP is more than that on imported DAP, making the Indian industry competitive.

Potash Fertilizers: Potassium is primarily recovered from underground deposits of soluble minerals. The entire requirement of potassic fertilizer is imported in India. The major potassic fertilizer, used in

India is Muriate of Potash (MOP). In the year 1999, India imported 2.38 million tonnes of MOP. It carries a subsidy of ₹ 3000.00 per tonnes.

Customs duty imposed on fertilizers for first time: Much to the surprise of the sector, the government has for the first time imposed customs duties on the import of fertilizers. The Finance Bill 1999, states, "Urea, DAP, etc when used as a manure or for manufacture of complex fertilizers" would attract a basic duty of 5 per cent against the present exemption. However, "NPK type fertilizer" have been totally exempted from the payment of duties. Imports of potassic fertilizers have also been exempted from any customs levy.

Bio-Fertilizers: Bio-fertilizers are carrier based preparations containing effective strains of micro-organism like bacteria, algae, fungi alone or in combination in sufficient numbers which can provide plant nutrients through microbial activity. At present, 109 bio-fertilizer units are reported to be under production/implementation in the country.

Sources:

1. Department of Fertilizers, Government of India - *www.fert.nic.in*
2. Venkateshwarlu S. & Sen Anindya (2002). Fertilizer Industry in India: Moulded by Government *Policies, Economic and Political Weekly*, January, 26, pp. 326-336.
3. MCFL's records

Exhibit 11: Investment Pattern in MCF
A: Initial Investment Plan (in 1967)

Unit ₹ . in million

Equity	**Indian**	**Foreign**	**Total**
Government of Mysore	20.00		20.00
The Mysore State Co-operative Marketing Society Ltd.	15.00		15.00
Rallis India Limited	04.00		04.00
Humphreys & Glasgow Ltd.		24.00	24.00
Stamicarbon NV		09.00	09.00
International Development and Investment Co. Ltd.		02.50	02.50
Others	00.50		00.50
Indian Public	35.00		35.00
Preference			
The Mysore State Co-operative Marketing Society Ltd.	15.00		15.00
Indian Financial Institutions and others	15.00		15.00
Estimated capital cost in 1969			
Cost	217.50	182.50	400.00
Working Capital	30.00		30.00
Means of Finance			
Equity	74.50	35.50	110.00
Preference	30.00		30.00
Long term loan	113.00	147.00	260.00
Working Capital	30.00		30.00
Total	**599.5**	**400.5**	**1000**

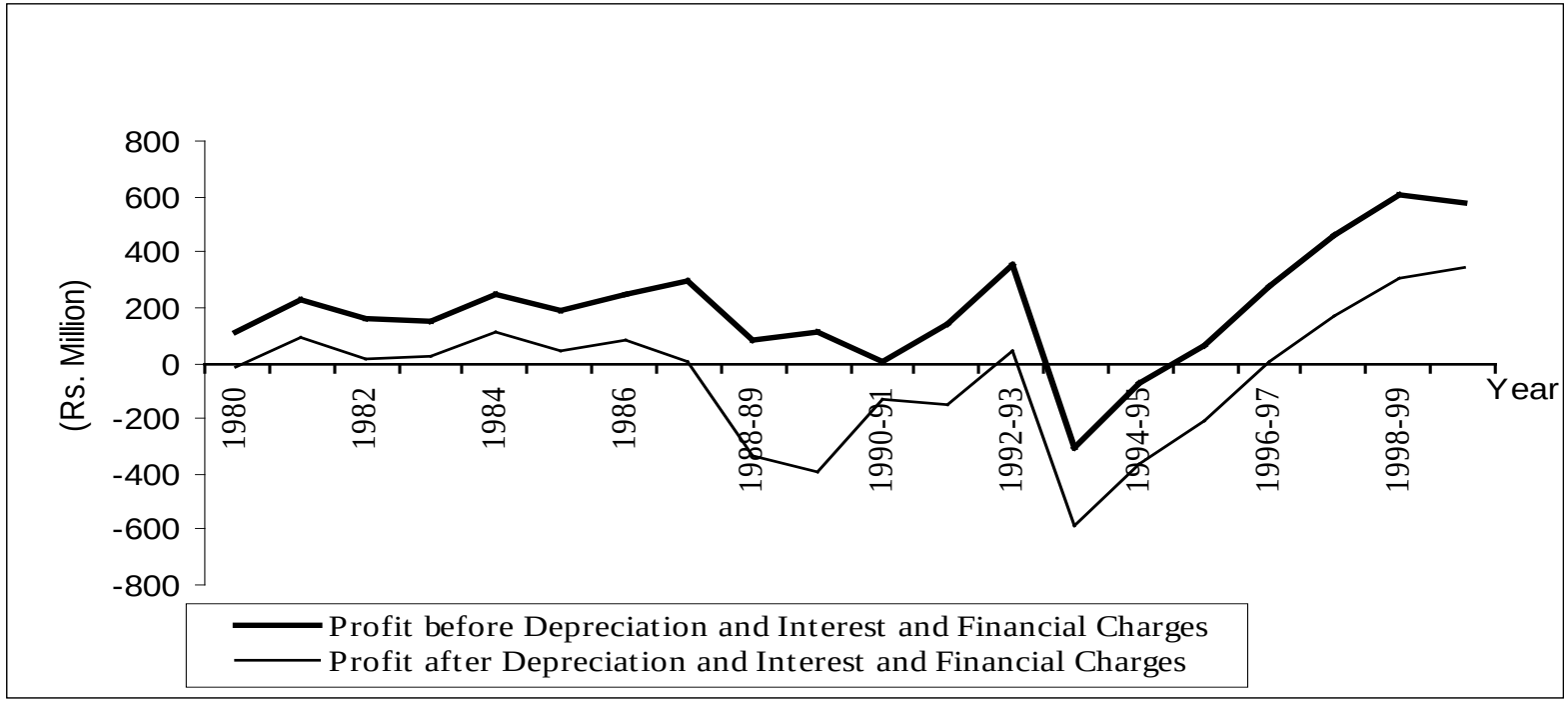
B: Final Investment as in 1976

Source	**₹ (million)**
9.5 percent Redeemable Cumulative Preference Shares	029.99
Equity Shares	124.11
Secured loans from Banks	428.91
Secured loans from Financial Institutions	207.57
Unsecured loan from Banks	043.59
Unsecured loan from Financial Institutions	001.29
Unsecured loan from others	009.00
Total	**844.46**

Exhibit 12: Power Interruptions (1975-1986)

Period		Power Cut (%)	Tariff Rate (₹Per KWH)	Frequency of Power interruptions	Remarks
From	To				
February 1, 1975			5.5		Agreement with State Electricity Board for tariff rates.
March 20, 1976			5.5		Start of Urea production
April 1976			5.5		Plant tuned up for commercial production
May 76	June 76	25	5.5		Shut down of the plant owing to 25% power cut
1976	1977	25	5.5	Frequent	
1978		10	5.5	Frequent	18 power interruptions were experienced varying from few seconds to 25 hours during the year.
1979		45	5.5	Frequent	
June 79	Dec 79				Plant stoppage due to power cut
10/2/80	30/06/80		12.7		Plant stoppage due to power cut
1981			22.5	Highest so far	
1982			22.5	Frequent	Frequent stoppage due to power interruptions
1983				Often	
5/2/84	16/4/84	100			
1985	1986			Frequent	
1986				Often	MCFL sets up captive power plant

Exhibit 13: Financial Performance of MCFL



Note: * For fifteen months; There was an income of ₹ 1359.81 million from adjustment under revival scheme in the year 1999-00 which is not included in the figure above.

Exhibit 14: MCFL: Financial Performance in last ten year (Unit: ₹ 100,000)

	1999-2000	1998-99	1997-98	1996-97	1995-96	1994-95	1993-94	1992-93	1991-92
Profit and Loss Account									
Sales	61565	52011	45160	31273	21933	21820	16411	20778	22427
Other Income	297	179	166	84	41	283	449	410	636
Interest	81	2214	2038	2020	2051	2123	2192	2369	2149
Depreciation	2177*	836	815	750	731	696	657	766	738
Net Profit/(Loss)	3484	3023	1733	18**	-2129	-3652	-5706	403	-1475
Balance Sheet									
Fixed Assets	11091	10199	9526	9198	8963	9406	9346	9132	9379
Net Current Assets	10746	16486	12031	8592	7627	8235	10295	13603	11326
Misc. Expenses & Accumulated Loss	0	15365	18388	20121	20139	18009	14375	8507	8928
Total	21837	42050	39945	37911	36729	35650	34016	31242	29633
Share Capital	10336	10336	10336	10336	10336	10336	10336	10155	10155
Reserves and Surplus	1734	17	17	17	17	17	17	17	17
Loan Funds	9767	31697	29592	27558	26376	25297	23663	21070	19461
Total	21837	42050	39945	37911	36729	35650	34016	31242	29633
Significant Financial Ratios									
Return on average capital employed (%)	14.70	21.71	19.17	10.87	-1.97	-0.78	-4.61	4.07	3.15
Operating Profit to Sales (%)	8.84	11.33	9.79	8.10	1.61	1.22	-4.68	5.96	3.32
Current Ratio	1.79	1.76	1.53	1.42	1.39	1.43	1.55	2.25	1.60
Quick Ratio	1.32	1.21	1.01	0.65	0.87	0.94	1.15	1.77	1.19
Sundry Debtors to Sales (Months)	1.70	1.30	0.65	0.49	1.82	1.06	1.24	2.02	1.78
Inventory of finished goods to Sales (Months)	0.11	0.47	0.74	2.0	0.48	0.69	0.51	0.60	1.24

* Includes ₹123 million short provided in earlier years (Plant and machinery ₹. 122 million, Cranes and Locomotives ₹. 0.9 million)

** Includes prior year adjustment towards insurance claim (profit) ₹. 17.025 million

Exhibit 15: Organization Chart