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CFL in the Service of Farmers

CFL's success story during the last four decades of service in fertiliser industry is characterised by its close association with farming community, in terms of supply of quality fertilisers supported by strong and consistent market development system. The farmer's welfare is inbuilt in the company's plans and objectives.

CFL marketing dapartment team comprising of experienced and qualified personnel are committed to ensure that a large section of farmers in its addressable markets receive its products bundled with an appropriate package of services required for better farming and increased productivity.

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AGRICULTURE CONTINUES TO BE THE backbone of Indian economy. It accounts for 21% of our GDP. About 58% of India's population is directly or indirectly employed in agriculture. Keeping in view, the conservative population estimate of 1.4 billion by the year 2025, the country needs to produce at least 300 million tonnes of foodgrains.

The Indian farming community is facing a multitude of problems to maximise crop productivity. In spite of successful research on new agricultural practices concerning crop cultivation, majority of the farmers arc not getting higher yields due to several reasons. One of them is that expert/scientific advice regarding crop cultivation is not reaching the farming community in a timely manner. It is true that lndia possesses valuable agricultural knowledge and expertise. However, a wide information gap exists between research and practice. Indian farmers need timely expert advice to make them more productive and competitive.

Indian agriculture is facing three types of problems in nutrient management, viz., under use, over use and incorrect use of fertiliser.

Soil health, nutrition and productivity are the key to the sustainability of agriculture. Helping farmers to enhance their knowledge on crop production is necessary to improve productivity. This is particularly relevant in the context where the total land available for cultivation is either stagnant or coming down in area due to urbanisation.

Fertiliser industry is obliged to play a major role in transferring technology from lab to land as the prosperity of farmer is prosperity to the Industry.

COMPANY PROFILE

COROMANDEL FERTILISERS LIMITED (CFL) incorporated in 1964, now belonging to Rs. 6200 crore Murugappa Group. is a leading company in India manufacturing a wide range of fertilisers and pesticides (technical and formulations).

Along with associate company Godavari Fertilisers and Chemicals Ltd.. CFL markets around 2.2 million tonnes of phosphatic fertilisers making it a leader in its addressable markets and the second largest phosphatic fertiliser player in India.

Corornandel Fertilisers Ltd has multi-location production facilities and markets its fertiliser products in Andhra Pradesh, Tamil Nadu, Karnataka, Orissa, West Bengal, Madhya Pradesh and Chhattisgarh states.

The company is known for fostering a climate of high performance and continuous improvement. The Company also has strategic partnerships with leading companies across the globe. Voted as one of the ten greenest companies in India, reflects the company's commitment to the environment and society.

Visakhapatnam (Andhra Pradesh) Plant

Commenced production in the year 1968. Ever since it went on stream, the facility has pioneered several initiatives aimed at improving product quality, productivity, industrial safety and environment protection.

The present capacity of the plant is 8.50 lakh tonnes of complex fertilisers and Gsulphur (Bentonite sulphur pastilles).

- First in India to install a large sulphuric acid plant based on DCDA technology to control sulphur-di-oxide emission
- First in India to successfully implement modem anodically protected acid coolers in the sulphuric acid plant, replacing conventional trombone serpentine coolers.
- First in India to install a terminal for handling molten sulphur, which is environrncnt friendly, safe, conserves energy and thus minimises pollution.
- First in lndia to install a state-of-the-art screw type ship unloader for handling fertiliser raw material at its captive jetty.
- First in lndia to manufacture Bentonite sulphur pastilles to provide nutrient sulphur to the deficient soils.

Fertiliser products manufactured at Visakhapatnam

Fertiliser grade	Product
1. Gromor 28-28-0	Urea ammonium phosphate
2. Gromor 14-35-14	NPK complex grade
3. Gromor 20-20-0-13	Ammonium phosphate sulphate
4. Gromor 10-26-26	NPK complex grade
5. Gromor sulphur pastilles	Bentonite sulphur (90%elemental sulphur)

Ennore (Tamil Nadu) Plant

Commissioned in 1963, the compound fertiliser unit at Ennore was the first integrated complex fertiliser factory in the private sector. The present capacity of the plant is 2.25 lakh tonnes of complex fertiliser.

♦ Plant implemented process safery managementsystem (PSMS) as per OHSAS standards.

4 Received ISO 14001 (for environment friendly operations) by Det Norske Veritas (DNV), Netherlands.

♦ Won Fertiliser Association of lndia (FAI) awards for the second best phosphatic complex producer for 1982-83, 1983-84, 1986-87 and 1987-88.

♦ Adjudged one of the best energy efficient units in the state 1998-99.

♦ Won FAI best productivity award for phosphoric acid production for 1999-2000.

Fertiliser products manufactured at Ennore plant	
Fertiliser grade	Product
1 Paramfos 16-20-0-13	Ammonium phosphate sulphate
3 Parry gold 20-20-0-13	Ammonium phosphate sulphate

Ranipet Plant (Tamil Nadu)

First fertiliser plant in lndia, set up in 1906 manufacturing bone super and Superphosphate. Mechanised plant for manufacture of single superphosphate commissioned in 1954.

Fertiliser products manufactured at Ranipet plant. Present capacity 1.25 lakh tonnes of SSP	
Fertiliser grade	Product
1 Parry super	Single superphosphate

PROMOTIONAL PROGRAMMES

STARTING FROM 1970 CFL'S EXTENSION activities focused on promoting the right use of fertiliser for achieving better harvests.

1. Audio Visual Vans

CFL is the pioneer in using audio visual vans in their extension work to visually show to the farmers the advantages of using fertilisers for increasing their crop yields. AV vans were introduced in AP, Orissa and Madhya Pradesh as early as 1975 to extensively travel in rural areas to interact with farmers as well as to show films highlighting the advantages of using fertilisers on different crops.

The farmer education programme is focused on promoting N, P and K application for achieving optimum yields.

The AV van campaign is being continued more effectively with a fleet of AV vans having latest equipment and public address system in AP, Kamataka, Orissa and West Bengal.

Soil test equipments are provided to all the AV vans to provide soil analysis results and suitable fertiliser recommendations to the farmers instantaneously.

Some more AV vans with mobile soil test equipment are planned to be introduced from the next *Kharif* season in Tamil Nadu, Karnataka and AP.

CFL produced crop-wise product films to promote balanced fertiliser use concept. Some of the films also convey social message for improving the knowledge of farming community importance of adult education, balanced diet for children to avoid night blindness, importance of vocational farming like poultry, dairy far generating additional farm income, etc.

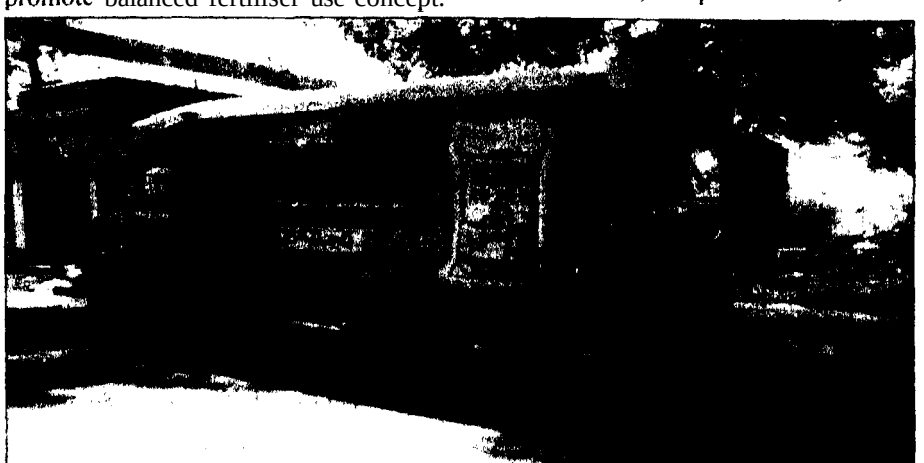
Impact of the programme : Each AV van covers a minimum of 1000 villages in a year and many farmers have benefited out of watching video films highlighting importance of balanced nutrition, correct time and method of application. Social messages like importance of adult education, vocational farming and balanced diet for children given in the story line of the product films improved the awareness of the farmers on these aspects.

The AV van in-charge, a qualified agricultural graduate or post graduate interact with the farmers and clarify their doubts on wide range of agricultural related subjects and contributes to improving the quality of farming.

Soil analysis results were explained in detail to the farmers and proper fertiliser recommendations are provided. Suitable reclamation measures are suggested for correcting problem soils.

2. Long-term Village Adoption

CFL started this programme during 1970 in 200 villages located in Srikakulam. Vizianagaram, Nalgonda, Cuddapah and Guntur districts of Andhra Pradesh to promote the usage of proper chemical fertiliser application. Results/method demonstrations, crop seminars, field



Audio visual van

visits by scientists. soil testing were organised in the adopted villages to transfer the technology to the farming community for their development.

Retired village development officers or qualified persons were positioned in the villages to constantly interact with the farmers and to provide farm solution in coordination with nearby research stations and department of agriculture offices.

Impact of the programme: Due to the continuous availability of CFL person in the villages, farmers were able to get solutions for their day-to-day agricultural problems like pest and disease incidence, fertiliser non-availability, nutrient deficiency, etc. Periodical crop seminars, field visits, harvest meets organised in collaboration with agricultural scientists/ dept. of agriculture personnel improved farmers knowledge on improved farming practices.

Demonstrations conducted on soil analysis based nutrient application proved the advantages of adopting balanced nutrition for achieving optimum yields and conserving soil health.

3. Village Agricultural Training Campaign

The campaign was initiated by CFL during 80s to promote the usage of balanced nutrient application and proper pest management for achieving optimum yields. The programme was organised in 150 villages located in East Godavari, West Godavari, Warangal, and Cuddapah in Andhra Pradesh, Sambalpur, Bargud districts of Orissa.

Crop-wise demonstrations on soil test based balanced fertiliser application, farmer training programme in research stations, field visits by the scientists, crop seminars in the villages were organised extensively to educate the farmers on the concept. The programme was continued in different villages till 1998.

Impact of the programme: Farmers benefited out of the activities done by CFL to improve their cultivation knowledge. Continuous interaction with the scientists and department of agriculture officials through field visits and farmers meets organised hy CFL employees bridged the gap between farmers and the research agencies.

4. Maximum Yield Approach Programme

The programme was started during 1990 in East Godavari, West Godavari, Warangal, Karimnagar. Nalgonda districts of Andhra Pradesh with an objective of educating the farmers on the benefits of adopting integrated management practices in agriculture for obtaining maximum yields.

The programme was organised in collaboration with Potash Phosphate Institute of Canada (PPIC) and all the soil samples for the demonstration plots were analysed by PPIC at USA and the nutrient recommendations were given to the farmers for achieving higher productivity.

Selected farmers were given foundation seed of HYVs for multiplying in their fields and for the use of all the village farmers as seed material next season.

Impact of the programme : The importance of correcting secondary and micronutrient deficiencies in their soils along with NPK for achieving higher productivity was highlighted during the programme period. Farmers realised the importance of need based pest management and the ill-effects of indiscriminate pesticides use.

5. Soil Sample Campaign

During summer months of April-June CFL promotion team runs the campaign in the villages to collect soil samples and provide free analysis results to the farmers in time.

The campaign is done in all the states to encourage the farmers to adopt soil analysis based balanced nutrient application. Every year around 10,000 samples are collected from the farmer fields to arrange for their analysis either at our soil testing lab located in Visakhapatnam plant premises or in the nearby government labs.

From the year 2004-05 CFL started providing soil analysis equipment to the audio visual vans. By the year 2005-06 all AV vans are fitted with soil analysis equipment and the AV vans are geared up to analyse samples during the off season months for providing immediate results to the farmers.

Apart from mobile vans with soil testing facility, CFL has a soil testing lab at Visakhapatnam plant (5,000 samples analysis capacity). Soil samples collected from the villages are sent to the lab for analysis and fertiliser recommendation.

Impact of the programme : Farmers interest in getting their soils analysed improved substantially as the results were made available immediately and explained to them during mobile soil testing campaign.

Agricultural training programme

6. Project Trainee Campaign

The programme was initiated during the year 2002-03 in Andhra Pradesh, Tamil Nadu states to improve the intensity of farmer contact on a continuous basis during the crop period.

The objective of the campaign is to educate the farmers on the right use of Gromor fertilisers for getting optimum benefit.

The project trainee is responsible for meeting the farmers of 12-15 villages cluster, on a continuous basis throughout the crop period. He stays in the village and travels on a company moped. He ensures that product is available at the right time in all the dealer points of his cluster. He organizes soil sample analysis, field visits by the dept. of agriculture personnel to provide farm solutions to the farmers.

Impact of the programme: This campaign with project trainees was a huge success in building rapport with the farming community and winning their confidence by providing prompt solutions to their agricultural problems.

Programme was extended to Orissa and Karnataka states and presently is being implemented as a major extension activity by CFL to keep in touch with the fanning community and a tool for transferring latest farm technology to them.

7. Green Leap Project

The project is for increasing the per hectare productivity and fertiliser consumption. The project was taken up by CFL in the year 2004-05 with an objective of working with the farmers of identified low fertiliser consumption-low crop productivity areas to transfer the improved agricultural technology for raising the productivity levels of the crops grown in those areas.

Pilot project was run during 2004-05 in 100 villages of Srikakulam district of Andhra Pradesh. Farmers were educated on soil analysis based balanced nutrient application, adoption of high yielding varieties, integrated management practices, integrated pest management. use of organic manures along with correct use of chemical fertilisers to increase their crop productivity.

Major results

- Consumption of fertilisers per hectare increased by 12 kg – 85 kg/ha to 97 kg/ha.
- Higher yield and higher net income in demo plots.
- Share in complex fertilisers increased
- Share of urea in N decreased - shift towards more balanced application of nutrients.
- Fanners awareness on the importance of soil analysis for balanced nutrient application improved.

Comparison of results in demo plot vs. control plot		
Parameters	Control	Demo.
Cost of cultivation (Rs./acre)	4730	5350
Yield recorded (quintal/acre)	13-15	18-20
Gross returns	9000	11700
Net returns	427C	6350
Net cost : benefit ratio		1:4.35

Change in NPK consumption		
Parameter	2003-04	2004-05
NPK consumption/ha	85 kg	97 kg
Net returns Rs./ha	10675	15875
NPK ratio	6:2:1	4:2:1

The project is presently being implemented in 577 villages of low productivity in Andhra Pradesh and Orissa.

Impact of the programme: Farmers acquired knowledge on right nutrient management for increasing their crop productivity. They were educated on the disadvantages of indiscriminate usage of nitrogen and pesticides. They have gained knowledge on improved management practices and successfully adopted them to increase their yields.

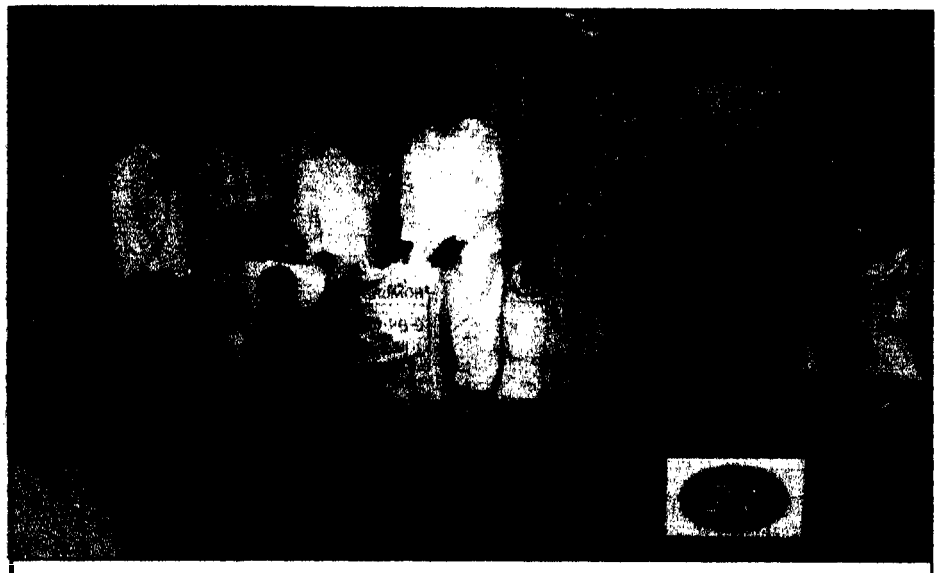
Demo plot in 'green leap project' area

8. Cheyutha Project

Cheyutha (helping hand) was an initiative taken by Coromandel Fertilisers Ltd., (CFL) during the year 2004-05, in its endeavour to help the farming community in receiving quality fertilisers and plant protection chemicals on time and directly from the factory.

Fanners living in the villages which are away from towns and fertiliser markets are incurring additional expenses on account of transport of fertilisers and also facing a lot of difficulties in getting required grades on time and on transport facility especially during rainy season.

Self Help Groups (SHGs) of rural women. Rythu Mitra Groups (RMGs) and Farmer



Fertiliser distribution through self help groups

clubs are so far not directing their resources towards the supply of farm inputs to their village farmers. They are looking for business opportunities to generate additional income and improve their livelihoods.

The *Cheyutha* project is aimed at mitigating some of the difficulties faced by the farmers and providing business opportunity to the SHGs, RMGs and farmer clubs. These groups (SHGs, RMGs, farmer clubs) are chosen as an alternative channel to meet the *Cheyutha* project objective of delivering fresh fertiliser material on time, directly from the factory to the door steps of the farmers.

CFL has appointed village level Self Help Groups (SHG) promoted by District Rural Development Agency (DRDA). Kythu Mirra Groups (RMG) supported by Department of Agriculture. Andhra Pradesh and farmer clubs promoted by NABARD as their dealers authorised to sell CFL products. Services like free soil testing, training on improved crop technology are offered to *Cheyutha* dealership villages for improving crop productivity.

Results and progress: Several district collectors in AP appreciated the project and advised the Department of Agriculture to propagate the concept by encouraging farmers to adopt this channel as a means to gel their required farm inputs. The project has received very good success.

CFL produced a video film with an aim to motivate men and women folks in the villages who are members of SHGs and RMGs to take up fertiliser dealership from CFL to serve the farming community. It portrays the objectives of the project, methodology to be followed for obtaining dealership and doing fertiliser sales. It won I'" prize from FAI video film award 2005.

Introduction of Gromor Sulphur Pastilles

Presently sulphur is recognised as the fourth major plant nutrient, considering the increasing deficiency in many districts of India. Many crops require sulphur in quantity as much as phosphorus. Sulphur plays a major role in plant's photosynthesis, protein synthesis, improving oil content and influences the quality of output.

To enable the farmers to correct the soil sulphur deficiency and reap higher harvests, CFL has introduced Gromor Sulphur (bentonite sulphur containing 90% elemental sulphur). The product is indigenously manufactured for the first time in India by CFL and product is successfully introduced in AP, Orissa. Tamil Nadu, Karnataka. Punjab, Haryana, Madhya Pradesh. Chhattisgarh and Uttar Pradesh as a sulphur fertiliser.

Impact of the product usage : Many farmers have reaped higher yields better quality output in many crops like sunflower, Bengal gram, groundnut, sesamum, mustard, potato, paddy, wheat, soybean, sweet orange, castor, cotton and chilly.

Farmers have observed visible symptoms like greenness of the crop, higher tiller formation. increase in seed/ grain/lint/fruit weight and quality after applying Gsulphur to their fields.

Ongoing programmes

Programme	Objective	Implemented in
1. Project trainee campaign	To promote balanced nutrient application along with Gromor product	Andhra Pradesh, Orissa, Tamil Nadu, Kamataka
2. Green leap project	Transfer necessary technology and increase/ ha fertiliser application to increase the per/ha productivity	Andhra Pradesh, Orissa
3. AV van promotion and soil testing campaign	To promote soil analysis based NPK and S applka- tion in terms of Gromor/Parry products	Andhra Pradesh, Orissa, W. Bengal Karnataka, Chhattisgarh
4. Product literature / posters	To promote the right use of fertilisers	For all states in regional languages
5. Farmer meeting/crop seminars	Transfer of technology and promotion of balanced nutrient application	AP, Tamil Nadu, Karnataka, Orissa, West Bengal, Chhattisgarh
6. Production of video films	To promote right use along with social message	For ail the AV vans in regional languages

SUGGESTIONS AND FUTURE STRATEGY

FUTURE STRATEGY OF CFL IS TO concentrate on improving the farmer services and contribute to the well-being of the fanning community. CFL is planning to increase the services like soil analysis (primary and micronutrients), improving the efficiency of AV vans as a tool in providing farm solutions, improving the efficiency of project trainees in their role as a bridge between the organisation and the farmers.

To scale up the projects like *Green* Leap and *Cheyutha* to benefit the farmers, all the extension activities are primarily aimed at simultaneous transfer of farm technology to ensure higher sales of CFL products as well as Fertility to fields – ***Profits to farmers.***

Following are the areas of concentration:

1. Soil sample analysis and fertiliser recommendations.
2. Farmer education programmes.
3. Secondary and micronutrient promotion.
4. Balanced nutrient promotion.
5. Increase in productivity through optimum fertiliser consumption and adoption of improved management practices in identified areas.

CONCLUSIONS

INDIAN AGRICULTURE IS STILL FACING A multitude of problems to maximise productivity. Due to several reasons, the majority of the farming community is not getting upper bound yield despite successful research on new agricultural practices by inventing new crop varieties, crop cultivation, nutrient management and pest control techniques. One of the reasons is that the appropriate and timely scientific advice about farming is not reaching the farmers.

In the post-WTO environment, Indian farmers have to gear up and improve the quality and quantity of their output to meet the challenge. Our industry which is closely associated with farmers need to reorient its strategy and commit to the national cause of making all the available technology to the doorsteps of the farmers and help them to raise the quality of farming and meet the increasing demands of food production. Needless to mention here is the fact that the prosperity of the farming community and its well-being directly influence our industry's growth and bottom line.