

DFPCL in the Service of Farmers

Deepak Fertilisers and Petrochemicals Corporation Limited (DFPCL) since its inception has been striving to produce quality products and offer value added services for the benefit of the farming community. Besides a complete range of products in nutrition management, DFPCL has realigned its strategy in providing complete agri-solutions to the farmers at their doorstep thus giving rise to a new concept of *Mahadhan Sparshile* through which company aims to improve farm income while strengthening the brand equity.

K.V. NAYAK
Deepak Fertilisers and
Petrochemicals Corporation Ltd.
Opp. Golf Course, Shastri Nagar
Yerawada, Pune - 411 006

FARMERS FORM AN INTEGRAL PART OF agri-input marketing cycle, because they are the end customers of products and services offered by the manufacturer. Dealers as the channel partners form a vital link between the manufacturers and the farmers in the supply chain. In recent times the fertiliser market has opened up new challenges due to the partial decontrol. The farmer has now wider choice to select products based on his crop requirements, and the dealer has the advantage to offer more products to the farmers. In this whole process the manufacturer has an important role to play, that of a guide for providing him service at right time rather than being only an input supplier. If that is followed in true letter and spirit, any quality product and service will flourish on its own merits and strengths.

ABOUT DEEPAK FERTILISERS

THE DEEPAK GROUP OF INDUSTRIES WAS set up in 1970. DFPCL grew by leaps and bounds, surpassing expectations of all investors and also won many prestigious awards like the Sir P.C. Ray award, for being the best Chemical Industrial unit in India.

In 1983, DFPCL started commercial production of ammonia at the plant located at Taloja near Mumbai using natural gas as feedstock. This marked the fulfillment of a need for lateral integration into the world of basic building block chemicals, premium fertilisers and petrochemicals. The International Finance Corporation initially supported this venture of Deepak group in the form of equity participation in DFPCL. DFPCL undertook major

expansion and diversification in 1989 to achieve forward integration and in July 1992 commenced commercial production of Nitrophosphate (NP) and other products.

DFPCL manufactures prilled Ammonium Nitrophosphate 23:23:00 grade of fertiliser using the world's finest know-how and technology from Stamicarbon, which guarantees consistent, high purity nitrophosphate fertiliser. The annual production capacity of nitrophosphate plant is 2.29 lakh tonnes. The nitrophosphate brand Mahadhan Power 23:23:00 grade has redefined quality norms, technology strengths and services levels in the market place. High water solubility and N in ammoniacal and nitrate forms, ensure both quick and slow release nutrients to the plant. Over the years it has gained tremendous popularity in terms of farmer's acceptance and belief.

Considering the limitations in producing large volumes of nitrophosphate fertiliser, as an alternate growth strategy, DFPCL added a wide range of plant nutrient products which include various micronutrient products and water soluble speciality plant nutrients which are marketed under the Mahadhan Kranti and Mahadhan Amruta brands respectively to meet demand of high-end customers of horticulture and vegetables crops.

DFPCL also imports and trades other fertilisers like MOP and DAP under Mahadhan Potash and Mahadhan Chetak brands respectively. Considering the preference and demand for crop

specific fertiliser mixtures in the operational area, it also started trading of various fertiliser mixtures under the Bhoodhan brand. DFPCL also has domestic trade tie-ups for marketing of single superphosphate and ammonium sulphate marketed under the brands Mahadhan Super and Mahadhan sulphate, respectively.

FERTILISER MARKETING NETWORK

THE OPERATIONAL TERRITORY OF DFPCL includes the home market of entire Maharashtra and parts of south Gujarat and North Karnataka. The company has four area offices in Maharashtra strategically located at Pune, Nasik, Aurangabad and Akola. The Gujarat and Karnataka operations are managed by the area offices located at Surat and Hubli respectively. Each area office takes care of all marketing operations in the assigned territory from planning, budgeting and implementing the marketing plan based on the corporate marketing strategies with respect to local marketing environment.

The various agricultural extension activities (Tables 1-3) undertaken by DFPCL to educate and service the farmers and dealers are summarised below.

Crop Seminars / Farmers Meetings

To educate the farmers and to provide a platform for one to one interaction with the agricultural experts, seminars are organised on crop management practices on the crops generally grown in that locality. This helps the farmers to interact with the crop experts directly to find solutions for the problems faced by them. About 20 crops



Farmers' meeting

Table 1 - Market development activities of DFPCL during last 3 years

#	Farmer education activity	Number of activities		
		2002-03	2003-04	2004-05
1.	Crash sales programme	182	203	231
2.	Bazaar days	266	203	243
3.	Cooperative meetings	35	29	35
4.	Local krishi melas	29	26	35
5.	Soil testing camps	50	45	46
6.	Organised farmers meetings	240	298	347
7.	Demonstration site meetings	40	53	61
8.	Crop seminars	19	17	21
9.	Half acre demonstrations	422	520	597
10.	Sub-dealer training programmes	21	33	45
11.	Field assistant/farmer training programmes	11	26	32
12.	Mahadhan customer day	32	33	35

Table 2 - Amount spent on market development during last 3 years

#	Activity	Amount in Rs lakhs		
		2002-03	2003-04	2004-05
1.	Crash sales programme	10.28	11.41	14.67
2.	Bazaar day and folk shows	0.90	1.05	1.43
3.	Co-op. meeting	0.64	0.46	0.63
4.	Local exhibition	0.55	0.68	0.78
5.	Soil testing programmes	3.20	3.89	3.45
6.	Farmers meet	0.97	1.19	1.27
7.	Demonstration site meeting	0.25	0.33	0.33
8.	Crop seminar	1.43	0.60	1.24
9.	Half acre demonstrations	0.53	1.93	0.53
10.	Sub-dealer/ farmer training programmes	2.15	0.48	0.60
11.	Mahadhan customer day	0.35	0.47	0.56
12.	Mahadhan farmers magazine	4.50	4.85	4.49
13.	Study material for board students	0.35	0.45	0.41
14.	Video on wheels	4.50	5.60	6.25
15.	Direct mailing	0.36	0.45	0.40
16.	Technical literature distribution	2.50	3.92	4.25
	Total expenses	33.46	37.76	41.50

seminars are organised annually.

The product **promotion**, interaction with farmers at village level are done by the marketing personnel. A detailed **briefing** is provided to the **farmers** gathering about the products and services of DFPCL. This helps as a **forum** for feedback about the **strengths** and **weaknesses** of the products and services offered to the farmers by the company.

Half Acre Demonstrations

Field demonstrations are conducted at the farmer's fields to demonstrate the effectiveness of soil test based efficient and balanced use of **fertilisers**. During the period 2002 to 2004 more than 500 such demonstrations were conducted by **DFPCL** to educate the farmers about the benefits of soil test based fertiliser application.

To strengthen the concept of 'seeing is believing', farmers meetings organised at demonstration sites to show the visible effects of soil test based fertiliser application. This creates direct **impact** on farmers. Annually about 30 such site meetings are organised by the field executives.

Local Krishi Melas

Participation in krishi melas and agricultural exhibitions targets a large number of farmer gatherings at district and state level. The farmers get the advantage of easy access to the products and services offered by the organisation.

Farmer Magazines

Marathi farmer magazine **Mahadhan Shetkari Mitra** is published every quarter and mailed to over 15000 farmers in Maharashtra. The farmers gets the information on the latest research, valuable tips on crop **management** practices and post-harvest technology at his doorstep.

Dealer Magazines

A quarterly bi-lingual newsletter for dealers titled **Mahadhan Dealer Mitra** reaches more than 1200 DFPCL dealers in its operational area. This aims to communicate the updates on the

Table 3 - Per field executive activity ratio of DFPCL

Sl. No	Particulars	Number	Activity/person ratio
1.	Market development activities	510	16
2.	Villages covered	4478	140
3.	Farmers contacted	386564	12080
4.	Dealers covered	1909	60
5.	Sub-dealers/coop. societies covered	3659	114
6.	Film shows organised	1608	50
7.	Literature distributed	430284	13446
8.	Soil samples collected	9384	293

developments in the organisation, new products and services offered by DFPCL and answers the queries of the channel partners.

Farmer Training Programme

The farmers of a selected village are given training on importance of soil testing, judicious use of fertilisers, crop protection measures, weed management, post-harvest technology, etc. About 20 such programmes are conducted every year.

Bazaar Days

Bazaar days aim to promote the products and services to small gathering of farmers on a specified day. Display of products is organised during the Bazaar days and this creates lot of awareness among the farmers and help to generate groups of interested farmers for the products offered by the company.

Mahadhan Customer Day

The third Friday of June every year is observed as Mahadhan Customer Day. Considering the importance of customer service, every employee of the fertiliser marketing division make visits to dealers and farmers on that day every year.

Balanced Fertiliser Use Campaign through Soil Testing Services

Though soil testing programmes in India dates back to early 70s, farmers are still reluctant to make judicious use of fertilisers based on soil test reports due to the reasons like untimely receipt of soil

test reports, inability to understand the report and the recommendation and non-adoption of fertiliser recommendations by them. With the result the impact of soil-testing services provided by government agencies as well as private sector organizations is not felt to the extent desired. Farmers are still unaware of the role of micronutrients in crops as most of the analysis reports reveal only the NPK status of the soil.

To overcome the above bottlenecks and to promote the concept of optimum, efficient and balanced fertiliser use to crops, DFPCL has linked the soil-testing programme with necessary advisory

services also. DFPCL has established a well-equipped soil, water and tissue analysis laboratory for testing major as well as micronutrients at Pune. This lab analyses the samples collected during soil testing camps of two days duration organised by its marketing team throughout its marketing territory. About 60 such camps are organised during every year to generate about 9000 soil samples.

Complete soil testing services are offered on chargeable basis to the farmers, because it is strongly felt that farmers don't value the soil test report when such services are offered free of cost to them. The soil samples analysed for the last 5 years have been depicted in Figure 1, which represents the soil samples inflow for last 5 years. During the year 2004-05, there was decline in sample inflow due to commercialisation of laboratory services.

Sulphur Demonstrations

Sulphur deficiency is becoming widespread in the alkaline calcareous soils of Maharashtra, as is being confirmed by many researchers. Application of Sulphur as an essential nutrient along with N, P and K became imperative, owing to high consumption of sulphur free fertilisers. Application of elemental sulphur has proved to be more effective on alkaline



Soil sampling

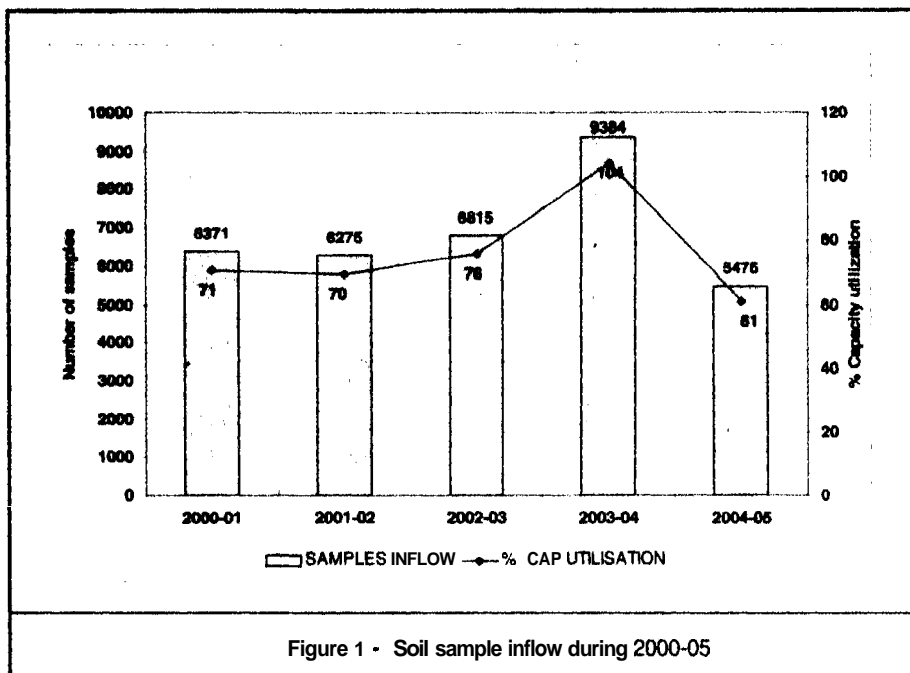


Figure 1 • Soil sample inflow during 2000-05

and calcareous soils as compared to other sources like gypsum, SSP, etc., which tend to add more calcium to such soils, thus rendering them less productive over a period of time.

DFPCL conducted 169 multi-location, multi-crop two plot demonstrations on elemental sulphur in pastille form (Elemental sulphur coated with suitable swelling agent) during the period from 1997-2001 at the farmers' fields. These demonstrations were carried out on two-plot design of half acre each keeping one as control (only NPK) and other as treated (NPK+S). Doses of sulphur were applied as per the crop recommendations given by The Sulphur Institute (Washington DC). These demonstrations were monitored from time to time and yield data were collected at the end of the season. The data on crop-wise response in terms of yield increase as well as cost:benefit ratio are presented in the Table 4. There was significant impact of sulphur application which can be observed from the table where in the sulphur incorporation has yielded 3 to 33% over that of the demonstration without sulphur application.

Crop Specific Video Films

Media plays a vital role in product

promotion, especially for products and services that require concept selling. In order to promote the use of sulphur and water soluble fertilisers among the farmers, DFPCL produced video films on *Importance of Sulphur as a Fourth Major Nutrient* and efficient use of water soluble fertilisers titled *Draksh Nighali London La* which in Marathi means *Grapes destined for London*. DFPCL received FAI appreciation and got best video film award for both these films.

Apart from the above, crop management multimedia, CDs on cotton, soybean, sugarcane and onion were produced in local language for educating the farmers about the best technology for cultivating such crops. The CDs also provides experiences of many successful farmers and valuable inputs from eminent agricultural scientists.

MAHADHAN SAARRTHIE FARMER SERVICE CENTRES

MOVING BEYOND SELLING BULK fertilisers. DFPCL has plans to expand into the total nutrients management segment, by strengthening its core abilities in techno-commercial research-based services. DFPCL now plans to focus on servicing the holistic needs of farmers that will be soil and plant specific. These comprise nitrogenous, phosphatic and potassic fertilisers, secondary nutrients, micronutrients, trace elements and 100% water-soluble fertiliser products. These will be provided alongside holistic offers integrated with techno-commercial services to ensure higher yields and thus profitability for Indian farmers. Other than N, P and K, the rest of the sector is deregulated and thus market efficient.

During last one year DFPCL has realigned its marketing strategy from being only in fertiliser business to be a complete nutrient management solution

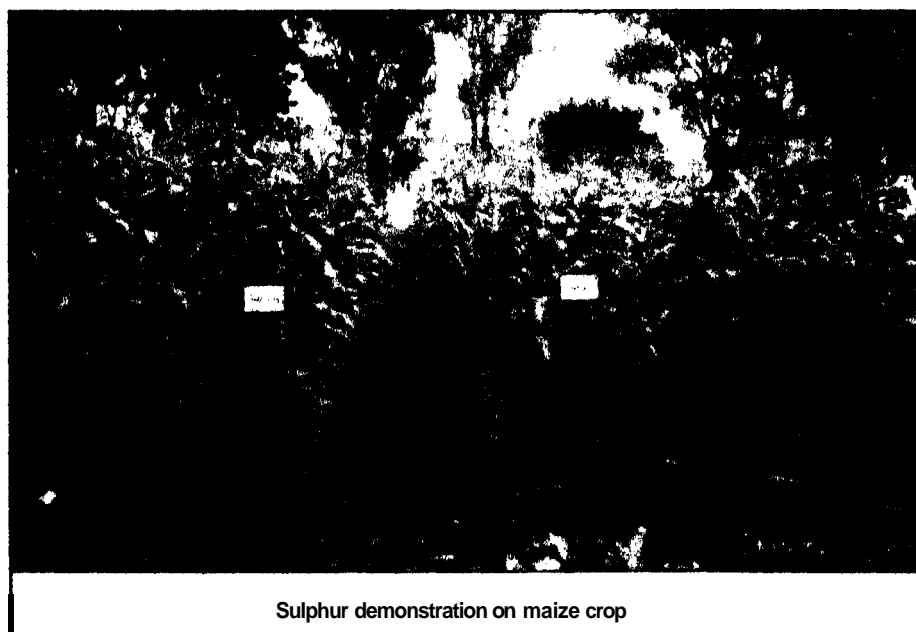


Table 4 - Response of pastille sulphur on various crops on farmers fields
(Mean of different demonstrations)

Crop group	Crop	Number of demos.	Yield without S (kg/acre) NPK	Yield with S (kg/acre) NPK +S	Increase in yield		Cost:benefit (Rs/lite)
					Per cent	kg/acre	
Cereals	Paddy	42	2432	2674	9.95	242	5.31
	Wheat	13	967	1154	19.34	188	2.94
	Maize	1	2200	2500	13.64	300	5.04
	Sorghum	1	1000	1333	33.30	333	10.66
Oilseeds	Groundnut	27	725	936	29.10	211	4.11
	Soybean	5	870	980	12.64	110	2.19
	Sunflower	3	337	440	30.56	103	2.89
	Castor	2	1017	1147	12.78	131	4.97
	Mustard	1	640	723	12.97	83	1.59
Vegetables	Onion	19	7110	7670	7.88	560	3.99
	Cauliflower	6	2700	3033	12.33	333	3.66
	Cabbage	4	13130	15290	16.45	2160	21.71
	Capsicum	2	2700	3033	12.33	333	3.66
	Chilli	1	1200	1500	25.00	300	3.18
	Tomato	1	56000	60000	7.14	4000	24.00
Cash crops	Potato	3	4907	5817	18.55	910	5.18
	Sugarcane	21	28223	32448	14.97	4225	4.51
	Cotton	8	586	660	12.62	74	3.05
	Tobacco	4	984	1085	10.26	102	10.10
	Grapes	3	15433	15920	3.16	487	6.31
	Banana	2	18600	23650	27.15	5050	20.91

Source : (4)

provider to the farmers. Not only farmer should know what product to buy but also he should be aware about best technology to grow quality crops, which can fetch him the better prices in the market.

Keeping this objective in mind, DFPCL now wants to emerge as an integrated nutrient management solutions and service provider by initiating the farmer advisory- cum-service centre concept, named Mahadhan *Saarrthie*. The major objective is to maximise the return of the farmers while sustaining the soil health.

Objectives of Mahadhan Saarrthie Concept

- i) To improve soil fertility for sustainable crop production.
- ii) Bridge the existing gap between present and potential crop yields.

iii) Technology dissemination and knowledge enhancement.

iv) Provide market support through forward integration.

v) Gain farmer's trust and build relationship with various external agencies.

vi) Improve the farmers' prosperity by increasing the farm productivity.

vii) Ultimately get into purchase of farm produce for value addition directly or jointly with reputed commodity trading/processing organisations.

DFPCL plans to provide more thrust to farm advisory services in its primary operational zone on a pilot basis and then gradually extend the model to all its operational areas.

Mahadhan *Saarrthie* aims to provide total agri-solutions through soil, water,

plant testing facilities vis-a-vis complete crop nutritional management, through DFPCL's range of plant nutrient products, ultimately facilitating the farmer marketing linkage for his farm produce. The aim is to provide a complete basket of agro-solutions and techno-commercial services to ensure higher yields and thus profitability for Indian farmers.

The name *Saarrthie* literally means providing guidance and direction to achieve an objective. Each Mahadhan *Saarrthie* extension centre operates from centrally located office in a potential areal market place. To provide efficient service, each centre is managed by an Agronomist who is assisted by a team of 5-6 *Saarrthie* supervisors. They also provide dedicated services in concentrated groups of villages like soil/water/plant sample collection, crop based technical advice and market linkage services to a group of 150-200 farmers for a selected crop.

With the objective of enhancing the knowledge level of the farmers, Mahadhan *Saarrthie* centres also provide technical information pertaining to selected crops from its information kiosk through online and offline facility made available at the centre. As a support and customer service in future, it will help in facilitating crop loans and weather insurance products based on the needs of the member farmers.

All the services provided through these centres are on paid basis. A farmer will be enrolled as a member on payment of a lifetime membership fee, and will be provided a photo identity card. Services such as soil, water and plant testing will also be provided on chargeable basis. Besides this, members will also have to pay nominal charges for advisory services on crop acreage basis. Field visits and crop guidance by a panel of scientists will be a part of this service.

Each centre plans to provide services to about 900 farmers in the first year of operation and aims to bring about 1800 farmers under Mahadhan *Saarrthie* umbrella. DFPCL launched two Mahadhan *Saarrthie* centres in Maharashtra State.

first one at **Manchar** in **Pune** district was launched in October **2005** by Dr. S.K. **Goel**, Commissioner of Agriculture, Maharashtra and the second one in Sangamner in Ahmednagar district was launched in January 2006 by Hon'ble Mr. Balasaheb **Thorat**, Minister for Agriculture, Maharashtra. The Mahadhan *Saarrthie* concept was well appreciated by them.

About 1000 farmers have already become members of this project and are deriving the benefit for both increasing productivity, fetching higher returns. The experience gained from both the Mahadhan *Saarrthie* centres was really overwhelming and encouraging. On the basis of this, DFPCL plans to open more Mahadhan *Saarrthie* centres in coming year in Maharashtra and bring more farmers under the Mahadhan *Saarrthie* umbrella.

Services of Mahadhan *Saarrthie* Centres

- ◆ Soil, water, plant-testing facilities for the member farmers.
- ◆ Farm advisory through prescription, expert advice, field visits, crop guidance, panel advisory committee.
- ◆ Knowledge dissemination through audio-visual training aids, internet, etc.
- ◆ Provide marketing linkages through tie-ups with product procurement agencies.
- ◆ Facilitate in obtaining crop loans, crop insurance and weather insurance.
- ◆ Provide information about agriculture development programmes of state and Central governments.
- ◆ Video shows and education films will also be provided as part of the training and development.
- ◆ Organising fruitful field visits of experts for providing on-farm solutions to field problems.
- ◆ Organising fanner tours to the sites of successful demonstrations in the locality

or nearby demo farm of public/private institutions.

- ◆ Organising seminar/*krishi* melas for experience sharing and identification of success and failures to improve the delivery mechanism.
- ◆ Organising short-term training courses for member farmers in issue based techniques.
- ◆ Provide complete range of Mahadhan plant nutrition products through our distribution network.

Another aspect of this centre is to provide technical guidance through farmer's field visits by university experts, organising crop seminars, demonstrations on right balance of nutrition management to motivate the farmers to come and adopt the *Saarrthie* approach. The company also has plans to further enhance the scope of Mahadhan *Saarrthie* by facilitating crop loans through banks, weather insurance, farm produce buy back through contract farming system.

Impact of Mahadhan *Saarrthie* Services

Even though the Mahadhan *Saarrthie* project was officially launched in *Rabi 2005-06* season, we have initiated the field level advisory services at **Manchar** and Sangamner areas during the beginning of the *Kharif* season itself. The adoption of recommendations of Mahadhan *Saarrthie* by the farmer members has resulted in increase in potato yield (cv. Kufri Jyoti) grown for Fritolay India Limited at **Manchar** area.

In Sangamner area, there exist many soil related issues like soil deterioration due to over **fertilisation** and irrigation, nutrient imbalance, absence of INM practices and intensive **monocropping** of sugarcane. These issues are being addressed comprehensively and scientifically by the Mahadhan *Saarrthie* field team.

The Future

In today's agricultural scenario, there seems to be a major strategic shift happening in a way, that many corporates

are taking keen interest to exploit unexplored high potential rural markets. Contract farming, rural malls are becoming buzzwords, which are bound to change the face of rural India in next couple of years. Taking clue from this major shift happening in agriculture, agri-based corporates need to take lead in making agriculture a profitable business enterprise. Looking to the optimistic experiences gained through the Mahadhan *Saarrthie* centres, more number of centres will be opened in near future so as to produce quality farm produce and strengthen the export of agri-produce.

CONCLUSIONS

DFPCL IS A TQM DRIVEN COMPANY, which manufactures nitrophosphate fertiliser grade 23:23:00 and markets the same under the brand Mahadhan Power. It also trades in products like Mahadhan super (SSP), Mahadhan Potash (MOP), Mahadhan Sulphate (ammonium sulphate), Mahadhan chetak (DAP), Mahadhan kranti (micronutrients) and **amruta** (Water soluble fertilisers). These products are marketed through a chain of dealers and sub-dealers spread all over Maharashtra, and parts of Karnataka and Gujarat states. Similarly for proliferation of improved agricultural technology to the doorstep of farming community, an innovative project titled Mahadhan *Saarrthie* has been initiated in order to cater to the service needs of the farmers in Maharashtra.

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