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NFL in the Service of Farmers

Agriculture is the backbone of the Indian economy. It has been the key sector in our approach in planned economic developments. Considerable progress has been made in agricultural production and productivity. NFL is proud to have been a significant part of this developmental process. NFL her always attached great importance to the well-being of the farmers and strived to improve their socio-economic standing. Farmers Education and Agriculture Extension has been a dynamic concept with NFL and it has kept pace with the times to cater to the needs of the farmers and their aspirations. NFL stands committed to the task of fostering rural agro-economic development.

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IN THE CURRENT SCENARIO OF globalisation and the resultant removal of trade barriers, countries have to gear up to be competitive if they are to get a fair share of world trade. Again, the various dispensations under the WTO and the threat of a severe cut in agricultural subsidies will force agrarian economies like India to reshape their strategies and plans to improve agricultural production and productivity. The farming community should be motivated and helped to move over from subsistence farming to profitable ventures.

While speaking of agricultural production and agricultural productivity. the role of fertilisers and other complimentary inputs such as irrigation. high yielding variety (HYV), pesticides, etc., come to the fore. These vital elements have over the years ensured rapid growth of agriculture in the country. Among these key inputs, fertiliser forms an important component in India's developmental efforts to modernise its agriculture productivity. Fertilisers have been accorded high priority in agriculture and hence it is only appropriate that the time is now right for a stocktaking of the role played by the fertiliser industry members in the transformation of Indian agriculture and know their strengths and capabilities for elevating Indian agriculture further so as to make agricultural products globally competitive in terms of costs and quality.

In the context of northern India and the adjoining states, any discussion on agricultural development and the role of input suppliers cannot be complete without a recognition of the sheet-anchor role played by NFL in terms of supply of the much required fertilisers and at the same time in acting as a change agent in transforming agricultural operations in these parts from mere subsistence farming to profitable ventures.

NFL IN PURSUIT OF EXCELLENCE

THE MANIFOLD STRENGTHS AND capabilities of the company for carrying forward the agricultural development initiatives/efforts are presented in the following paragraphs.

NFL, a Schedule 'A' and a Mini Ratna category-I company is a leading producer of nitrogenous fertilisers and a pioneer in producing neern-coated and zincated urea in India. Since its incorporation on 23rd August, 1974, NFL has traversed a long way as a company and at present operates five urea plants located at Nangal and Bathinda in Punjab, Panipat in Haryana and two natural gas based urea plants at Vijaipur in the Guna district of Madhya Pradesh. NFL also produces biofertilisers at its Indore plant with a capacity of 100 tonnes/per annurn. Today, with an aggregate production capacity of 32.31 lakh tones of urea, NFL is the largest producer of urea in the country among public sector undertakings with a share of about 17%. It also produces various by-products and industrial chemicals. It is the first company in fertiliser industry to have its total business covered under ISO - 9001-2000 certification. The company has been receiving "Excellent" rating under MoU system for many years now.

The company has an excellent track record on the production and marketing fronts as is depicted in Table 1.

NFL's initiative in developing neem-coated urea has received good response in the market. Continuing the pioneering trend, the company has developed ihree grades of zincated urea containing 0.5%, 1.0% and 2% Zn and has started its trial production at its Nangal plant. This is indeed an example of conscious effort of the company to help the farming community in balancing soil nutrient and increasing crop production.

The supply of fertilisers and agricultural know-how flows from the company to the farmers through a well-developed chain supported by a sound marketing infrastructure. The magnitude of the task is high and difficult but for NFL has the appropriate infrastructure to enable the

Table 1 - Performance of the company

Particulars	Unit	2000-01	2001-02	2002-03	2003-04	2004-05
Production	Lakh tonnes	29.36	31.91	32.12	32.50	34.32
Capacity utilisation	(%)	93.6	99.5	99.4	100.6	106.2
Sales turnover	(Rs. in crore)	2808.74	2949.85	3653.71	3387.62	3474.06
Profit after tax	(Rs. in crore)	27.31	40.61	286.27	85.04	160.91

task is performed rather easily. The main elements in the market development infrastructure is depicted in Table 2.

FARMERS EDUCATION AND AGRICULTURAL EXTENSION SERVICES

THE OBJECTIVE BEHIND CARRYING out farmers education and agriculture extension activities is to ernphasise the scientific use of inorganic fertilisers, apply scientific package of practices and motivate the farmers for better farming, improve brand equity and promote the sale of our products.

The activities that are carried out can be grouped into following three heads :

- *Agronomical programmes*
- *Farmer educational programmes*
- *Dealer development programmes*

The main activities taken up in the above programes are:

Field demonstration: "Seeing is Believing" is the most important concept carried by the demonstration which is one of the most effective method of convincing farmers on the adoption of agricultural technology to improve crop yield and nutrient use efficiency. In the demonstration plot all the agricultural operation are carried out by the participating farmer himself in the technical supervision of NFL staff.

Demonstration on balanced fertilisation

Block demonstration: A group of 4-5 farmers are selected and demonstration on 2-5 ha area is conducted with an objective to show the impact of fertiliser use on a large scale.

Field days / Farmer meetings/Kisan club activities: NFL attaches a great importance to conduct field days and farmer meetings on the demonstration site on the farmer's field when the crop reaches to the maturity. This helps the farmers to experience the difference between recommended practice and the farmer practice. District authorities are also invited to participate in these field days. The benefited farmer on whose field the demonstration is conducted shares his experience of raising a good crop with the other fellows.

Plant protection campaigns/Tree plantation campaigns/Minikit distribution campaigns : NFL organizes variety of agricultural and social campaigns on the farmers field where farmer re educated through a method of demonstration.

Soil testing :The concept of nutrient efficiency is advocated at the farmer level, through soil testing campaigns. considering the unit price of nutrient which is increasing season after season.

Crop seminars : This is very important activity where a large number of farmers participate from number of villages. In this programme farmers are provided an opportunity to interact with the agriculture scientists, officials from banks and other agencies engaged in the agricultural development of the area.

Farmer study tour: These programmes are organised at SAUs and ICAR Research Institutes. The training is given by the faculty from the respective

Table 2 - Market development infrastructure

Zone / state	Infrastructure					
	Manpower	District offices	Area offices	Sale points	Storage points	Soil testing labs
Chandlgarh Zone Punjab, Haryana, Himachal Pradesh, Jammu & Kashmir, Rajasthan & the Union Territories of Chandigarh and Delhl	166	*28*	15	545	523	1 Static 1 Mobile
Lucknow Zone Uttar Pradresh, Uttaranchal, Bihar and Jharkhand	105	32	*12*	394	330	1 Mobile
Bhopal Zone Madhya Pradesh, Chhattlsgarh, Maharashtra, Orissa and Andhra Pradesh	121	33	13	633	972	2 Static 2 Mobile
Total	392	93	40	1572	1825	3 Static 4 Mobile

Soil testing campaign

institute. Farmers in the age group of 25-45 years are selected and a group of 40-50 farmer is imparted collective training.

The activities carried out in the last three years are given in Table 3.

Farm technology and its proper dissemination among the farmers is key to increasing farm productivity and profitability of the farmers and thereby improving the national economy at large. To achieve this goal various other agencies such as Agricultural Universities, their various Research stations and Extension centres as Krishi Vigyan Kendra, State Department of Agriculture and various other agencies engaged in research and developmental activities in the field of agriculture including NGOs and various fertiliser manufacturers, should work together.

NFL has over the years collaborated with these agencies with a view to use their expertise and render improved services to the farming community in the areas of farm management, community development and fertiliser use efficiency. The different collaborated ventures with such agencies are described below :

Collaboration with State *Government*

An Agriculture Extension Programme was carried out as a joint venture between NFL and the Deptt. of Agriculture, Govt, of Madhya Pradesh for the period April 2002 to March 2003. The objectives of this joint venture were:

a) 'So develop effective agriculture extension programme keeping local requirement in view.

b) To prepare cco-friendly crop rotations based on soil conditions, environmental condition\ and water availability.

c) To promote soil test based fertilisers recommendations.

d) To promote the use of biofertilisers.

e) To strengthen the bond between scientists and farmers.

f) To promote cooperative movement in agriculture extension.

g) Educating farmer to use IT related media for agricultural development.

h) To promote use of paid agriculture related services.

These objectives were realised through following activities:

- Arranging field demonstrations on farmer field, specially based on soil test/ organic/bio-farming.
- Upgradation of farmer skill through trainings, guided tours, crop calendars, and crop literature.
- Strengthening soil testing facilities including micronutrient and water analysis.
- Preparation of strategy for effective agriculture extension and research and its implementation.
- Establishment of infrastructure in the form of SAT.COM centres for effective and

Table 3 - NFL activities - 2002-03 to 2004-05

Activity	Year		
	2002-03	2003-04	2004-05
A. Agronomical programmes	*No*	No	No
Field demonstrations	126	71	234
Block demonstrations with bio-fertilisers	30	84	65
Field days	98	156	238
Field demonstration after soil test values	25	64	75
Field demonstration through agriculture universities	68	160	170
Farmers' meet at dealers' shop	55	106	140
Minikit distribution	2120	4270	3175
Soil testing campaign	8487	30727	29703
Special campaign in villages	10	30	50
B. *Farmer education programmer*			
Distribution of crop literature	66000	77000	183149
Farmer study visit plant/research centre/training	15	40	55
Kisan mela/exhibition	33	9	11
C. *Dealer development programmes*			
Cooperative meet	10	27	29
Dealers meetings	182	14	27
Orientation programme with dealers\farmers	14	26	44
D. Financial expenditure in lakh	*17 80*	46 09	59.10

Lenk istiation of biofertilisers on soybean

constant interaction between farmer and agriculture extension personnel.

♦ Ensuring availability of agriculture inputs through Krishi Sewa Kendra.

♦ Publicising progressive farming using various audio visual techniques.

♦ Opening joint account to receipt income generating through joint project.

♦ Placing nodal officers for execution of the project

♦ Fixing and charging service fee for some of the agriculture extension services supplied through project.

Collaboration with State Agriculture Universities

Various projects/frontline demonstrations implemented with state agriculture universities are given in **Table** 4.

Collaboration with NGOs

A pilot project on sustainable rural development in the tribal areas of Rastar district of Madhya Pradesh was launched hy the National Fertilisers Ltd. in the partnership with the Sulabh International Institute of Rural Development, Research and Training (SIIRD) in September. 1997 which has been successfully completed in June, 1999. The project taken up in ten villages of five CD blocks in Bastar carried out various programmes and created vital facilities, crucial among which are listed below:

♦ Poverty alleviation through employment generation both for tribal women and tribal youths.

♦ Providing other basic services in terms of access to adult education and functional literacy.

♦ Health and maternity care and provision of basic hygienic and sanitary services through the provision of community toilet-cum-bath complexes for men and women.

♦ Promotion and upgradation of tribal crafts and rural industries.

♦ Upgradation of farmers skills through agricultural extension, rtc.

♦ Construction of a community centre in each village which is the hub of community activities.

♦ Construction of family bio-gas units has revolutionised the life of tribals by adopting modem methods of living.

Projects Undertaken

Indo EEC Project

The project was implemented in six districts two each of UP (Etawab, Mainpuri), MP(Gwalior, Vidisha) and Rajasthan (Alwar, Bharatpur) initially and was futher extended to 10 more agriculturally backward districts of MP. The basic objective of project was to achieve increase in fertiliser consumption and its use efficiency through intensive development programmes. The duration of project was eight years and involved expenditure of Rs. 373.46 lakhs. The various developmental activities undertaken in this project were as under:

S.No.	Activity	Achievements (No.)
1.	Field demonstrations	1259
2.	Soil samples tested	34804
3.	Bio-gas plants installed	200
4.	Compost pits	1454
5.	Agro service centres	9
6.	Field days	649
7.	Crop seminars	189
8.	Kisan mela	3285
9.	Special need based campaigns	723
10.	Minikit distribution	1553
11.	Social forestry (saplings distributed)	350000
12.	Village adoption	100

Jhabua krishi mela

Table 4 - Projects with state agriculture universities

Sl.No.	Project	Objective	Area of implementation	Duration	Project cost
1.	Frontline demonstratione with neem coated urea on rice and wheat crops through PAU Ludhiina	Evaluation of neem coated urea at farmer's field. Educating farmers on the efficiency of NCU w.r.t normal urea.	Districts of Amritsar, Jalandhar, Faridkot, Patiala and Sangrur	2002-03 to 2004-05	Rs 9 lakhs @ Rs 3.0 lakh/yr
2.	Frontline demonstrations with neem coated urea on rice and wheat crops through CCU, Hissar	Evaluation of neem coated urea at farmer's field.Educating farmers on the efficiency of NCU w.r.t normal urea	Districts of Panipat, Karnal, Kurukshetra, Hissar, Sirsa	2002-03 to 2004-05	Rs 9 lakhs @ Rs 3.0 lakh/yr
3.	Evaluation of neem coated urea as source of nitrogen for different crops in Himachal Pradesh through HP Ag. University	To study the agronomic efficiency of neem coated urea on wheat-rice system	Districts of Bilaspur, Una, Dhaulakuan, Kullu and Kangra	2002-03 to 2004-05	Rs 6 lakhs @ Rs 2.0 lakh/yr

Following results were obtained during the duration of the project :

1. 40-112% increase in fertiliser consumption.

2. 93-298% increase in crops yields obtained.

3. 98-110% increase in fertiliser consumption in the rainfed and dryland agriculture.

4. Cost : benefit ratio of all the crops in adopted districts was up.

5. Cropping intensity increased from 112-156%.

6.68-70% farmers used fertilisers base on soil test recommendations.

7. 10-15% increase in knowledge index.

8.20-30% increase in awareness index.

9.20-25% increase in adoption index.

10. Household assets like farm equipment, pumping sets, cattle, radio sets and fans have increased significantly.

FUTURE STRATEGY

AS IN THE PAST, THE FARMER WILL continue to be the focus of the company's marketing strategy and corporate goals. In addition to the currently being performed activities under the farmer education and agriculture extension programmes, NFL proposes to take certain new initiatives with a view to :

- To make available a complete range of agri-inputs from a single window to the farmers.
- To undertake new value added extension programmes for soil testing aimed at providing the farmers with more comprehensive data about soil characteristics, covering primary, secondary nutrient status and trace elements, etc.

Servicing the Farmers

In addition to activities undertaken within farmer's education and agriculture extension programmes, NFL proposes to take certain new initiatives with a view to add value to its fanners' services.

1. To set up model Kisan Sewa Kendra in each state during first phase, being one stop shop to make available all agri-inputs and farmer advisory services under the same roof to facilitate farmers for agriculture extension, education and fertiliser promotion.

Target area for each KSK - 50000 to 70000 acres;

Number of fanners - 15,000 (aprox.);

Services to be rendered

i. Availability of all agri-inputs including seeds, pesticides and fertilisers;

ii. Custom hire services of agricultural implements;

iii. Soil testing facility;

iv. Farmer's advisory services;

- Latest information on agriculture;
- Farmer's interactive session with agriculture experts;
- Land use planning for cropping strategy for farmer's field based on integrated information on soil, water, weather, fertiliser and best management models;

v. Use of IT in fertiliser promotion - to set up touch screen agricultural portal Kiosks in each KSK.

- Packages and practices on major agriculture crops grown in the area.
- Mandi prices;
- Animal diseases;
- Soil fertility profile;
- Non-conventional energy;
- Information on agriculture statistics;

Ongoing programmes/projects of NFL

Sl.No	Project	Objective	Area of implimentation	Duration	Project cost
1.	Evaluation of zincated urea as a source of nitrogen on rice	To study the agronomic efficiency of zincated urea on crop uptake through CCS HAU, Hissar(HR)	Districts of Rohtak, Sirsa, Fatehabad, Jind and Kaithal	2005-06	1,31,000/-
2.	Evaluation of zincated urea as a source of nltrogen on rice	To study the agronomic efficiency of zincated urea on crop uptake through PAU, Ludhiana (Pb)	Districts of Amritsar, Jalandhar, Faridkot, Patiala and Sangrur	2005-06	1,41,824/-
3.	Evaluation of zincated urea as a source of nitrogen on rice	To etudy the agronomic efficiency of zincated urea on crop uptake through KVKs of distt. Meerut	In Baghpat – Areas of district Meerut (UP) at farmers' fields	2005-06	15,940/-
4.	Evaluation of biofertiliser as a source of nutrients and bio-mass.	Creating awareness about use of biofertilisers, vegetables and fruits through Parmar University of Horticulture and Forestry, Solan (HP)	District of Solan and Shimla	2005-06	4,55,600/-
5.	Evaluation of neem coated urea as a source of nitrogen on sorghum, jawar, maize, paddy, sugarcane, wheat and coriander	To study the agronomic efficiency of neem coated urea on crop uptake through JNKVV, Jabaipur (MP)	Districts of Dhar, Khargone, Harda, Shajapur, Jhabua Betul, Shahdol. Chhindwara, Reva, Gwalior, Guna, Hoshangabad, Jabalpur and Narsinghpur	2005-06	77,369/-
6.	Evaluatron of neern coated urea as source of nitrogen on wheat and rice	To study the agronomy efficiency of neern coated urea on crop uptake through PAU. Ludhiana	In the districts of Sangrur, Patiala. Jalandhar, Amritsar and Fridkot	2005-06	2,50,000/-
7	Evaluation of neem coated urea as a source of nitrogen on wheat	To study the agronomy efficiency of neem coated urea on crop uptake through HAU. Hissar	Districts of Sirsa, Kurukshetra. Panipat, Karnal and Rohtak	2005-06	2,61,500/-
8.	Research project on neem coated urea through PAU Ludhiana (lab. studies)	To correlate results obtained with NCU In field conditions with lab studies, i.e., to study the uptake pattern by rice and wheat fertiiised with NCU, study of mineral behaviour in soil fertilised with NCU	Ludhiana and Gurdaspur; and lab studies at Ludhiana, PAU	2005-06 & 2006-07	4,86,000

4 Help for financial services:

♦ Advising new markets:

♦ Weather forecasts:

♦ How and where to get proper seeds or good quality of nursery plants;

♦ Prevailing pricing of farm equipment and agriculture products;

4 Maintaining extensive data base with micro information about farmers field to provide customised service – roil types. crops. change in cropping system, economic condition, irrigation facilities. yield of different crops and use of different resources, etc.

2. To launch special projects for promotion of biofertiliser usage and organic farming.

3. To launch special projects for promotion and usage of value added products :

4 Neem coated urea;

♦ Zincated urea; and

♦ Sulphur coated urea.

} Both products are under trial stage.