

ANNUAL REPORT

1990-91

GENERAL ACCOUNTS TO
THE MINISTRY OF AGRICULTURE
PEOPLE'S REPUBLIC OF CHINA

ANNUAL REPORT

1990-91

TECHNICAL ASSISTANCE TO

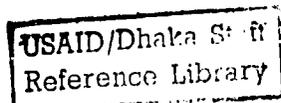
THE MINISTRY OF AGRICULTURE
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH



INTERNATIONAL FERTILIZER DEVELOPMENT CENTER
FERTILIZER DISTRIBUTION IMPROVEMENT PROJECT-II

CONTRACT NO. 388-0060-HCC-8701-01

GRANT FUNDED BY USAID



ABBREVIATIONS AND ACRONYMS	5
FOREWORD	7
INTRODUCTION	8
ADMINISTRATIVE CONTROL	11
Personnel and Organizational Structure	11
Office Location and Administrative Arrangements	11
Budget and Expenditure	12
PRESENT ISSUES AND PROBLEMS IN FERTILIZER MARKETING AND DISTRIBUTION IN BANGLADESH	13
Further Progress and Impact of the Direct Sales Policy	13
Direct Sales of Imported Fertilizers	15
BADC's Warehouse Capacity	16
Public Sector Inventory	16
Tax on Fertilizer	16
BADC Fertilizer Wing Reorganization	17
Fertilizer Subsidy	17
INFRASTRUCTURAL IMPROVEMENT ACTIVITIES	17
Handling and Transportation of Fertilizer to Remote Areas thru Railways	17
Road Transportation from BCIC factories	18
Alternative Uses of Surplus Fertilizer Warehouses	18
BCIC'S ROLE IN THE CHANGING FERTILIZER MARKETING ENVIRONMENT	18
CREDIT AND FINANCE	21
Commercial Credit Program (CCP)	21
Performance	23
Credit Passed Over	23
In-kind Credit	26
Inland Letter of Credit (ILC)	26

Training for the Commercial Credit Program	26
A. Training for Credit Administration	29
B. Seminar-cum-Training Workshops	29
Visits of Foreign Delegates	30
PRIVATE SECTOR IMPORT OF FERTILIZER	30
TRAINING AND DEVELOPMENT OF THE FERTILIZER DEALERS	33
MARKET DEVELOPMENT FOR UREA BRIQUETTES	35
UDP Demonstrations	35
Test Marketing for Urea Briquettes	35
MAIZE DEMONSTRATIONS	37
Demonstrations of Crop Responses to Sulfur and Zinc	37
EXTERNAL TRAINING	39
FARM-LEVEL FERTILIZER USE	40
INFORMATION PROCESSING	42
Future Plans	42
DIVISIONAL OFFICES	42
AN ACKNOWLEDGMENT	43
REPORTS	44
APPENDIX 1. ORGANIZATIONAL STRUCTURE OF IFDC/DHAKA TECHNICAL ASSISTANCE TEAM (1990-91)	45
APPENDIX 2. BUDGET AND EXPENDITURES	46



Mrs. and Mr. K. L. Moots, Chief of Party, IFDC/Dhaka presenting a check for Tk.1,06,000 to the Hon'able Prime Minister of Bangladesh, Begum Khaleda Zia on behalf of IFDC staff for cyclone relief



Mary C Kilgour, Mission Director USAID, Dhaka presenting a check for \$ 3 million to the Deputy Governor, Bangladesh Bank for Commercial Credit Program for Fertilizer Distribution



Secretary, Ministry of Agriculture, Mr. K. M. Rabbani in his Office



Dr. Paul J. Stangel, President and Chief Executive Officer, IFDC and K. L. Moots, Director Asia and Chief of Party, IFDC/Dhaka, reviewing progress of the project

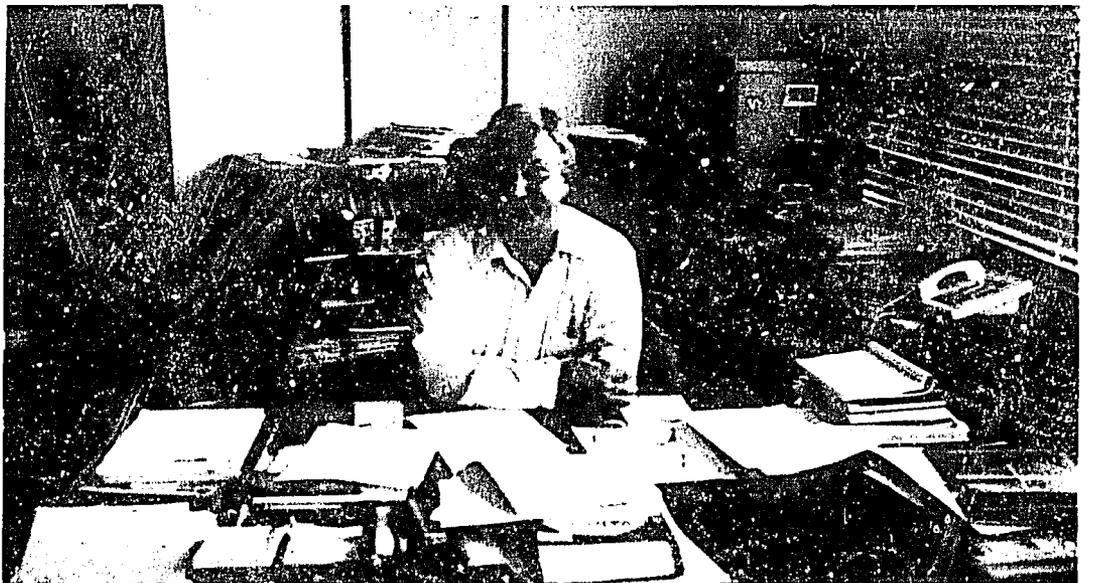
ABBREVIATIONS AND ACRONYMS



AUS	Rice (Paddy) planted during March-April and harvested during July-August
BADC	Bangladesh Agricultural Development Corporation
BARC	Bangladesh Agricultural Research Council
BB	Bangladesh Bank
BCIC	Bangladesh Chemical Industries Corporation
BORO	Rice (Paddy) planted in Winter and harvested during April-June
CCP	Commercial Credit Program
CIP	Commodity Import Program
DAE	Directorate of Agricultural Extension
DD	Demand Draft
ETA	Expected Time of Arrival
COP	Chief of Party
CTSPC	Chittagong Triple Superphosphate Complex
CUFL	Chittagong Urea Fertilizer Ltd.
FOB	Free on Board
FDI-I	Fertilizer Distribution Improvement Project One
FDI-II	Fertilizer Distribution Improvement Project Two
FY	Fiscal Year
GOB	Government of Bangladesh
HC	Host Country
IFDC	International Fertilizer Development Center
ILC	Inland Letter of Credit
MOA	Ministry of Agriculture
MP	Muriate of Potash
MT	Metric Ton
PDP	Primary Distribution Point
PS	Potassium Sulphate
STC	Short Term Consultant
TDF	Transportation Discount Point
TSC	Thana Sales Center
TSP	Triple Superphosphate
USA	United States of America
USAID	United States Agency for International Development



Kenneth L. Moots, Director Asia and Chief of Party, IFDC/Dhaka



Dr. Surjit S. Sidhu, Consultant, Planning, Monitoring and Evaluation/Finance & Credit



Dr. Ray B. Diamond, Consultant, Dealer Development & Training

FOREWORD



1990-91 FY has been an exciting year which recorded significant progress in the further development of a fully competitive open market economy in the fertilizer sector.

The Commercial Credit Program has been very effective. IFDC, with USAID grant funds and the support of the Ministry of Agriculture (MOA), has embarked on a personnel skill development program for the banking sector. The purpose of which is to provide sophisticated but basic definition, concepts and principles necessary to the commercial lenders. Without exception, those bankers who have participated report that they are happy with the program and as a result have gained new knowledge and wisdom.

Our observations are that new technical skills have been transferred to the participating bankers and they have also enhanced their interactive process which is so important but demands human relations skills as well as comprehension of technical material.

This FY year we experienced our first ever private sector fertilizer imports, placing a higher level of emphasis on the human relations aspect of the fertilizer importers and the commercial lenders (banks). We have observed that the bankers are trying to step outside themselves and view lending money for fertilizer import from the perspective of the importers, to understand the concerns, interests and limitations of the fertilizer importers and to conduct successful business negotiations within this understanding.

With large loans to the new fertilizer importers comes an institutional banker's obligation to monitor the loan throughout its life, remembering that credit worthiness of a borrower rarely remains stagnant, it either improves, deteriorates or fluctuates between these two possibilities.

Rapport between bankers and fertilizer importers/distributors should improve. Bankers and importers/distributors need to learn to share, in both directions, information on accounting, marketing data, company operations, etc.

Change is occurring in the banking sector and in the fertilizer import/marketing sector. These changes will force change in management style, placing significant emphasis on managing change. The ability to manage change will become an essential characteristic of the successful manager, be it banker or fertilizer importer/distributor and this management change must include developing the necessary skills to clearly understand people from all walks of life and how they interact. With good management, bankers and importers/distributors can achieve truly outstanding levels of performance which will lead Bangladesh to prosperity and growth.

July 1, 1991

Kenneth L. Moots
Chief of Party
IFDC/Dhaka

Since mid-1970s, Government of Bangladesh (GOB) policy emphasis has focused on encouraging the growth of a free market and promotion of private sector role in fertilizer marketing and distribution. The Fertilizer Distribution Improvement (FDI-I), implemented during 1978-86 with USAID assistance, enabled the transfer of downstream fertilizer marketing functions to the private sector. The emergence of a large and highly competitive group of private wholesalers/dealers, price reform (decontrol) resulted in marked improvement in fertilizer availability at competitive prices at the farm level. During the FDI-II period, major policy reforms have been carried out for a phased entry of the private sector into national-level procurement and distribution.

Under the reforms, introduced during March-July 1989, private distributors were allowed to purchase urea directly from the factories at the same price as BADC. In addition, private distributors were also allowed to take delivery of imported fertilizers directly from the ships at the ports. The impact of these policies on fertilizer market has been dramatic. Fertilizer prices at the farm-level fell significantly in all parts of the country. By now, a rapidly expanding private distributor network is marketing 84% of all fertilizers sold in Bangladesh. All of urea marketing has been taken over by them. Computed on the basis of decline in farm level prices, the farm-sector saved Tk. 740 million during 1989-90 and Tk. 924 million during 1990-91 (in 1988-89 Takas) on their urea purchase. Substantial gains will also accrue to the Government and the Bangladesh Chemical Industries Corporation (BCIC).

The Government allowed private sector import for achieving a fully competitive, cost-effective and market-oriented fertilizer distribution system. This is a major break through of the GOB policy reform program. The first private sector import of 21 thousand MT of TSP had an ETA of June 26, 1991.

IFDC technical assistance to the Government of Bangladesh (GOB) under a host country contract under FDIP-II, has policy reform orientation and continued to expand during the year and new functions became increasingly important. Technical Assistance for administration of the Commercial Credit Program and Privatization of fertilizer import was the high light during the year.

IFDC worked throughout the year very closely with the Bangladesh Bank, Commercial Banks and fertilizer dealers to help sort out various issues and to provide training. Liaison with BCIC has been strengthened to help them to improve their infrastructure and delivery procedures to a speedier fertilizer delivery to the distributors. Such expanded involvement of IFDC to work with more organizations in addition to the MOA and to cover new areas.

This, the fourth annual report, on technical assistance provided by IFDC and on progress of the FDIP-II, covers activities between July 1, 1990 and June 30, 1991.



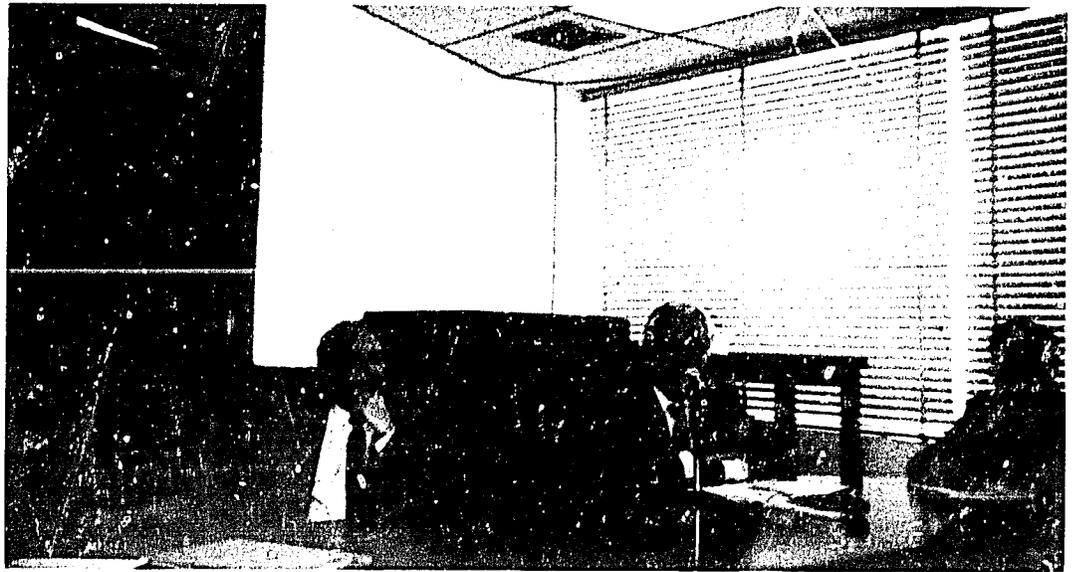
Mr. K. M. Rabbani, Secretary, Ministry of Agriculture, inspecting Ghorasal urea factories with BCIC Managing Directors and IFDC Marketing Advisor



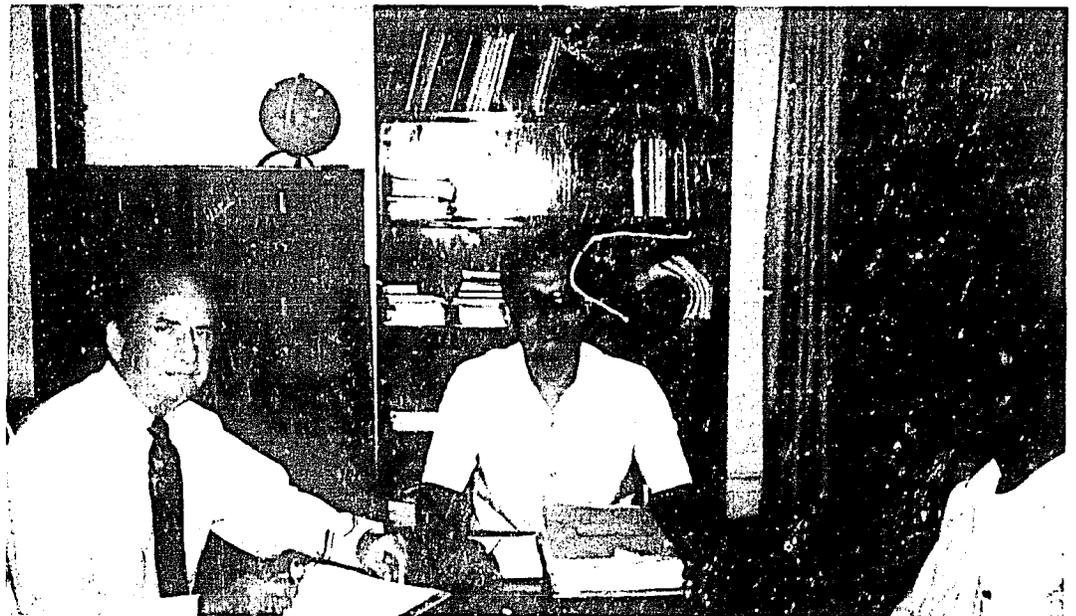
George A. Laudato, Asstt. Administrator, Asia Private Enterprise Bureau, USAID, Washington D.C. and Dr. Raymond Z. H. Renfro, Project Officer, visiting farmers fields with Fertilizer Distributor, Shahzada Mia



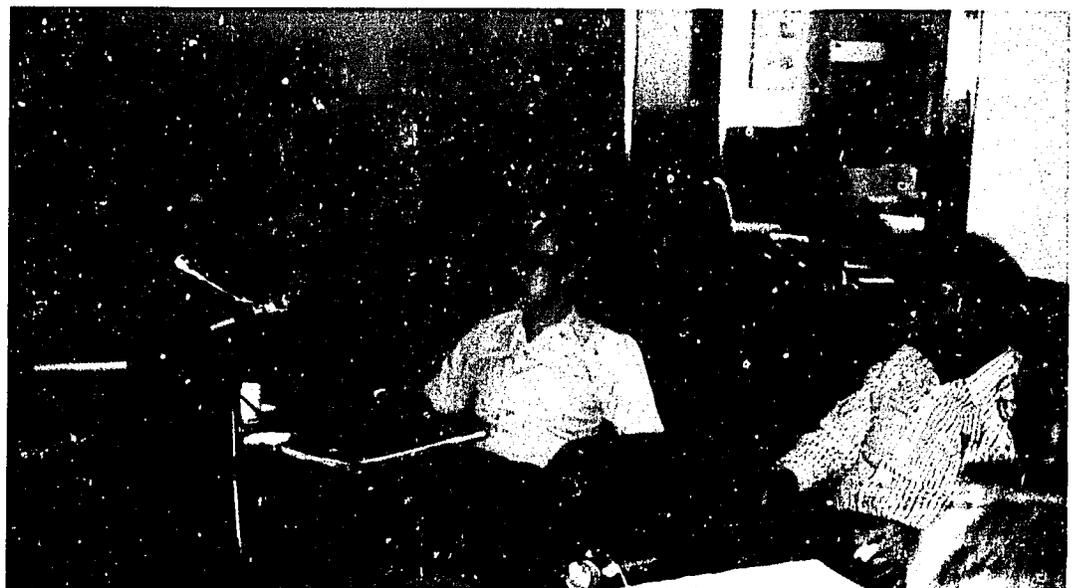
Additional Secretary, MOA, Mr. Irshadul Haq and Deputy Secretary Mr. Karar Mahmudul Hasan in a National Fertilizer Market Development Workshop in Dhaka with IFDC Marketing Development Advisor Mr. M.A. Malek



Dr. Paul J. Stangel, President and Chief Executive Officer, IFDC, addressing staff meeting, IFDC/Dhaka



Mr. K. M. Rabbani, Secretary, Ministry of Agriculture holding a meeting with Mr. K. L. Moots, Director Asia and COP, IFDC/Dhaka, and Mr. N. H. Majumder, Credit Advisor on Project related matters



Mr. M. A. Syed, ex-Secretary, Ministry of Agriculture, addressing staff meeting, IFDC/Dhaka

ADMINISTRATIVE CONTROL



The FDI-II Host Country Contract between MOA and IFDC is under the direction of the President and Chief Executive Officer, IFDC, Muscle Shoals, Alabama, USA. The principal representative of IFDC in Bangladesh is the IFDC/Dhaka Chief of Party (COP), who is responsible for overall Co-ordination, Administration and Supervision of the Technical Assistance Team and their work.

PERSONNEL & ORGANIZATIONAL STRUCTURE

The Technical Assistance was provided by three (3) Expatriate Consultants: (COP/Marketing Consultant, Dealer Development & Training Consultant and Consultant for Planning, Monitoring & Evaluation and Finance & Credit). At present, there are thirteen senior Host Country (HC) Advisors and a total of 115 staff members including three Expatriate Consultants, one Short Term Consultant (STC) and 13 Host Country female employees. Staff strength at the end of the first, second and third years was 72, 87 and 89 respectively. The rate of manpower increase during second, third and fourth years has been 20.8%, 2.3% and 29.2%, respectively.

Responsibilities are divided among 7 units each headed by an Advisor but personnel from different units very often work closely together to accomplish particular tasks. In the absence of any In-country Expatriate Consultant, three Unit Heads are designated to be responsible for co-ordinating activities of other units as follows: (1) Credit/Unit Head to be responsible for Credit and Finance, Planning, Monitoring & Evaluation and Systems Analysis; (2) Marketing/Unit Head to be responsible for Marketing Management, Dealer Development & Training and Infrastructure and (3) Controller/Unit Head to be responsible for Accounts and Administration. The organizational structure for IFDC/Dhaka at the end of June 1991 is shown in Appendix-I.

One Host Country Consultant was used to conduct Farm-Level Fertilizer Use Study and early Estimation of Crop Production of Wheat 1989-90, Boro Rice 1990 and Aman Rice 1990.

OFFICE LOCATION AND ADMINISTRATIVE ARRANGEMENTS

In addition to the main IFDC office located in Dhaka, IFDC operates three regional offices to cope with the expanding responsibilities. The office at Bogra was opened during the year.

Following are the addresses of IFDC Bangladesh Offices.

IFDC/Dhaka	IFDC/Chittagong	IFDC/Khulna	IFDC/Bogra
JBC Tower Building (17th & 18th floor) 10, Dilkusha Com. Area Dhaka-1000. Tel : 864518, 864519 281508, 259642	House No. 245/A Road No. 2 CDA Residential Area Agrabad, Chittagong Telephone : 503275	House No. 97 Road No. 1 Nirala Residential Area Khulna Telephone : 23747	Plot No. 289 Katnerpara Bogra Telephone : 5721

Monthly staff meetings chaired by the COP were regularly held to discuss the emerging problems and issues to keep the staff of various units apprised of various developments and to review the progress of work. Meetings were also held as and when required with officials of MOA, BADC, BCIC, DAE, BARC, USAID, BB, Commercial Banks and various other parties.

BUDGET AND EXPENDITURE

The Technical Assistance Contract budget for the period March 1, 1987 through June 30, 1991 is US\$8,121,794.00 (Appendix-II). As of April 30, 1991 actual expenditure amounts to US\$7,579,422.77 and projected expenditure for May and June 1991 is US\$533,339.00. During the period under report actual expenditure effective July 1, 1990 through April 30, 1991 is US\$2,143,167.68.



Mr. N. H. Majumder, Advisor, Credit, IFDC/Dhaka, describing the procedure to apply to banks for fertilizer credit



Mr. Syed Ali Mokarrum, Divisional Marketing Advisor, IFDC/Dhaka assessing damage to fertilizer stores, soon after the recent unprecedented cyclone in Chittagong

PRESENT ISSUES AND PROBLEMS IN FERTILIZER MARKETING AND DISTRIBUTION IN BANGLADESH



FDI-II project objectives of harnessing the private sector capabilities to increase efficiency and reduce cost of fertilizer marketing and distribution thru enhanced competition continued during 1990-91 period. The achievements made during 1989-90 were consolidated and additional policy reforms and improvements were accomplished which include the beginning of fertilizer imports by the private sector by making donor resources available to them and expansion of the Commercial Credit Program.

Although throughout the year the country remained in social and political turmoil as a transitional period, the fertilizer sector still made significant achievements. Situation in the Gulf causing high fuel costs, transportation difficulties and political tensions, impacted to some extent adversely on fertilizer movement and prices. This situation stabilized during the third quarter and by end of March, 1991 agriculture programs including fertilizer activity, were reverting to normal. Annual fertilizer sales during FY 1990-91 is expected to be about 2.10 million MT compared to 2.04 million MT during 1989-90.

FURTHER PROGRESS AND IMPACT OF THE DIRECT SALES POLICY

Ever since the GOB allowed the private distributors to purchase urea from the BCIC factories (and later thru BADC from the ships) at the same urea price as paid by BADC (but without credit facility which was available to BADC), the private sector has made remarkable progress in the fertilizer sector. During the year 1990-91, private sector market share in total national sales (of all fertilizers), on yearly basis, increased to over 84% from about 61% in 1989-90. And by the year end entire urea marketing was in the hands of the private sector. All old stocks with BADC had been sold by the end of April, 1991. Thus, a complete transfer of the domestic urea marketing responsibility had taken place from BADC to the private sector, who also have started to maintain reasonable stocks as and where necessary. BADC now maintains no urea stocks and is disinvesting its empty warehouses to the private sector and the MOF.

This change constitutes a substantial saving for the GOB. The entire burden of first buying urea from the factories, transporting and storing it, has been shifted to the private sector. BADC's reported movement costs are Tk. 1167 per MT. During 1990-91, approximately 1.4 million MT of urea were marketed in Bangladesh. Net savings to the GOB on this account alone, amount to Tk. 864 million. Similar savings in the case of TSP and MP, to the extent of their direct sales from the ports (ships) and TSPC, at the rate of Tk. 767 per MT {Tk. 1167-Tk. 400 (discount)} have also accrued to the GOB.

However, the benefits from shifting the fertilizer marketing responsibility to the private sector are not confined only to the budgetary aspects of the GOB. Because of the intensely competitive private sector market (as against an inefficient self-serving monopoly!), marketing margins and thereby farm-level urea price has also been falling sharply. The following table illustrates the fall in price:



Mary C. Kilgour, Mission Director, USAID; Malcom J. Purvis, Deputy Mission Director and Ms. Helen Gunther, Deputy Director, OFA, discussing fertilizer business with dealers at Mirzapur



Dr. Donald Brown, Director, OFA, USAID, Dhaka and David Fredricks, Bangladesh Desk Officer, USAID, Washington D.C. with a group of Farmers attending a field day



Dr. Raymond Z. H. Renfro, Project Manager, Fertilizer, USAID, Dhaka discussing private sector fertilizer import issues with prospective importers, bankers and officials of the Central Bank

FARM-LEVEL PRICE OF UREA. (TK. PER 50 KG)



Year	Actual (Nominal)	Real (In terms of 1988-89 Takas assuming 5% inflation)	Change
1988-89	248	248	—
1989-90	232	221	-27
1990-91	236	215	- 6

Note : Factory gate price of urea remained unchanged at Tk. 201.25 per 50 kg.

¹ For details see TDP Customer Study - Summary Report - A. M. M. Shaikat Aii.

Thus, compared to the year 1988-89, benefits to the farm-sector in terms of the saving due to fall in real price of urea, because of privatization of domestic marketing, amount to: (1) about Tk. 740 million during the year 1989-90 (in 1988-89 Takas), and (2) about Tk. 924 million during the year 1990-91. The sharp fall in urea price lead to record level of urea sales during 1989-90 and further increases during 1990-91. The impact has been self-sufficiency of food grain production for Bangladesh.

Overall direct purchase of TSP from the ports (ships) and TSPC by the private sector, during the year, was 77%. This share of the private sector continued to increase throughout the year, in spite of BADC's pre-planned despatches to their stores contrary to Government policy and at the end of the year increased further because of the first private sector import of TSP. Private sector direct purchase of MP from the ports (ships) during the year was about 50%. It has been hampered by untimely import scheduling and pre-planned shipments to the BADC stores.

DIRECT SALES OF IMPORTED FERTILIZERS

Table below compares direct sales to the private sector of the imported fertilizers by BADC from the ports (ships) for the years 1989-90 and 1990-91. Substantial progress is seen. Yet, however, there is no reason for not selling all imports from the ports.

IMPORT AND DIRECT SALES BY BADC

(Qty. in '000' MT)

Product	July-June, 1989-90		July-April, 1990-91	
	Import	Direct sales	Import	Direct sales
Urea	61	51 (83.61)	—	—
TSP	232	66 (28.45)	313	268 (85.62)
MP	76	9 (11.84)	145	37 (25.52)
Zinc	5	1 (20.0)	—	—
Gypsum	—	—	—	—
Overall	374	127 (33.96)	458	305 (66.59)

Note : Figures in parentheses are percentages.

It is due to UNTIMELY IMPORT OF FERTILIZERS in excess of monthly consumption that BADC has to shift fertilizer, especially MP from ports to remote PDPs where BADC's sales are made at higher loss than loss from direct sales from ports. At the same time, this inhibits private sector expansion of market in remote PDP territories because BADC allows Tk. 400 as transport discount from ports as against BADC's actual of Tk. 1167 per MT. BADC's inventory available at remote PDPs discourages private sector to expand market because BADC's selling prices are less than cost and the discount allowed is far less than cost.

BADC's WAREHOUSE CAPACITY

At present BADC's warehouse capacity is far in excess of need. Some warehouses in port locations and remote PDP locations were occasionally utilized due to untimely import. A comparison of warehouse capacities with month end stock is presented in Table below:

Warehouse capacity VS month end stock

('000' MT)

	July	August	September	October	November	December	January	February	March	April
Capacity	342	340	340	340	340	325	325	322	322	312
Month end stock	171	131	89	47	41	39	36	26	14	23
Port warehouse capacity	65	65	65	64	62	62	62	62	62	62
Month end stock	19	19	7	10	7	18	31	56	58	57

The GOB decided to hand over 137 thousand MT warehouse capacity from BADC to Ministry of Food but only 43 thousand MT capacity were actually handed over. Government also decided to lease out surplus warehouse capacities to private sector preferably fertilizer distributors/dealers so that Government could earn income instead of incurring loss. But BADC could not successfully implement the Government decision due to ineffective steps taken in this respect. Disinvestment of the surplus warehouse capacity should be expedited to save unnecessary costs to the Government.

PUBLIC SECTOR INVENTORY

A reduction in the size of public sector inventory of fertilizers indicates reduction in the cost of inventory keeping. Since the Government allowed purchases of fertilizer from the factories and ships directly by the private sector, the responsibility to maintain inventory shifted to them and the size of public sector inventory came down substantially. From a level of 355 thousand MT of urea held as average monthly stock by the public sector (BADC and BCIC) in 1987-88, the level came down to 128 thousand MT. This, obviously constitutes large savings to the Government. Further steps to encourage stock holding by the private sector are necessary to substantially reduce public sector inventory and costs.

TAX ON FERTILIZER

The selling prices of imported fertilizers are controlled by the Government and set at below import costs. This policy of the Government has so far not changed. Imports of fertilizer at present are made by the public sector (BADC). Imposition of duty or tax does not make any sense because it is only a book transfer. Also, imposition of tax on private sector fertilizer imports, at this stage, without elimination of subsidy and freeing of the sale price, would be an anomalous. It would be contrary to the GOB policy to encourage private sector import of fertilizer, because such a tax would further aggravate the disadvantage that the private sector already has to start imports because of the subsidized domestic prices below cost. It will make private sector imports impossible.

After elimination of the subsidy and freeing of the domestic price, a uniform tax on fertilizer imports along with other commodity imports, may, of course, be applied.

BADC FERTILIZER WING REORGANIZATION



Private sector involvement in the direct lifting of fertilizer from the factories and ports, made it apparent that BADC's Fertilizer Wing needed to be re-evaluated and restructured to cope with the changed circumstances. On this ground a Reorganization Plan was prepared and submitted for BADC's concurrence and acceptance. Further to a series of discussion meetings held on the proposed plan both in the BADC and in the MOA during 1989-90, discussions continued during 1990-91. The plan emphasizes concepts and activities which will permit BADC to respond to new and additional agricultural development opportunities and challenges.

FERTILIZER SUBSIDY

Prior to 1986-87, Government used to provide for BADC's loss on fertilizer distribution in the Annual Development Plan. From 1986-87, this was stopped with the objective that BADC would run fertilizer business at no profit no loss basis and that there would be no fertilizer subsidy. Donor community had pressed for subsidy elimination so that the entire counterpart funds generated by aid provided fertilizer imports could be used for budgetary support. Since, however, GOB continued to fix domestic prices of the donor financed imported fertilizers at less than costs, the subsidy was never eliminated and counterpart funds to the full aid amount were never generated. BADC, therefore, has been recovering the gap, including their efficiency losses from whatever counterpart funds were generated by the sale of imported fertilizers from the foreign grants at subsidized prices. The purpose of the donors to generate counterpart funds to the full extent of aid financing to support the Government budget was never served.

This, however, may or may not be the most important reason for fertilizer subsidy elimination. Recent private sector TSP imports have shown some tangible gains. Buying price was significantly less than most recent price obtained by BADC. This exerts competitive pressure to obtain lower prices on BADC in the future. As a minimum inventory maintaining costs would be saved. Such gains, howsoever small, should be worthy of consideration for Bangladesh. But privatization of fertilizer imports has been hostage to fertilizer subsidy.

Presently Agriculture Development in Bangladesh has entered a phase that linking of the Bangladesh agricultural input market to the international market has become critical for the import of superior agricultural technology embedded in inputs. To encourage this, in addition to the freeing of input imports and pricing, food imports on aid account may also have to be curtailed if not altogether stopped so that output prices for the farm-sector are not depressed by the imports and remain at incentive levels. Present self-sufficiency of food grain production indicates that caution should be exercised regarding food grain import programs.

INFRASTRUCTURAL IMPROVEMENT ACTIVITIES

HANDLING AND TRANSPORTATION OF FERTILIZER TO REMOTE AREAS THRU RAILWAYS

Private fertilizer distributors of Northern and Central parts of Bangladesh were assisted thru monitoring the arrangements for increasing numbers of rail wagon movement to and from fertilizer factories and ports. During the past peak demand season (January-March,

1991), an average of over 850 rail wagons per month were ferried across to Northern Bengal areas. In addition, about 1000 rail wagons loaded with fertilizer were transported every month during the peak season to the central areas of Narayanganj, Bhairab, Mymensingh, Kishoreganj, Jamalpur, Joydevpur. This increased volume of rail wagon movement required efficient and continuous loading and movement of 'rake's (50 Rail wagons at a time) as "Unit" trains primarily from ZFCL. Over two dozen remote rail destinations in Northern Bengal were covered assuring continuous availability of fertilizer throughout the peak demand season. Fertilizer cargo and barge movement was monitored during the same period along with unloading operations of the imported product at the Chittagong and Chalna ports which reached an all time high of handling over 3500 MT in a 24 hour operation. Distributors are allowed freight rebates from Railways for transportation of fertilizer which reached 20% in some instances, primarily when "Unit" train was used.

ROAD TRANSPORTATION FROM BCIC FACTORIES

On IFDC initiative 8.07 km road from the Urea factories UFFL and PUFF to Ghorasal Railway station was improved by construction of a culvert at an estimated cost of Tk. 38,262,000.00. This road will reduce dependence on barges and reduce costs to farmers in the outlying areas.

For Moulavi Bazar, Kulaura, Habiganj, Brahman Baria and Comilla markets a road section between Rajnagar Upazila headquarter and Fenchuganj Fertilizer Factory was opened for truck traffic by Roads and Highways Department under persuasion of IFDC. Fertilizer distributors of the locality use this section of the road for movement of their trucks.

ALTERNATIVE USES OF SURPLUS FERTILIZER WAREHOUSES

In view of the rapid drop in BADC's share in procurement and distribution of fertilizer, a large number of its warehouses are now redundant. Alternative uses of such redundant warehouses agreed upon by MOA/GOB includes transfer to Ministry of Food and long term leasing to the private fertilizer distributors throughout the country.

At 18 locations, warehouses with a total storage capacity of 49,900 MT have already been handed over to MOF by BADC against 145,200 MT capacity allowed for transfer earlier by the MOA. MOF, however, does not need warehouses at all locations where BADC has surplus units. Therefore, leasing to private distributors is essential.

Private fertilizer distributors have already acquired warehouses built under USAID funding at Satkhira and Daudkandi on long-term lease. A warehouse built under GOB fund at Barisal has also been given to a private dealer on short term lease. IFDC encourages only the genuine and enterprising distributors at present actively involved in fertilizer trading for such leases.

BCIC's ROLE IN THE CHANGING FERTILIZER MARKETING ENVIRONMENT

Prior to the spring of 1989 when GOB allowed BCIC to start selling urea directly to the private sector distributors on cash at the same price as charged from BADC (usually on credit basis), BCIC's role in fertilizer marketing and distribution was limited to allocate and deliver Urea and TSP to BADC at its request. At present, BCIC makes all its domestic



Mr. K. M. Rabbani, Secretary, Ministry of Agriculture, and Mr. K. L. Moots, Director Asia and COP, IFDC/Dhaka reviewing progress of the FDI-II Project



A farmer buying TSP from a retail fertilizer dealer



A group of Commercial Bank Officials on Credit Administration Training with President and Senior staff of Thai Danu Bank, Bangkok, Thailand at their Head Quarters with IFDC staff

sales only to the private sector. But BCIC as a manufacturer has had some difficulties in adapting to this changing role, in the sense, that it has remained reluctant to accept a service orientation in its policies and approaches towards its continuously expanding clientele of private sector fertilizer distributors.

The following points identify the nature of problems and are suggestive as to how BCIC can enhance its contribution, (1) to the development of a competitive cost effective fertilizer marketing system, and (2) development of Bangladesh agriculture and economy.

1. BCIC has remained less than enthusiastic (it not indifferent) to improving its delivery system of fertilizer to the private sector distributors. As a result, demand for ureas was not met (as shown below) on timely basis in any of the 12 months of the year 1990-91 by the BCIC factories. Insufficient bagging capacity which is cited as one of the reasons, should have been attended to much earlier.

THE DEMAND & SUPPLY POSITION OF UREA FROM BCIC FACTORIES TO THE PRIVATE SECTOR, 1990-91

(In '000' MT)

Month	Total demand	Actual supply	% of demand met
July	59	50	85
August	153	124	81
September	204	127	62
October	65	58	89
November	85	74	87
December	132	113	85
January	122	110	90
February	276	174	63
March	326	223	68
April	112	42	38
May	105	47	45
June	140	70	50

2. This unmet demand has a substantial cost to the private sector distributors and thereby to the farm-sector. Large amounts of delivery orders remain pending for fairly long periods on which BCIC earns interest, which, of course, is a cost to the private distributors. Payments to BCIC through local letters of credit were not acceptable to BCIC for a prolonged period of time. Recently, BCIC has begun to accept local letters of credit which would reduce interest costs of fertilizer purchases to the private sector. This has already started to develop a spirit and environment more congenial between the distributors and BCIC.

3. Urea in Bangladesh is domestically produced by public sector (BCIC) factories. The GOB fixes (regulates) the price of urea in line with the international market price, which is, a well accepted policy to serve the national interest and also acceptable to BCIC.

There are, however, two problems with the mechanism of fixing the price : (1) Price was fixed for all months of the year. Factory production being at uniform monthly rate, and there being variation in monthly demand, there are some excess supply months, which caused excess inventory problems for BCIC. (2) Price being uniform for all factories, there is excess demand or excess supply problems at different factories.

In order to resolve these problems, a variable pricing mechanism was recommended by IFDC as a regular program for BCIC factories. The recommendation included variation of issue prices from month to month and factory to factory, to reduce prices in slow season and increase in peak season in such a way that BCIC's annual revenue from April thru March remains unchanged and inventory problems are resolved.

The proposed pricing mechanism would attract more private capital in fertilizer sector in slow demand months. The proposal was accepted by the Government. But its implementation by BCIC is quite different from the recommendations. Instead of announcing a firm schedule of change BCIC changed prices several times without giving 30 days notice and also made untimely exports which contributed to a shortage situation, to some extent, during the peak demand period. At the same time, instead of keeping BCIC revenue constant, as proposed, BCIC by changing prices only to their advantage, charged Tk. 33 million in excess from the distributors which caused farm-level prices to rise. Unstable pricing policy caused private sector to be overly cautious on inventory build up because these frequent variations of prices made long range planning impossible.

4. Urea demand in Bangladesh has been steadily increasing. Present production levels are roughly adequate to meet annual demand. BCIC is always keen to export urea and has done so irrespective of the peak season demand requirements. From the point of view of development of Bangladesh agriculture, BCIC should export its surplus inventory (if any) only during April and May (and not at other times) and that too after firmly implementing the variable pricing scheme. Otherwise, disruptions in urea market are likely to continue.

5. BCIC started selling urea to the private sector in early 1989. It also sells Gypsum to the private sector directly. However, because it receives, a high subsidy on its TSP product, BCIC sells it only to BADC, which is forced to sell it at subsidized price at the TSPC factory gate itself. The arrangement encourages BCIC to encourage the continuation of subsidy on TSP and thereby holds the GOB attempts to reform subsidy policy a hostage.

CREDIT AND FINANCE

To ensure availability of credit for fertilizer distributors to support a strong and competitive private sector fertilizer market in Bangladesh with a view to making fertilizer available to farmers all the year round at lowest possible costs is an important objective of FDI-II project. Substantial credit requirements were envisaged in order to shift fertilizer marketing function from the public sector (BADC) to the private sector distributors and funds were provided. For early stages of development of private sector dealers and expansion of their operations an in-kind fertilizer credit program operated by BADC was funded. And for larger scale operations of buying fertilizers directly from the factories and the ships a fully commercial credit program through the commercial banks under the guidance and supervision of the Bangladesh Banks was funded upto \$ 15 million by USAID as grant funds.

COMMERCIAL CREDIT PROGRAM (CCP)

The Commercial Credit Program started functioning officially with the release of US\$ 5 million to Bangladesh Bank by USAID on June 1, 1989 as first instalment. Subsequent US\$ 7.0 million on May 5, 1990 and the remaining US\$ 3 million on December 20, 1990 were released. Ever since, the funds are being used extensively by the fertilizer distributors. This program has brought a major change in the fertilizer trading pattern, in the sense, that distributors and dealers who were earlier involved only in cash transactions for buying and selling of fertilizers, now freely and extensively avail the banking services. Their demand for credit is continuing to increase. Except for the collateral requirements,



Mr. K. L. Moots, Director Asia and Chief of Party, IFDC/Dhaka discussing in-kind credit and fertilizer import problems with Mr. M. A. Wadud, Member Director, Finance, BADC



Syed Ashraf Ali, ex-General Manager, BCD, Central Bank of Bangladesh, discussing Commercial Credit disbursements with Mr. Nizam U. Ahmed, USAID, Dhaka and Mr. A. H. M. Obaidul Bari, Marketing Advisor, IFDC/Dhaka



Chairman of the Board of Directors and Managing Directors of Private Commercial Banks of Bangladesh, discussing Credit practices in Thailand with the President and senior staff of the Thai Danu Bank, Bangkok, Thailand

much larger amounts of credit could be used as the need for credit has been increasing faster than the value of the assets owned by the distributors with emergence of private sector distribution of fertilizers.

PERFORMANCE

Most major commercial banks of Bangladesh are participants in the program. A total of 14 banks including 5 public and 9 private sector banks have been involved and during 1990-91 disbursed credit upto Tk. 872.82 million to 465 distributors and dealers all over the country through 265 bank branches, as against Tk. 335.72 million disbursed during the year ending June, 1990. Number of bank branches involved also increased from 165 to 253. At present the number of distributors who availed credit from the program funds is 461 compared to 313 during the previous year. Also the turn-over rate of credit utilization increased during the year to 6.75 as against 4.5 in the previous year, indicating a more intensive use of the funds.

Some comparative data regarding operation of the program with Bangladesh Bank during the years 1989-90 and 1990-91 are shown below :

Items	(Million Takas)	
	1989-90	1990-91
Total amount sanctioned	339.92	932.87
Total amount disbursed	335.72	872.82
Refinance claimed to Bangladesh Bank	275.54	889.19
Refinance obtained from Bangladesh Bank	275.54	842.30
Pay back in account number 2 with Bangladesh Bank	0.00	477.27
Outstanding balance of Bangladesh Bank	275.54	365.03

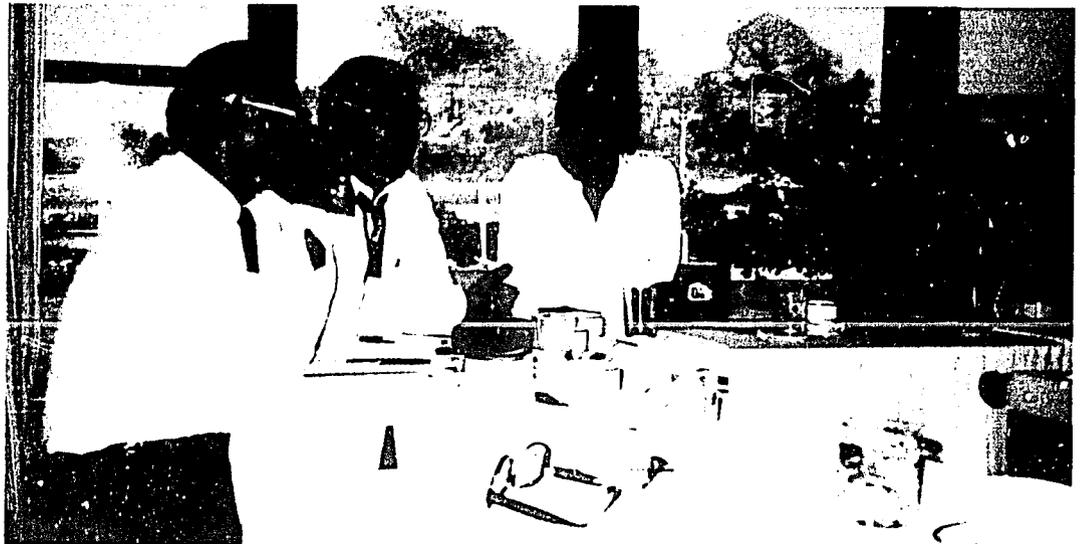
At the demands of their customers some banks, who did not participate in the program earlier, are now showing interest to participate in the program and Islami Bank Bangladesh Ltd. has made a request to the Bangladesh Bank for approval to participate in the program.

CREDIT PASSED OVER

One of the objectives of FDI-II project is to increase the downward flow of credit from the major distributors to sub-distributors, dealers and retailers of fertilizers. To assess the quantum of such credit pass over, a survey was carried out which provides the following indications.

Region-wise Status of Credit Flow from the Distributors to Retailers

Division	From distributor to sub-distributor		From sub-distributor to retailer	
	Percentage of CCP loan	Fund loaned for average number of days	Percentage of loan taken from distributor	Fund loaned for average number of days
Dhaka	56.62	18	26.87	29
Chittagong	38.26	14	55.46	77
Comilla	45.88	16	33.11	42
Rajshahi	42.76	17	14.00	22
National average	45.88	16	33.11	42



Dr. Surjit S. Sidhu, Consultant, Finance & Credit, IFDC/Dhaka with Mr. Kamal Uddin Ahmed, Executive Director, Bangladesh Bank, Mr. Bazle Rabbi and Mr. M. A. Wahab, discussing credit issues



Ms. Judith Evans Coker, USAID, Bangkok, discussing privatization issues with Dr. Surjit S. Sidhu, IFDC/Dhaka and Dr. M. A. Rahim, Executive President, Al-Baraka Bank, Bangladesh



Informal discussion at a Commercial Credit Workshop at Bangladesh Bank, Bogra



Deputy Secretary (Inputs), Ministry of Agriculture, and Mr. K. L. Moots, Chief of Party, IFDC/Dhaka, discussing project related matters



Mr. Chinalai, Senior Vice-President, Bank of Bangkok Ltd., explaining fertilizer trade in Thailand to Dr. Surjit S. Sidhu, Consultant, IFDC/Dhaka



An Ethiopian delegation comprising of Senior Officials with a farmer in Norsingdhi Fertilizer Market

At this time there are sufficient indications that retailers also provide some short-term credit to the farmers, but not enough quantitative data. To expand such flow commercial fertilizer credit as a crop-term credit is planned.

IN-KIND CREDIT

On April 13, 1989, USAID released US\$ 3 million to BADC operating an in-kind credit program. Earlier BADC had started a program in June, 1986 for selling fertilizers from the PDPs on credit with a ceiling of Tk. 0.25 million. The program subsequently was extended to TDP centers with a maximum credit ceiling of Tk. 1.0 million. However, since BADC has closed down most of the PDPs because fertilizer marketing has rapidly shifted to the private sector and BADC's share has substantially been reduced, the program has no significant role to play now. The status of the program, during the last few years has been as below :

DISBURSEMENT, RECOVERY, AND OUTSTANDING BALANCE OF CREDIT FOR THE PERIOD FROM JUNE, 1986 TO APRIL, 1991

Year	Fertilizer purchased under In-kind Credit			
	Quantity (in tons)	Value (in Taka)	Recovery (in Taka)	Outstanding Balance (in Taka)
1986-87	26677.69	120704346	101035701	19668645
1987-88	24215.12	109495667	110773569	1277902
1988-89	18357.27	83671418	88139202	4462784
1989-90	11540.83	52220000	49012000	14399000
*1990-91	10770.26	42236400	40705313	16454947

*Figures are for the period from July 1, 1990 to April 30, 1991

INLAND LETTER OF CREDIT (ILC)

The mode of payment for fertilizer purchased from the BCIC factories, when direct sale to the private sector was allowed, was initially cash payments followed by demand drafts and pay orders as the CCP became established. The constraints and risk involved in arranging cash payments and the use of DDs are considerable, especially when fertilizer deliveries are substantially behind pay order requests. Making payment through ILC to the factories involves less bank charges, alleviates risk and does not block distributors funds with BCIC for prolonged periods and thus reduces their costs, hence farm-level price. Resistance from BCIC in accepting ILC deferred the introduction of the system till September, 1990. From September, 1990, the opening of ILC in favor of different factories for lifting fertilizers started but BCIC imposed additional conditions of confirmation of ILC and advice of the ILC through respective factory banks. However, soon these problems were resolved and the use of ILC has been enthusiastically undertaken by the distributors taking delivery of fertilizers from the factories. From September, 1990 upto March 31, 1991, 47 ILCs spread over all urea factories were opened for about 91 thousand MT of fertilizer.

BCIC by now has relaxed its stringent conditions and it is anticipated that during the next peak season more ILCs would be opened. Taking delivery of fertilizer through ILC involves a saving on an average of Tk. 2.00 to Tk. 3.00 per bag compared to payments through cash and demand drafts.

TRAINING FOR THE COMMERCIAL CREDIT PROGRAM

Fertilizer Commercial Credit Program was designed to enable the newly emerging successful fertilizer distributors to take over the responsibility of marketing fertilizer under competitive market conditions in an aggressive but responsible fashion. Their credit needs had



A group photo of the Bangladeshi Banks Presidents with the President of Thai Danu Bank Ltd. and Senior staff members of the Credit and International Divisions of Thai Danu Bank Ltd



Mr. H.N. Majumder, General Manager, BCD, Bangladesh Bank addressing a Credit Workshop at Bogra



A delegation of Senior Ethiopian Officials led by Mr. A. J. S. Sodhi of the World Bank, with Dr. Surjit S. Sidhu, Consultant, and Senior IFDC staff, IFDC/Dhaka



Mr. M. A. Syed, ex-Secretary, Ministry of Agriculture and Mr. K. L. Moots, Chief of Party, IFDC/Dhaka, inspecting a farmers field



Mr. Jamirul Islam, Managing Director, TSP Plant at Chittagong and Mr. M. A. Shaheed, Chief FMC with Mr. Irshadul Haq, Additional Secretary, MOA



Mr. N. H. Majumder, Credit Advisor, IFDC/Dhaka with senior officials of Thai Danu Bank, Bangkok, Thailand

suddenly become vastly expanded. It was natural that substantial training for the banking community and fertilizer distributors would be required to strengthen administration of credit, orientation for market development and to avail credit in a disciplined business-like manner. For this, both foreign and domestic training programs were carried out.

A. TRAINING FOR CREDIT ADMINISTRATION

Two groups comprising the Chief Executive Officers (including two Chairmen of the Executive Committees) of Bangladesh Banks undertook study tours to the USA under the program during November-December, 1990 and March, 1991.

Earlier another group consisting of senior management level officers of private Banks attended a 4 weeks training on credit administration at IFDC Headquarters, Muscle Shoals, Alabama, USA and Bangkok during June 29 to July 23, 1990.

In all these programs there was included one senior level Bangladesh Bank official, 2 Chairmen, 2 Managing Directors/President and 4 Deputy Managing Directors and 8 other senior management level officers of private sector banks. Post-training evaluations indicate training and study tour were beneficial, educative and helpful for a good support to the Credit program in the country.

B. SEMINAR-CUM-TRAINING WORKSHOPS

A series of workshops and training sessions on Commercial Credit Program (CCP), Inland Letter of Credit (ILC) and Commodity Import Program (CIP) were also held in-country both at the national as well as regional levels during the year. Participants included distributors, bankers, officials from MOA, BB, BCIC, BADC. The purpose of these workshops was to clarify the nature and extent of CCP, and to iron-out the onstraints so that credit availability and use is effectively increased. The regional workshops were held in Bogra, Rajshahi and Rangpur and national level workshops were held in Dhaka one for CIP and the other for national level marketing and credit. Numbers of participation of various agencies in the workshops are enumerated below :

Representation of Various Agencies in the Sessions

Place and date Workshop Held	Bankers	Dealers	BADC	BCIC	B.B.	MOA	USAID	Other Donor	Total
Bogra (18-10-90)	97	48	-	-	11	-	-	-	156
Rajshahi (22-09-90)	93	40	1	0	6	2	1	-	143
Rangpur (20-05-91)	35	43	-	-	-	-	-	-	78
Dhaka (Import program) (28-01-91)	18	38	-	1	-	2	2	-	61
Dhaka (July 23 & 24, 1990)	21	254	12	9	5	4	4	8	317
Total	264	423	13	10	22	8	7	8	755

Although these training workshops helped considerably to change the bankers' outlook on the credit program, there still are some constraints, for example, collateral requirements, hypothecation of rural and movable properties as mortgage, rate of interest and delay in sanctioning of the loans etc. However gradual improvement is taking place.

Workshops were designed so that the regional as well as national level bankers and the distributors could develop their perception about the credit requirements and the dynamics of the program.

VISITS OF FOREIGN DELEGATES

World wide recognition is given to the success of the GOB reform policies of moving fertilizer towards a competitive, open market economy. During the year under report, several delegations came to Bangladesh to visit the project and learn from experience gained in Bangladesh on the privatization of fertilizer distribution and marketing and the role of commercial credit program, including: (1) Ms. Henrietta Holsman Fore, Assistant Administrator for Privatization and Asia, AID/Washington, and (2) an Ethiopian delegation sponsored by the World Bank Regional Mission in Eastern Africa, Nairobi, Kenya; comprising of 5 members including the Vice-Minister for Cooperatives of the Ministry of Agriculture and the General Manager, Agricultural Inputs Supply Corporation of Ethiopia. They visited distributors establishments, dealers' shops besides studying different aspects of the program in IFDC Office. They were greatly interested in following how marketing functions from a purely public sector monopoly organization were transferred to the private sector, the policy approaches used for this purpose and the role of commercial credit.

A high level Egyptian team comprising 10 members of Principal Bank for Development and Agricultural Credit (PBDAC) planned to visit Bangladesh May 13, 1991 to study the competitive open market fertilizer marketing system in action. Arrangements were made for their visits but due to severe cyclonic storm of April 29, 1991 the visit was postponed to mid September, 1991.

PRIVATE SECTOR IMPORT OF FERTILIZER

The process of further development of a free, open and competitive fertilizer market in Bangladesh through a steady and continuous policy reform by the GOB entered a new phase during the year 1990-91. Throughout most of the year basic supply sources remained in the hands of the public sector. All Urea, Gypsum, and about 20% TSP are produced and supplied by BCIC. The remaining TSP, all MP and Zinc are imported and supplied by BADC. At present all domestic distribution and marketing of urea is done by the private sector after buying it from the BCIC factories at fixed prices. They buy all TSP from BADC, most of it from the ports (ships), some from TDPs including the TDP at TSP Complex and some from some of the PDPs. Similarly, MP is sold by BADC from the ports (ships), TDPs and the PDPs to the private sector. Thus, domestic fertilizer distribution by the private sector has remained totally depended on quantities and types of fertilizers supplied by public sector. Thus, Bangladesh has remained deprived of the opportunity of freely choosing a mix of fertilizer products most cost effective and consistent with requirements of the farm sector.

However, during the year private sector fertilizer import finally started which is a major break through of the GOB policy reform program. The first private sector vessel with ETA of June 26, 1991, carried 21 thousand MT of TSP.

After the start of direct sale of fertilizers from the factories and ships to the private sector distributors, permission to import fertilizer was a natural next step in the process of policy reform. This was essential in order to create a healthy, competitive, free market of



Mr. Irshadul Haq, Additional Secretary, Ministry of Agriculture, addressing a National Fertilizer Market Development Workshop



Mary C. Kilgour, Mission Director, USAID, Dhaka, visiting Mirzapur farm areas



Mr. H. N. Majumder, General Manager, BCD, and Mr. Ataul Haq of Bangladesh Bank with Mr. K. L. Moots, Chief of Party, IFDC/Dhaka, discussing Credit Workshop arrangements at Bangladesh Bank, Bogra



Mr. K. L. Moots, Chief of Party, IFDC/Dhaka, discussing fertilizer import matters with the importers



Ethiopian delegation visiting Fertilizer Distributor Mr. Anwar Hossain at Narayanganj



Transporting fertilizer

fertilizers in Bangladesh. During the year, private sector was for the first time permitted to import fertilizer. Before that, under Government rules only BADC was allowed to import fertilizer. The second most important hindrance for the private sector to import fertilizer has been the GOB price regulation policy at less than import costs to allow subsidy which was almost half of the international market price. Thirdly, all fertilizer import in Bangladesh is aid financed by international donor community under varied types of conditionalities. The main issue, therefore, was to allow the private sector to import fertilizer by competing with BADC on a level playing field aside from their strong opposition and various types of obstructions. IFDC first carried out for the GOB an in-depth study to establish required modalities to enable the private sector to import fertilizer under aid financing and subsidized in-country issue prices³. On the basis of these modalities, USAID allocated US\$ 9.5 million for private sector import of fertilizer. It has also been agreed between the GOB and USAID through PIL/40 issued for the Commodity Import Program (CIP) that counterpart funds generated from the sale of this import in the form of local currency would be utilized for commercial credit program operated under the control of the Bangladesh Bank.

³Samad A, W. T. Brooks and Surjit S. Sidhu : Private Sector Import of Fertilizer in Bangladesh.

On similar basis, USAID has shown its willingness to finance further imports of fertilizer by the private sector for an additional US\$ 20.0 million, out of which \$ 4.5 million have already been obligated. Out of short listed, 8 importers who were selected tentatively through a lottery draw out of 48 interested parties, the first and second firms were allocated US\$ 9.5 million to import TSP through a USAID listed broker. US\$ 20.00 million mentioned above are likely to be used by the other parties on the short list.

The import of fertilizer by private sector importers breaking the public sector monopoly is a milestone in the history of Bangladesh fertilizer marketing.

It is expected to bring benefits similar to those obtained from direct lifting of urea from factories. Potential gains are in the following areas :

- Lower internal movement and handling cost.
- Improved seasonal availability in all regions.
- Freely chosen improved and cost-effective mix of fertilizer products.
- Improved product quality, weights and measure.
- Expanded services to farmers using fertilizers.

A major gain to the economy will also come from lower inventory cost with large budgetary savings to the Government. The private sector is expected to be more sensitive to shifts in demand and supply and will adjust inventory level accordingly.

TRAINING AND DEVELOPMENT OF THE FERTILIZER DEALERS

Formalized training and workshops which provide forums for exchange of information have been important components for the development of a competitive market for fertilizers in Bangladesh. As a 'Kick-off' for the year 1990-91 a "National Market Development Workshop", was held from July 23 to 24, 1990. The workshop was attended by



Dr. Malcom J. Purvis, Deputy Mission Director, and Ms. Helen Gunther, Deputy Director, OFA, USAID, Dhaka, and Mr. K. L. Moots, COP, IFDC/Dhaka.



Dr. Ray B. Diamond, Consultant, DD&T, IFDC/Dhaka with a group of fertilizer distributors under training at Phoenix, Arizona



representatives from the Ministries of Agriculture and Industries (including both Secretaries), Railways, BCIC, BADC, Bangladesh Bank, Commercial Banks, Fertilizer Distributors, Potential Importers, USAID and IFDC.

This workshop helped to identify several issues and constraints, in the process to promote the development of an open competitive fertilizer marketing system in Bangladesh.

Subsequently several regional workshops were also held during the year to discuss issues and problems pertaining to the provision of commercial credit under FDI-II to the fertilizer distributors. Banks and distributors vigorously participated in these workshops. As a result, numerous problems were solved and business relationships between the distributors and banks considerably improved.

Two programs were held assist the potential importers in preparation for the first private sector import of fertilizer. Also orientation programs were held for fertilizer distributors and BADC field staff concerning conduct of fertilizer demonstrations.

MARKET DEVELOPMENT FOR UREA BRIQUETTES

Research has shown that placing urea 7-10 cm. into paddy fields about a week after transplanting rice is agronomically more efficient than split broadcast application of urea at a similar rate, because it minimizes the potential losses into the atmosphere and increases production. A practical method of deep placing urea is placement of large particles (briquettes) of urea by hand in the soil. Briquettes weighing one gram each are used. Farmers may use 1, 2 or 3 briquettes in 4 hills depending upon the crop season and also the soil conditions. Additional prill urea may be used 5-7 days before panicle initiation depending upon crop condition. Demonstrations of this urea deep placement (UDP) technique have shown promising results.

UDP DEMONSTRATIONS

During the Aman and Boro 1990-91 seasons, demonstrations were carried out in farmers fields in collaboration with BADC and also some distributors. Previously since Boro 1988-89 only BADC was involved.

The results of these demonstrations show that from the same amount of urea applied crop yield on average was more from UDP by 850 to 950 kg of paddy/ha (16 to 19%) during Boro seasons, and 527 to 645 kg/ha (12 to 15%) during Aman seasons. Average yields per hectare from UDP being about 6.0 MT during Boro and about 5.0 MT during Aman. This is a substantial yield advantage for UDP method over split urea applications and affords large profits. In general, increased yield is observed due to increased tillering.

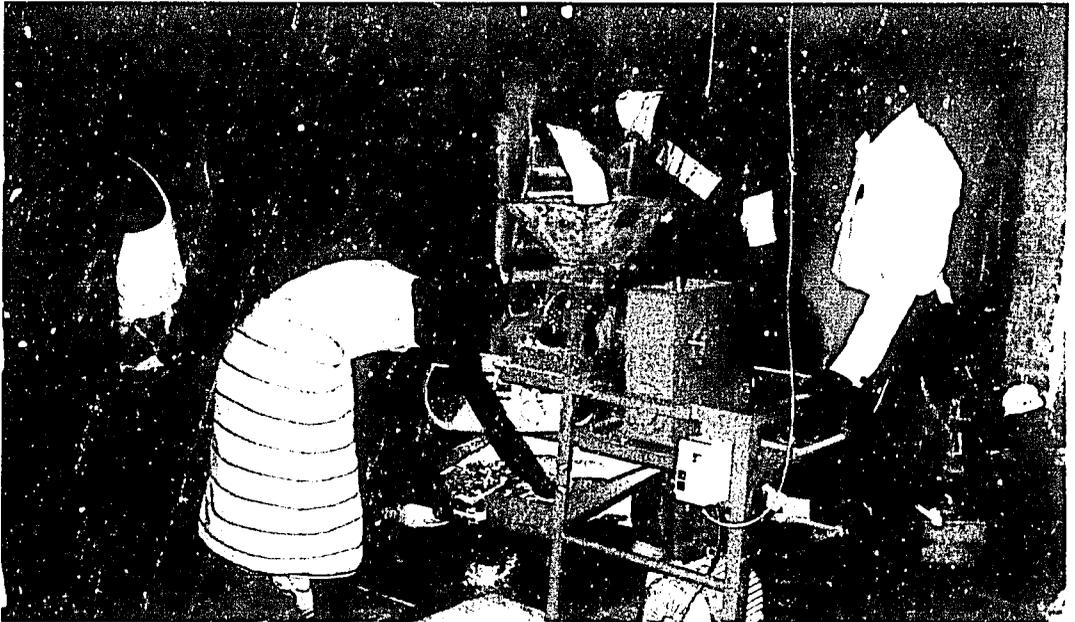
At present two main problems to be faced are to: (1) Arrange for adequate and timely supplies of briquettes to ensure availability to the interested dealers and farmers, and (2) to provide intensive education to the interested farmers on methods of UDP.

TEST MARKETING FOR UREA BRIQUETTES

In view of the encouraging results during 1990-91, test marketing for urea briquettes was started. In all 22.5 MT of briquettes were distributed to 17 fertilizer distributors and dealers who marketed (sold) them. About 18 MT were used for deep placement in the



Inspection of a UDP plot



A Urea Briquetting Machine



Transplanting of rice in Bangladesh

Boro crop in 12 Regions of 4 Divisions of the country. The remaining quantity was sold for the Aus crop. The individual companies marketed from 150 kg to 8 MT. The largest quantity was marketed in Tangail and Jamalpur Regions. For the next season, Major (Retd.) Abdul Hakim of M/s. Layla Enterprise, Naogaon has placed an order for the purchase of a Briquetting machine.

MAIZE DEMONSTRATIONS

Bangladesh seems to have considerable potential opportunities for maize production during the Rabi season. For assessing this potential, during the 1990-91 Rabi season, 10 block demonstrations in at least one hectare (blocks) were organized. Nine interested fertilizer distributors selected the farmers and undertook the responsibility for marketing of the maize crop.

The project provided seed (Barnali variety), fertilizer and technical assistance. Fertilizer application rates were 300, 160, 160, 60 and 12 kg/ha of N, P2O5, K2O, S and Zn, respectively. At some locations, small plots with one-half of the above rates were used for comparison.

The grain yields obtained in these demonstrations ranged between 5.0 to 7.8 MT/ha. In the worst location which suffered some drought stress, the yield was limited to about 5.0 MT/ha. Production cost estimates (including seed, fertilizer and labor) are Tk. 15,000/ha. With the lowest yield, profit would be Tk. 20,000/ha with maize grain selling at Tk 7.0/kg at the farmgate. Additionally, thinned plants, leaves cob husks, standing plants, etc. have a value of about Tk. 2,200/ha.

At six of the locations field days were held. In surrounding areas farmers appears to be enthusiastic for the opportunity to cultivate maize. Many farmers saved seed for next years crop. It would not be surprising if the area cultivated to maize increased by 20-30 fold during Rabi 1991-92 in the areas where the block demonstrations were held.

The quality of the Barnali (open pollinated) seed variety was less than desirable in terms of uniformity of plant and grain characteristics. Possibly a more uniform open pollinated variety or hybrids would have greater yield potential.

DEMONSTRATIONS OF CROP RESPONSES TO SULFUR AND ZINC

Crop responses to fertilizer sulfur and zinc have been observed for a number of years in Bangladesh. The annual rates of increase in sales of Gypsum and Zinc Sulphate have been 23.1% and 47.1% from 1985-86 to 1989-90. It shows that demand for these products is increasing.

The project has been carrying out demonstrations managed by BADC and also provided technical assistance to promote sales of gypsum and zinc sulfate. Fertilizer dealers have also been involved to increase product availability and promote sales.

These demonstration results indicate that the greatest frequency of crop response to sulfur might be expected on the Tista Meander Floodplain, Old Brahmaputra Floodplain and Madhupur Tract. Response to zinc might be most prevalent on the Tista Meander Floodplain, Old Brahmaputra Floodplain and the Chittagong Coastal Plain.



Mr. M. A. Syed, ex-Secretary, Ministry of Agriculture with Fertilizer Distributors



Mr. K. L. Moots, Director Asia and COP, IFDC/Dhaka, with Mr. K. Z. Rahman, IFDC/MS, discussing project extension matters



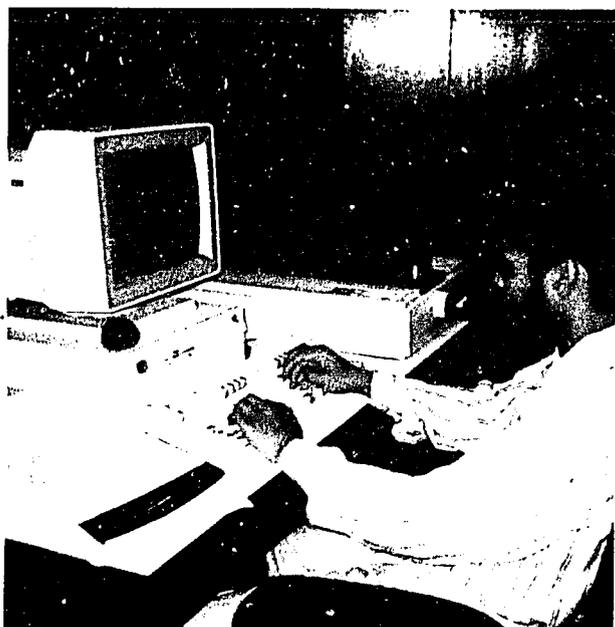
Mr. K.L. Moots, COP and BADC ex-R M-Khulna, Mr. Asadul Baqui crossing river Rupsa to visit Fertilizer distributors' shops

EXTERNAL TRAINING



During the year 1990-91 following out of country training programs were carried out :

Training program	No. of persons	Institution affiliation	Institution attended	Dates of training
Credit Administration	7	Commercial Bank	American Graduate School of International Management & Banks in USA and Thailand.	March 4, 1991 to March 21, 1991.
-do-	3	-do-	-do-	November 11, 1990 to December 11, 1990.
-do-	9	8 Commercial Banks 1 IFDC	IFDC, Muscle Shoals, Alabama & Banks in Thailand.	July 2, 1990 to July 26, 1990.
Fertilizer Marketing Management	9	Private Distributors	American Graduate School of International Management.	January 3, 1990 to January 23, 1991.
-do-	2	BADC	IFDC, Muscle Shoals, Alabama.	August 6, 1990 to September 14, 1990.



Processing of farm-level fertilizer use survey data

The main objective of Farm-level Fertilizer Use Study (FLFUS) is to monitor and assess the impact of policy reform pursued by FDI-II project on farmers in terms of availability, use and price of fertilizers and to establish relationships between fertilizer (and other inputs) use and agricultural production, useful to direct further policy actions to promote food and agricultural production. FLFUS started with 1988/89 Rabi/Boro (Winter) season with a sample of 47 locations and 50 randomly selected farms at each location. Subsequently with 1989/90 Rabi/Boro season, 9 locations were added and the sample now consists of 56 locations and 2819 farms. This sample provides adequate coverage to generate appropriate data on farm circumstances and behavior in relation to fertilizer use and various other aspects of agricultural production in Bangladesh. During the year 1990/91 following activities were carried out under the FLFUS :

- a. A comprehensive report for the 1989 Aman season was prepared and released.
- b. For the 1989/90, Wheat and Boro rice crops early production estimates using crop cut techniques were finalized and presented. FLFUS data files were prepared and analysis continued. Report is at present under preparation.
- c. For Aus 1990 season, field survey and preparation of computer data files was completed.
- d. Early crop production estimates were also prepared for the 1990 Aman season using crop-cut-techniques. Also FLFUS field survey and data entry work have been completed.
- e. For the 1990/91 Rabi/Boro (Winter) crops, field work for the FLFUS has been completed.
- f. Monthly crop situation reports were regularly released.

Based on the sample data, some of the salient results are briefly mentioned here.

Farmers of Bangladesh during 1989 Aman season cultivated 23 crops in all, but paddy was the most important crop occupying 99 percent of the total crop area and used 99 percent of the total chemical fertilizer (57.33 kg per acre).

On an average, the following mix of fertilizers was used: Urea 60 percent, TSP 30 percent, MP 9 percent, Gypsum 1 percent and Zinc about 0.1 percent.

The data on land ownership and tenure from this survey were compared to the data generated during 1981 study and show that land ownership distribution from 1981 to 1989 (Aman seasons) shifted towards landless and smaller size of land ownership. This group increased from 32 percent in 1981 to 40 percent in 1989 and correspondingly share cropping increased from 10 percent of the area in 1981 to 18 percent of the crop area in 1989 and owner cultivated crop areas declined from 84 percent to 76 percent. These trends, in spite of improvements in land productivity and increased agricultural and food production are likely to continue. There are tremendous social and political implications of these changes in terms of increasing employment requirements.

Paddy crop areas fertilized by different fertilizers during the season were: 77 percent by Urea, 51 percent by TSP, 27 percent by MP, 3 percent by Gypsum and 1 percent by Zinc.

Overall average per acre use of all chemical fertilizers was: 27 kg for unirrigated local variety crops, 63 kg for irrigated local variety crop, 82 kg for unirrigated high yielding variety crop and 139 kg for irrigated high yielding variety crop.

In case of the LV paddy, about one third of the sample plots did not use fertilizer, one third used 1-40 kg per acre and one third used more than 40 kg per acre. In case of HYV crop, 23 percent used 40-80 kg per acre, 24 percent used 80-120 kg per acre, 22 percent used 120-160 kg per acre and 17 percent more than 160 kg per acre. Almost all fertilized area under HYV used urea for top dressing but only one third of the area applied it as basal.

Average use of three major nutrients were 42 kg per acre for HYV crop and 22 kg per acre for T. Aman LV crop based on areas actually fertilized. These use rates are quite close to the BARC recommendations under medium resources base. However, the actual use of N was more and that of P_2O_5 was less. Also in the case of B. Aman, BARC recommends only N for most of the areas and P_2O_5 for very limited areas. However, the use of P_2O_5 is widely practiced for this crop.

Crops yields and fertilizer use were positively related on various Aman paddy crops. Average yield of B. Aman (603 kg per acre) and the average use of fertilizer (19 kg per acre) were the lowest, and average yield of irrigated HYV crop (1349 kg per acre) and the average use of fertilizer (138 kg per acre) were the highest.

From 1981 to 1989 fertilized area increased from 83 percent to 97 percent for HYV crop and 49 percent to 58 percent for LV crop. Average use of fertilizer increased from 34.71 kg to 57.33 kg (by 22.62 kg) per acre. The total increment was: 56 percent due to increased diffusion of HYV (28 percent to 49 percent), that is, higher coverage; 27 percent due to increase in fertilizer area; and 15 percent due to more intensive use of fertilizer in both LV and HYV crops.

Early production estimates were made using crop-cut techniques for 1989/90 wheat and rice crops and 1990 Aman rice crop. The estimates were as follows:

Crop	Yield (Kg per acre)	Production (Estimates based on BBS area estimates) (‘000’ MT)
1989/90 Wheat	495	772 (Bad weather)
1989/90 Boro rice	1,153	7,200
1990 Aman rice	761	9,700* to 10,500**

* Based on BBS area estimates of 1989/90.

** Based on area estimates of the Department of Agricultural Extension for 1990/91.

IFDC/Dhaka maintains a modern Systems Analysis Unit (SAU) for data and information processing which has been continuously expanding because of the rapidly expanding monitoring and evaluation activities. The SAU at present has the capabilities to produce customized reports, graphical representation of data and statistical analyses. All word processing, data analysis and reporting is done by PCs.

At present the SAU has 8 IBM PS/2 Personal Computers, 4 High speed printers and one plotter installed. All these hardwares are linked to each other by a Local Area Network (LAN). All secretarial staff is also provided PCs on their desks. Several softwares including Statistical Analysis System (SAS) are used.

A separate Computer Unit for the "Farm-level Fertilizer Use Survey Project" with large storage memory and processing speed for major data processing and analytical activities on fertilizer use and crop production is maintained. This unit is planned soon to be merged with the SAU.

During the year due to a rapid increase in the monitoring activities of the commercial credit program, two large procedures were added for data processing. One procedure processes survey data and the other relates to Banks performance. Also word processing responsibilities expanded phenomenally during the year and to cope up with these activities some hardware were added.

FUTURE PLANS

Further improvements in the capabilities of the SAU are planned for data and word processing during 1991-92. Some additional computers will be installed at the Dhaka office as well as at the newly created divisional offices.

DIVISIONAL OFFICES

At present IFDC has three Divisional Marketing Offices in Bangladesh. Two at Chittagong and Khulna were established during 1989-90, and the other at Bogra was started during the year. These offices became essential in order to closely coordinate, assist and monitor project activities in view of the rapidly changing fertilizer market structure in Bangladesh. Chittagong and Khulna offices coordinate and monitor direct port sales of TSP & MP. Problems and bottlenecks were encountered by the private distributors in lifting TSP & MP from BADC's imported ships in the form of delayed delivery, short weight bags, breaking serial of the priority list, etc. IFDC Divisional Offices monitored these activities and counseled/advised the concerned authorities on remedial action.

After the establishment of these three offices direct port sale of imported fertilizer increased from 23% to over 77% during the year. BADC's dispatch of TSP & MP to its PDPs was reduced and the transportation and inventory costs were accordingly saved. Due to closer contact with the private distributors, BADC/BCIC field offices and Banks, these liaison offices outside Dhaka can quickly identify and help solve problems.

AN ACKNOWLEDGMENT



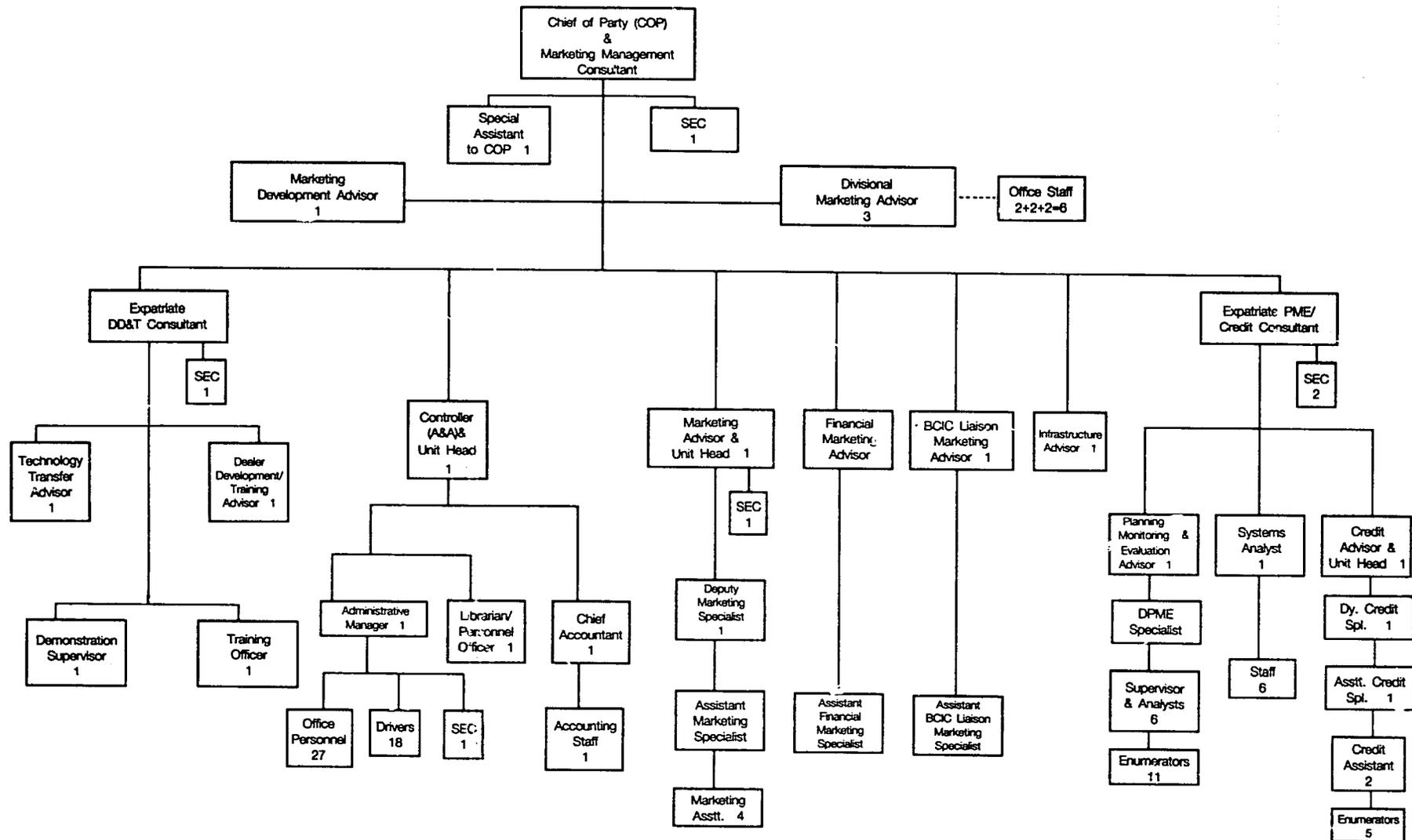
Help and cooperation of the following individuals and institutions for the training program for commercial credit is gratefully acknowledged :

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3. Am South Bank, Florence, Alabama
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10. Farmers Supply Cooperative, Lawrence, Kansas.
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33. Target Specialty Products, 12800 Studebaker Road, Cerritos, California, U.S.A.
34. Mr. J. Akridge, Purdue University.
35. Ohio State University.
36. Farm Credit Bank, St. Louis.

Following are the summary of publications brought out by the IFDC, Dhaka Office

1. DEVELOPMENT OF A COMPETITIVE FREE MARKET STRUCTURE FOR FERTILIZER IN BANGLADESH. IFDC Experience Policy Reforms (June, 1990). This report reviews the developments in the history of fertilizer marketing and distribution from a total public sector monopoly to a competitive free marketing system through gradual policy changes by the Government of Bangladesh along with technical assistance from IFDC funded by USAID.
2. ANNUAL MONITORING REPORT ON FERTILIZER DISTRIBUTION IN BANGLADESH 1990-91.
3. REPORT ON 1989 AMAN SEASON (APRIL 1991). The report gives information on farm level fertilizer use for 1989 Aman season. It gives the level of fertilizer use, method of application, fertilizer and paddy prices and a comparative analysis of 1981/82 and 1989/90 results.
4. CROP CUT STUDY 1990 AMAN YIELD ESTIMATION (APRIL 1991). This report gives an early estimate of 1990 Aman Rice production based on yield estimation by crop cut techniques in 56 selected locations. The impact of 1990 Aman Rice production on farm level paddy price is also discussed.
5. CROP CUT STUDY – 1989/90 BORO RICE YIELD ESTIMATION (AUGUST 1990). Early estimates of 1989/90 Boro production were made based on estimated yield using crop-cut techniques in 50 locations in 20 regions. Based on these data a 23.4 percent increase in production over the last year was estimated which was partially due to incentives created by the policy reform on irrigation operations and fertilizer marketing.
6. CROP CUT STUDY 1989/90 WHEAT YIELD ESTIMATION. This report provides early estimates of 1989/90 Wheat production based on data from 514 cuts covering 27 locations. Wheat yield during this season was quite low due to bad weather at the time when crop was maturing.
7. MONTHLY MONITORING REPORT ON FERTILIZER DISTRIBUTION IN BANGLADESH 1990-91.
8. MONTHLY SURVEY OF FARM LEVEL FERTILIZER PRICES, USE AND AVAILABILITY IN BANGLADESH.
9. MONTHLY CROP MONITORING REPORT.

ORGANIZATIONAL STRUCTURE OF IFDC/DHAKA TECHNICAL ASSISTANCE TEAM (1990-91)



Designated Unit Heads will be responsible for coordinating activities in the absence of any in-country Expatriate Consultant. Marketing/Unit head responsible for Marketing, DD&T and Infrastructure; Credit/Unit head Credit, PM&E, & Systems Analysis; Controller/Unit head Accounts & Administrator

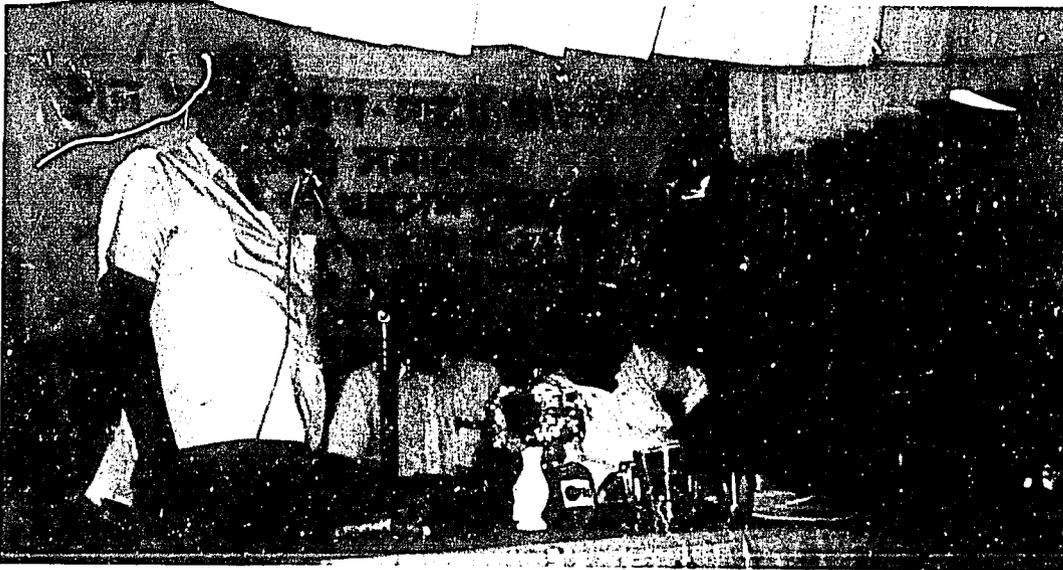
BUDGET AND EXPENDITURES MARCH 1987 THRU JUNE 1991

GOB/IFDC Contract Under FDI-II (Contract No. 388-0060-HCC-8701-01)

Description	Total Contract Budget for March 1, 1987 to June 30, 1991	Total Expenditure Since March 1, 1987 to June 30, 1990	Expenditure July 1, 1990 to April 30, 1991	Projected Expenditure May 1, 1991 to June 30, 1991	Total Expenditure Since March 1, 1987 to June 30, 1991
U.S. DOLLARS					
I. Resident Consultant Related Cost	1,751,528.48	1,267,038.65	413,036.76	93,693.00	1,773,768.41
II. Short Term Consultant	452,124.09	233,452.65	139,413.72	59,345.00	432,211.37
III. Consultant Office In-country	2,443,419.15	1,633,520.17	689,042.18	145,241.00	2,467,803.35
IV. IFDC Headquarters Related Cost	83,358.33	71,274.56	6,003.20	1,200.00	78,477.76
V. Special Project Related Cost	511,333.03	379,519.97	84,295.30	52,180.00	515,995.27
VI. Training Activities	598,631.92	354,002.50	209,930.63	22,000.00	585,933.13
VII. Contingencies	-	-	-	-	-
Sub-Total (I to VII)	5,840,395.00	3,938,808.50	1,541,721.79	373,659.00	5,854,189.29
VIII. IFDC Management Fee	2,281,399.00	1,497,446.59	601,445.89	159,680.00	2,253,572.48
IX. Grand Total	8,121,794.00	5,436,255.09	2,143,167.68	533,339.00	8,112,761.77



Introduction of Maize in Bangladesh, Demonstrations and Field days



UDP Field day



Dr. Paul J. Stangel, President and Chief Executive Officer, IFDC and K. L. Moots, Director Asia and Chief of Party, IFDC/Dhaka, discussing FC-II project extension