A. REPORTING A.I.D. UNIT: USAID/Bangladesh (Mission or AID/W Office)

(ES#)

B. WAS EVALUATION SCHEDULED IN CURRENT FY ANNUAL EVALUATION PLAN? yes ☒ slipped ☐ ad hoc ☐

Eval. Plan Submission Date: FY 92 Q 3

C. EVALUATION TIMING interim ☒ final ☐ ex post ☐ other ☐

D. ACTIVITY OR ACTIVITIES EVALUATED (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report)

Project #	Project/Program Title (or title & date of evaluation report)	First PROAG or equivalent (FY)	Most recent PACD (mo/yr)	Planned LOP Cost ('000)	Amount Obligated to Date ('000)
388-0060	Midterm Evaluation of the Bangladesh Fertilizer Distribution Improvement Project, Phase II	1984	08/29/94	65000	62,079

E. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

Action(s) Required	Name of officer responsible for Action	Date Action to be Completed
1. Pursue BCIC acceptance of a variable-pricing policy at each of its factories, reflecting quantity, seasonal & cash vs. credit discounts.	IFDC	6/94
2. Review supply terms at fertilizer factory gates; obtain BCIC agreement to FOB delivery terms and payment on delivery.	IFDC	6/94
3. USAID adoption of import financing procedure of making funds available to Bangladesh Bank.	OFA	6/93
4. Transfer FDI-II activities to ATDP, as appropriate per ATD project design.	USAID & ATDP design team	8/94
5. Develop plans to consolidate the existing Bangladesh Fertilizer Businessmen Association, and turn it into a competent, dynamic organization.	IFDC	6/94
6. Investigating the information needs of recipients of monthly project reports; adapt market information reports to commercial users; study the feasibility of radio broadcasts of fertilizer market information.	IFDC	6/93

(Attach extra sheet if necessary)

F. DATE OF MISSION OR AID/W OFFICE REVIEW OF EVALUATION: mo 01 day 14 yr 93

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Signature				
Typed Name	Larry Paulson, OFA	(see signed copy, OFA files)	JRockliffe-King	Richard Brown
Date:	5/24/93	Date: 9/11/93	Date: 11/24/92	Date: 9/26/93

H. EVALUATION ABSTRACT (do not exceed the space provided)

The goal of the Bangladesh Fertilizer Distribution Improvement II Project (FDI-II), from 1987 to 1994, is to increase agricultural production through improving the marketing of agricultural inputs, primarily fertilizer. The purpose of the Midterm Evaluation of FDI-II was to examine the project's approach to achieving objectives and to assess its progress in meeting its goal. The evaluation determined that FDI-II has achieved its goal, as Bangladesh is now self-sufficient in rice (the staple food) as a result of a highly competitive market economy for fertilizer. The project has successfully promoted a wholly private three-tier distribution network that is fully integrated from retail to import by convincing the Ministry of Agriculture to adopt drastic policy reforms deregulating the old statist and centralized system.

Through a program of dealer training, credit from local banks, and planning/monitoring/evaluation through an elaborate management information system, FDI-II has helped to reshape Bangladesh's agricultural input sector. During FDI-II's life of project, virtually all fertilizer distribution has shifted to private entrepreneurs, and fertilizer use has doubled. Between June 1991 and December 1992, a 60% government subsidy on imported fertilizers has been eliminated while imports were completely privatized. The greater efficiency of privatized distribution absorbed enough of the price rise to make deregulation palatable.

The indirect achievements of FDI-II are seen in the impacts on other Ministries, e.g., Food. In addition, FDI-II success has extended beyond Bangladesh with the International Fertilizer Development Center - FDI-II's implementing agency - recently inaugurating an Asia office in Dhaka and looking also to replicate FDI-II successes in Eastern Europe.

I. EVALUATION COSTS

1. Evaluation Team Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (US$)	Source of Funds
Charles J. Heureux	Chemonics	PDC-1406-I-00-0033-00 D.O. # 22	28,547	Project

2. Mission/Office Professional Staff Person-Days (estimate) 20

3. Borrower/Grantee Professional Staff Person-Days (estimate) 15

E. Action Decisions Approved by Mission (continued)	Action Agent	Date Completed
7. Continue the present dealer development and training activities, and the sensitization of the banking system to the financial requirements of the fertilizer subsector.	IFDC	6/94
8. Investigate appointing a technology transfer advisor.	IFDC/MOA/ OFA	6/93

A.I.D. EVALUATION SUMMARY PART II

J. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS AND RECOMMENDATIONS (Try not to exceed the 3 pages provided)
Address the following items:

- Purpose of activity(ies) evaluated
- Purpose of evaluation and Methodology used
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Mission or Office: USAID/Bangladesh Date this summary prepared: 01/31/93

Title and Date of Full Evaluation Report: Midterm Evaluation of the Bangladesh Fertilizer Distribution Project (Phase II) November 1992

1. FDI-II Purpose

To increase agricultural production (Project Goal) by: increasing fertilizer consumption through more responsive and cost-effective distribution of fertilizers while simultaneously continuing assurance of adequate supplies of fertilizers nationwide.

2. Purpose of the Evaluation and Methodology Used

This was a mid-term evaluation to assess progress, identify changes to improve project performance, and to assist USAID in considering longer-term directions to strengthen competitive private sector involvement in fertilizer input markets.

The methodology was to identify an experienced evaluator with extensive background in agricultural development, specifically in agribusiness and agricultural policy reform, who is well-informed about recent changes and current thinking in AID's approach to agricultural development. The evaluator spent one month perusing project documents and interviewing key individuals in both public and private sectors in Bangladesh.

3. Findings and Conclusions

* An important feature of Bangladesh's fertilizer subsector is that the local urea industry, by exploiting the country's significant gas deposits, meets domestic nitrogen fertilizer requirements and produces exports that potentially could offset the import bill disbursement for other fertilizers (mainly phosphate and potash).

* The most significant accomplishments of the FDI-II project thus far are:

* Sales of fertilizer have risen from 1.32 million mt in FY 1987 to 2.29 million mt in FY 1991 - a 73 percent increase - while the country has become self-sufficient in rice. The value of this demand is estimated in late 1992 at a procurement cost level of $306 million (of which $121 million is for imports), and at the farm level, $372 million - a 25 percent mark-up.

* Since June 1992, imports have been handled entirely by private importers. These entrepreneurs gained access to the import market only in June 1991, and handled 31 percent of imports in 1991/92. All local lifting of urea is carried out by private traders.

* During the past five years, FDI-II has completed the development of a wholly private and fully integrated three-tier fertilizer marketing system from procurement (including importation) to nationwide retailing that reaches even the remote areas of the country.

* Ten years ago, under the state-centralized marketing system, there were 60,000 appointed retailers, of whom around 6,000 were active. In the present free market system, however, there are 110,000 retailers (65,000 regular outlets and the rest bazaar-type

retailers), of which 1,270 have grown to the level of wholesalers and 215 to importers/distributors. These dealers use 650 depots with a capacity of 515,000 mt. This growth in dealers was possible due to the FDI-II training program, which will run 76 sessions for an estimated 10,000 participants over the life of the project.

* The Commercial Credit Program (CCP) of FDI-II has made possible the emergence of a new class of entrepreneurs who would not otherwise be in the fertilizer distribution business. Since mid-1989, 15 banks have used CCP to disburse $156 million in loans, 61 percent of which were from their own funds. From the start of CCP two years ago, refinancing disbursed by the Bank of Bangladesh has totaled $77 million.

* All policy reforms proposed by FDI-II to develop a fully open fertilizer market have been implemented. In principle, anybody today can purchase supplies directly from any port or factory gate and resell them at whatever price the market will bear. This situation has been achieved through the deregulation of state import and retail monopolies. In spite of the continuous reduction of BDG subsidies, however, prices to farmers have not increased by the same amount because part of this increase has been absorbed by the trade margin.

* An elaborate management information system (MIS) has been developed by FDI-II's Planning, Monitoring, and Evaluation Unit (PME) to monitor, evaluate, and correct the progress and failures of the fertilizer marketing policy reforms. The MIS allows the project to address any issue with a rational, systematic approach, and makes it possible to take appropriate actions, particularly when abnormally high farm-level prices are observed in a marketplace.

* Indirect achievements of FDI-II include its impacts on agencies other than the MOA, such as the Ministry of Food, which is examining fertilizer subsector deregulation in order to learn more about the free market economy.

* Continuity, professionalism, team spirit, and excellent contacts with the public sector are some of the outstanding assets acquired over 14 years by the FDI project. The MOA's support for FDI-II and its implementation has been central to the project's accelerating progress since 1989. FDI-II's advisory role to the Ministry has become by far the most important activity of the project.

* A major unresolved issue, following the continuing deregulation of the fertilizer marketing, is the still undefined role of the Bangladesh Agricultural Development Corporation (BADC), its 20,000 employees (including several hundred qualified agronomists, engineers, and laboratory staff), and its idle 400,000 mt warehouses.

* A period of consolidation and institutionalization of the project's assets is now underway, as is a broadening to other agricultural inputs which reach the same end-user communities as fertilizer.

4. Principal Recommendations

1. **Urea Monopoly:** The Bangladesh Chemical Industries Corporation (BCIC) continues to enjoy a state monopoly in the supply of urea. BCIC's factories use an approach completely unadapted to a free market economy. The variable pricing policy FDI-II is asking BCIC to adopt appears sound, and its acceptance by BCIC - and subsequently by each of its urea factories - should be actively pursued. The pricing policy involves quantity, off-season, and cash discounts, as well as the application of true fee on board (FOB) prices in the case of Chittagong Urea Fertilizer Ltd.

Ending BCIC's urea monopoly is probably the only way of forcing the urea factories to adopt a commercial attitude. A strategy to deregulate urea imports should also be developed.

2. **Imports:** Competition for fertilizer imports must be improved. The FDI-II plan to convince all donors to follow the ADB system is probably the best solution for the moment, although probably difficult to accomplish. The plan would entrust the Bangladesh Bank with the administration of loans reserved for the purchase of agricultural inputs. Such a scheme, if adopted by the whole donor community, would facilitate the advent of a completely open import market system.

3. **Transfer of FDI-II Activities:** As nothing in the present and planned activities of the project seems to indicate that anything is being done to ensure the sustainable transfer of its components to another institution, most of FDI-II activities should be transferred to the new USAID Agribusiness Technology Development project (ATDP) now being designed.

It should be noted, however, that both private sector marketing and bank credit for fertilizer distribution are already institutionalized.

A task for the ATDP design team should be to identify components of FDI-II that are ready to be transferred; specify to whom and how they will be shifted; and identify which are not yet ready or should be transferred by ATDP after they are adapted to the broader scope of the new project.

4. **Fertilizer Industry Association:** Plans for the consolidation of the existing Bangladesh Fertilizer Businessmen Association (BSBS) should be developed to turn it into a competent, dynamic organization. One of BSBS's main functions will be to represent and defend the interests of private fertilizer businesses. BSBS could also eventually collaborate with other agricultural input subsectors in information/market system support.

5. **Fertilizer Act:** The proposed "Fertilizer Materials and Regulation Act" prepared by FDI-II should be enacted by the BDG. The Act addresses all legal issues relevant to a free and open fertilizer market.

6. **Decision-makers and Project Reports:** Investigating the information needs of the 46 recipients of the monthly Monitoring Report on Fertilizer Distribution in Bangladesh would increase subscriber interest. Similarly, adapting market information reports to commercial users should be pursued, and the feasibility of radio broadcasts of fertilizer market information should be studied.

5. Lessons Learned

Policy reform via deregulation, permitting competition, allows businesses to bypass the financial difficulties associated with privatization, e.g., finding a private enterprise willing to takeover the excess staff and unadapted facilities of a state corporation. Even when competition leads to greater overall employment in a sector, however, unemployment or inactivity among redundant personnel can remain a potent issue.

The long term commitment, by both USAID and the contractor, has been essential to achievement of project goal and purpose. Significant reforms began occurring in year eleven of the fertilizer program.

Combining policy reforms with fostering entrepreneurs and developing their business management skills yields both persons/firms positioned to respond to the opportunities resulting from policy reforms, and a necessary cause (condition) of the reforms themselves.

L. COMMENTS BY MISSION, AID/W OFFICE AND BORROWER/GRANTEE

This Mid-Term Evaluation report of USAID/Bangladesh's Fertilizer Distribution Improvement II Project, as amended with an errata page and a letter from the contractor, meets the Mission's expectations. The Report documents project progress toward achieving its purpose. Because FDI-II Project information systems and documentation are so extensive, the methodology of commissioning a "senior evaluator" to review project documents and to conduct a limited number of key interviews seems to have been successful in producing a thorough and analytically sound evaluation.

The only recommendation rejected was the one to end the urea monopoly of the Bangladesh Chemical Industries Corporation. While the Mission does not disagree with this recommendation, it falls outside the scope of both FDI-II's Project Paper and the implementing contract.

No new issues were identified during this evaluation. However, the Report's highlighting the lack of progress in providing for transition of MIS functions to other organizations following the PACD, is directing more attention to that element. In addition, the Report has been useful in the design of the Mission's new Agribusiness and Technology Development Project which will adapt the methodologies of FDI-II to the broad area of agricultural inputs and technologies.

CHEMONICS

BANGLADESH FERTILIZER DISTRIBUTION IMPROVEMENT PROJECT, PHASE II

Contract No. PDC-1406-I-00-0033-00
Delivery Order No. 22

MIDTERM EVALUATION
FINAL DRAFT

Prepared for:

USAID/Bangladesh

Prepared by:

Charles J. Heureux, Ir.A.I.Gx.

representing

Chemonics International

November 1992

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ACKNOWLEDGEMENTS

The FDI-II evaluator would like to acknowledge the outstanding welcome he received from all the people he met in Bangladesh in the public, private, and international sectors. He wishes to thank warmly the staff of USAID/Dhaka's Office of Food and Agriculture, in particular Helen Gunther, Kevin L. Mullaly, Larry Paulson, and Nizam U. Ahmed. In addition, he wishes to thank the staff of IFDC/FDI-II's Dhaka and Chittagong offices, in particular Kenneth L. Moots, John H. Allgood, Thomas P. Thompson, and A.H.M. Obaidul Bari.

The continuous dialogue which was possible with all of these people from the first day of the appraisal allowed the evaluator to make informed judgments about this exceptional project in the short time available to him. The guidance and advice obtained through various informal meetings with USAID made it possible to work methodically and efficiently and to finish this evaluation on time.

The evaluator wants also to acknowledge the contribution of A.H.M. Obaidul Bari and Waqar Ahmed of the FDI-II project for their preparation of some of the graphs included in this report. Last but not least, the evaluator is most grateful to USAID for giving him the opportunity of reviewing this 14-year fertilizer program, which is likely to become a cornerstone of the agricultural input deregulation process in developing countries.

ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ac	Acre
Aman	Agricultural season for paddy planted before or during the monsoon rains (which begin in June) and harvested in November-January
ASP	Ammonium sulphate
ATDP	Agribusiness Technology Development project, USAID/Dhaka
Aus	Agricultural season for paddy planted during March-April and harvested in June-September
BADC	Bangladesh Agricultural Development Corporation
BARC	Bangladesh Agricultural Research Council
BARI	Bangladesh Agricultural Research Institute
BCIC	Bangladesh Chemical Industries Corporation
BDG	Bangladesh Government
Bgd	Bangladesh
Boro	Agricultural season for wheat and paddy sown/planted in November-January and harvested in April-June
BSBS	Bangladesh Sar Baboshaye Samiti (Bangladesh Fertilizer Businessmen Association)
C&F	Cost & freight
CCP	Commercial Credit Program, FDI-II
CIP	Commodity Import Program, FDI-II
COP	Chief of party
CUFL	Chittagong Urea Fertilizer Limited
DAE	Department of Agricultural Extension
DAP	Diammonium phosphate
DD&T	Dealer Development and Training Program, FDI-II
Dealer	Wholesaler, retailer, or reseller
Distributor	Large wholesaler with nationwide coverage, generally importing fertilizers
District	Administrative unit comprising several thanas; there are 64 districts in Bgd
Division	Administrative unit comprising several districts; there are four divisions in Bgd: Dhaka, Chittagong, Rajshahi, and Khulna
FADINAP	UN Fertilizer Advisory Development and Information Network for Asia and the Pacific, Bangkok
FAO	Food and Agricultural Organization of the United Nations
FDI-I	Fertilizer Distribution Improvement project, Phase I
FDI-II	Fertilizer Distribution Improvement project, Phase II
FLFUS	Farm-Level Fertilizer Use Survey, FDI-II
FOB	Free on board
FY	Fiscal Year (July 1-June 30)
GIFAP	Groupement International des Associations Nationales de Fabricants de Produits Agrochimiques (International Group of National Agrochemicals Manufacturers Associations)
Godown	Warehouse

ha	Hectare(s)
HYV	High-yielding variety
IFA	International Fertilizer Industry Association, Ltd, Paris
IFDC	International Fertilizer Development Center, U.S.
IFPRI	International Food Policy Research Institute, U.S.
ILC	Inland letter of credit
Ir.AIGx	Ingénieur de l'Association des ingénieurs issus de la Faculté des sciences agronomiques de Gembloux, Belgique (chartered agronomist of the Faculty of Agronomical Sciences of Gembloux, Belgium)
ISNAR	International Service for National Agricultural Research, the Netherlands
K	Potassium
kg	Kilogram(s)
km	Kilometer(s)
lb	Pound (weight)
LV	Local variety
md	Maund, a unit of weight equivalent to 37.3 kg
MOA	Ministry of Agriculture, Bgd
MOF	Ministry of Food, Bgd
MP	Muriate of potash (potassium chlorate)
mt	Metric ton
N	Nitrogen
NARS	National Agricultural Research System
NMS	New Marketing System, FDI-I
NPK	Nitrogen/Phosphate/Potash fertilizer
OFA	Office of Food and Agriculture, USAID/Dhaka
OMS	Old Marketing System, FDI-I
P	Phosphorous
PDP	Primary distribution point
PME	Planning, Monitoring, and Evaluation, FDI-II
sq.km	Square kilometer
sr	Seer(s), a unit of weight equivalent to 0.93 kg; 40 sr = 1 md
SSP	Single super phosphate
TA	Technical assistance
TCCA	Thana Central Cooperative Association
TCL	TSP Complex Ltd, Chittagong, BCIC
TDP	Transportation discount point, BADC
Thana	Administrative unit comprising several villages; there are 464 thanas in Bgd
Tk	Taka (= 0.025 USD at end September 1992)
TSC	Thana Sales Center, BADC
TSP	Triple super phosphate
UDP	Urea deep placement
U.K.	United Kingdom
UNDP	United Nations Development Programme
U.S.	United States
USAID	U.S. Agency for International Development
USG	Urea supergranule

WEIGHTS AND MEASURES

1 acre (ac)	= 0.405 ha
1 crore Tk	= 10 million taka = USD250,000 at 40 Tk/USD
1 kilogram (kg)	= 2.205 lbs = 1.07 seers(sr)
1 lakh Tk	= 0.1 million taka = USD2,500
1 maund (md)	= 40 sr = 82.27 lbs = 37.3 kg
1 metric ton (mt)	= 1,000 kg = 26.8 md
1 seer (sr)	= 2.06 lbs = 0.93 kg
1 sq. km	= 0.386 square miles = 247 ac = 100 ha
1 taka (Tk)	= 0.025 USD (end September 1992) unless specified
1 USD	= 40 Tk (end September 1992) unless specified

This midterm evaluation of the USAID-funded Fertilizer Distribution Improvement project, Phase II (FDI-II) is the result of a one person-month effort in Bangladesh between September 22 and October 22, 1992. It was conducted by Charles J. Heureux, Ir. AIGx, a consultant from Chemonics International of Washington, D.C. Edward M. Rawson, Chemonics' Asia region project supervisor, attended the final week of the evaluation in Dhaka.

A. Principal Findings

An important feature of Bangladesh's fertilizer subsector is that the local urea industry, by exploiting the country's significant gas deposits, not only covers domestic nitrogen fertilizer requirements, but produces exports that if well managed can offset the import bill disbursement for other fertilizers (mainly phosphate and potash).

Below is a description of the most significant accomplishments of the FDI-II project thus far.

Sales of fertilizer have risen from 1.32 million mt in FY 1987 to 2.29 million mt in FY 1991—a 73 percent increase—while the country has become self-sufficient in rice. The value of this demand is estimated at a procurement cost level of $306 million (of which $121 million is for imports), while at the farm level, demand reaches $372 million—a 25 percent mark-up.

Since June 1992, imports have been handled entirely by private importers. Previously, these entrepreneurs handled only 31 percent. All local lifting of urea is carried out by private traders.

During the past five years, FDI-II has completed the development of a wholly private and fully integrated three-tier fertilizer marketing system from procurement (including importation) to nationwide retailing that reaches even the remote areas of the country.

Ten years ago, under the state-centralized marketing system, there were 60,000 appointed retailers, of which around 6,000 were active. In the present free market system, however, there are 110,000 retailers (65,000 regular outlets and the rest bazaar-type retailers), of which 1,270 have grown to the level of wholesalers and 215 to importers/distributors. These dealers use 650 depots with a capacity of 515,000 mt. This growth in dealers was possible due to the FDI-II training program, which will run 76 sessions for an estimated 10,000 participants over the life of the project.

The Commercial Credit Program (CCP) of FDI-II has made possible the emergence of a new class of entrepreneurs who would not otherwise be in the fertilizer distribution

business. Since mid-1989, 15 banks have used CCP to disburse $156 million in loans, 61 percent of which were from their own funds. From the start of CCP two years ago, refinancing disbursed by the Bank of Bangladesh (the nation's central bank) has totaled $77 million.

All policy reforms proposed by FDI-II to develop a fully open fertilizer market have been implemented. In principle, anybody today can purchase supplies directly from any port or factory gate and resell them at whatever price the market will bear. This situation has been achieved through the deregulation of state import and retail monopolies. In spite of the continuous reduction of BDG subsidies, however, prices to farmers have not increased by the same amount because part of this increase has been absorbed by the trade margin.

An elaborate management information system (MIS) has been developed by FDI-II's Planning, Monitoring, and Evaluation Unit (PME) to monitor, evaluate, and correct the progress and failures of the fertilizer marketing policy reforms. The MIS allows the project to address any issue with a rational, systematic approach, and makes it possible to take appropriate actions, particularly when abnormally high farm-level prices are observed in a marketplace.

Indirect achievements of FDI-II include its impacts on agencies other than the MOA, such as the Ministry of Food, which is examining fertilizer subsector deregulation in order to learn more about the free market economy.

Continuity, professionalism, team spirit, and excellent contacts with the public sector are some of the outstanding assets acquired over 14 years by the FDI project. The MOA's support for FDI-II and its implementation has been central to the project's accelerating progress since 1989. FDI-II's advisory role to the Ministry has become by far the most important activity of the project.

The one major unresolved issue, following the continuing deregulation of the fertilizer marketing, is the still undefined role of the Bangladesh Agricultural Development Corporation (BADC), its 20,000 employees (including several hundred qualified agronomists, engineers, and laboratory staff), and its idle 400,000 mt warehouses.

A period of consolidation and institutionalization of the project's assets is now underway, as is a broadening to other agricultural inputs which reach the same end-user communities as fertilizer.

B. Principal Recommendations

B1. Urea Monopoly

The Bangladesh Chemical Industries Corporation (BCIC) continues to enjoy a state monopoly in the supply of urea. BCIC's factories use an approach completely unadapted to a free market economy. The variable pricing policy FDI-II is asking BCIC to adopt appears sound, and its acceptance by BCIC—and subsequently by each of its urea factories—should

be actively pursued. The pricing policy involves quantity, off-season, and cash discounts, as well as the application of true free on board (FOB) prices in the case of Chittagong Urea Fertilizer Ltd.

Ending BCIC's urea monopoly is probably the only way of forcing the urea factories to adopt a commercial attitude. A strategy to deregulate urea imports should also be developed.

B2. Imports

Competition for fertilizer imports must be improved. The FDI-II plan to convince all donors to follow the ADB system is probably the best solution for the moment, although probably difficult to accomplish. The plan would entrust the Bangladesh Bank with the administration of loans reserved for the purchase of agricultural inputs. Such a scheme, if adopted by the whole donor community, would facilitate the advent of a completely open import market system.

B3. Transfer of FDI-II Activities

As with any other foreign aid technical assistance project, the contribution of FDI-II to the development of Bangladesh's agriculture sector will be judged in the long term on its sustainability and on the extent to which its principal components are adopted by local bodies. This evaluation has already recognized FDI-II's achievements in deregulation and the establishment and institutionalization of a privately operated free market fertilizer distribution system. In addition, the project's fertilizer credit program has been consolidated to some degree.

There is concern, however, about the viability of these institutions once the project ends. Sustainability will depend first and foremost on government support in the form of policies and legislation. It will also depend on a number of market support services successfully initiated by the project. Project components which remain to be institutionalized through transfer to other private or public entities include the DD&T program, market advisory service, and sophisticated management information system. It now appears that it will be difficult to plan this transfer in an orderly manner by August 1994. It is therefore recommended that FDI-II activities be transferred to USAID's new Agribusiness Technology Development project.

Priority should be given to addressing these sustainability issues. Studies should be performed to determine what policies, legislation, and market support services will be needed to reinforce a free market for agricultural inputs in the absence of FDI-II. Such a series of reports should be incorporated into ATDP.

B4. Fertilizer Industry Association

Plans for the consolidation of the existing Bangladesh Fertilizer Businessmen Association (BSBS) should be developed to turn it into a competent, dynamic organization.

One of BSBS's main functions will be to represent and defend the interests of private fertilizer businesses. BSBS could also eventually collaborate with other agricultural input subsectors in MIS activities.

B5. Fertilizer Act

The proposed "Fertilizer Materials and Regulation Act" prepared by FDI-II should be submitted when ready to the BDG. The Act addresses all legal issues relevant to a free and open fertilizer market.

C. Planning, Monitoring, and Evaluation

An in-depth study should be carried to determine where and how PME activities will be transferred at the end of FDI-II.

C1. Price Monitoring

It is essential to implement a mechanism similar to the one used for monitoring farm-level prices, and to investigate in particular the availability of "intervention parties." Eliminating collusion at this level is a slower and, by far, more capital-intensive process than at the farmer level.

C2. Decision Maker and Management Information

Investigating the information needs of the 46 recipients of the monthly *Monitoring Report on Fertilizer Distribution in Bangladesh* would increase subscriber interest.

C3. Marketing Network Information

Similarly, sending market information adapted to marketing network needs should also be pursued, and the feasibility of radio broadcasts of fertilizer market information should be studied.

D. Lesson Learned

Deregulation policies allow businesses to bypass the financial difficulties associated with privatization, e.g. finding a private enterprise willing to takeover the excess staff and unadapted facilities of a state corporation. Deregulation does not, however, fully solve the social problems rising from unemployment or inactivity of redundant personnel.

The contribution of sociologists to this project, even on a part-time basis, would help address these important issues raised by policy reforms of this nature. It is not too late to include such assistance as part of ATDP.

SECTION I

INTRODUCTION AND OVERVIEW

SECTION I
INTRODUCTION AND OVERVIEW

A. General

This document is the midterm evaluation of USAID Project No.388-0060, the Bangladesh Fertilizer Distribution Improvement project, Phase II (FDI-II). The project is being implemented under a host-country contract by the International Fertilizer Development Center (IFDC) of Muscle Shoals, Alabama, U.S., on behalf of the Ministry of Agriculture (MOA). This evaluation was conducted in September-October 1992 by Charles J. Heureux, Ir. AIGx, a consultant from Chemonics International of Washington, D.C. Edward M. Rawson, Chemonics' Asia region project supervisor, attended the final week of the evaluation in Dhaka.

Although the FDI-II Project Authorization dates back to August 1984, the Project Agreement was not signed until February 1987, and consequently, FDI-II started operations in March 1987. The host-country contract for FDI-II was recently extended with the MOA from April 1992 to August 1994.

B. Purposes and Objectives of the Evaluation

The purposes of the FDI-II midterm evaluation are to trace the history of the fertilizer project and document the factors contributing to its success or failure. The evaluation has the following specific objectives:

- To enable the Bangladesh Ministry of Agriculture, USAID, and IFDC to assess progress during 1984-1992 toward achieving project purposes and objectives, and to assess project impacts.

- To identify changes in project strategy, areas of focus, and implementation activities which will improve performance over the remaining life of the project.

- To assist USAID in developing longer-term actions to strengthen competitive private sector involvement in fertilizer input markets.

The most important intended use of this evaluation's findings and recommendations should be as a basis for and guide to decision making in areas of strategic focus and implementation.

C. Evaluation Methodology

The methodology used by the evaluator consisted of desk research and interviews with parties directly involved with FDI-II and project outsiders affected by FDI-II impacts.

Documents for desk review by the evaluator prior to his departure from the U.K. were sent by USAID/Dhaka. In Bangladesh, the first stage of the evaluation involved obtaining as much information as possible from USAID/Dhaka and FDI-II/IFDC/Dhaka through a review of project papers and interviews with key personnel.

Interviews were arranged through USAID/Dhaka and IFDC/Dhaka with project beneficiaries (supplier agents, importers/distributors, wholesalers, and retailers) and government officials involved with the project (mainly from the Ministry of Agriculture). The management of the two state corporations directly affected by FDI-II (Bgd Agricultural Development Corporation and Bgd Chemical Industries Corporation) were also interviewed, and the two BCIC fertilizer plants in Chittagong were visited. Multilateral and bilateral aid institutions directly involved or linked with the agricultural input marketing sector (Asian Development Bank, the World Bank, the Royal Netherlands Embassy, and the Embassy of Japan) were also consulted. In addition, the evaluator met with agricultural organizations such as FAO and the Bgd Agricultural Research Council (BARC); consultants working on a seed project design for the European Community; and bank reform, food research and policy, and other agricultural input distributors (e.g. agrochemical importers).

Because of time and personnel constraints (one person-month for the entire evaluation, including local and international travel, desk research, and report writing), contacts outside Dhaka were limited to agricultural input traders in the Narayanganj, Norsingdi, and Chittagong areas. The evaluator attended part of the concluding session of a MOA/IFDC agricultural credit workshop organized in Dhaka for bank managers, as well as part of a workshop on credit, fertilizer, and food organized in Chittagong for local fertilizer distributors, bankers, and staff of the BCIC fertilizer plants, and also attended by officials from the Ministry of Food and foreign aid institutions. While attending this workshop, the evaluator visited one of the three FDI-II regional offices.

D. Country Context

Bangladesh is a small, very flat country of approximately 144,000 sq. km. It is situated in the alluvial plain of several large river deltas (Ganges, Brahmaputra/Jamuna, and Megna) which drain into the Bay of Bengal. The country experiences a tropical monsoon climate with frequent devastating cyclones forming in the Bay of Bengal. With 115 million people and a population growth rate of 2.5 percent, Bangladesh is the most densely populated country in the world. Eighty-five percent of the working population is employed in agriculture, and most of the national income is produced in this sector. By some estimates, Bangladesh is the second poorest country in the world after Bhutan, and foreign aid provides approximately 90 percent of the national development budget.

As a result of its topographic and climatic conditions, Bangladesh benefits annually from a cycle of three agricultural seasons, thereby allowing three rice harvests per year. Consequently, paddy (rice) constitutes by far the country's major crop, using 12-15 million ha (80 percent of the land under cultivation) each year.

One very important geological characteristic is the country's enormous gas deposits,

which have enabled the development of a fertilizer industry that meets domestic nitrogen fertilizer demand and still allowed exports of $50 million in FY 1989 and $17 million FY 1990. These revenues are significant in that they help offset the import bill for phosphate and potash fertilizers, estimated at around $75 million/year and almost entirely supported by foreign aid.

E. Background and History of the FDI Project

According to A.M. Anisuzzaman, former MOA Secretary, the first consignment of chemical fertilizer was introduced in Bgd in 1958, and was followed in 1968 by the first USAID proposal to import fertilizer into the country.

When it began in the early 1970s, the USAID-funded fertilizer program in Bangladesh consisted of separate efforts in fertilizer storage, bulk handling, and supply. These three activities were integrated and continued in the Fertilizer Distribution Improvement project, Phase I (FDI-I), which started in 1978 and was followed in 1987 by FDI-II.

The overall goal of FDI-I and FDI-II was to increase agricultural production (mainly food grains), especially among small farmers. The fertilizer program's planned contribution to the achievement of this goal is an increase in the use of fertilizer on an equitable basis through more responsive and cost-effective distribution, while simultaneously ensuring the continuous and adequate supply of fertilizer nationwide. Because the overall goal involves other components as well, such as increases in other agricultural inputs, it is difficult to evaluate the contribution of each component.

However, while FDI-I was basically an effort to improve the performance of the existing state marketing system, FDI-II is a policy reform project which has so far eliminated nearly all state participation in the marketing of fertilizer. FDI-I helped BADC, a statutory corporation under the Ministry of Agriculture, to achieve its goal through institutional development, structural improvement (e.g. increasing its storage capacity), fertilizer procurement, and policy reforms to establish a free market for private fertilizer retailers.

BADC participation in fertilizer marketing has practically disappeared during the past four years. State involvement is now limited to the MOA's selection, with the assistance of FDI-II, of private sector importers. Such involvement will be necessary until the small remaining subsidies are entirely eliminated. The handling of foreign grants in kind or in foreign exchange, without which fertilizer imports would be difficult, is the other reason why state involvement (through the Bangladesh Bank) in fertilizer procurement is still necessary.

BCIC, another state concern which owns seven fertilizer plants, also remains on the Bangladesh fertilizer scene.

FDI-II's condition precedent to initial disbursement states:

> "Prior to any disbursement, or to the issuance of any commitment documents under the Project Agreement, the Cooperating Country shall furnish to AID, in form and

substance satisfactory to AID, documentary evidence that private fertilizer distributors are permitted under the laws and regulations of the Cooperating Country to purchase fertilizer at depots and at prices satisfactory to the Cooperating Country and to AID."

As reported in mid-1978 by the FDI-I final evaluation team, the major achievements of FDI-I were as follows:

- Contributions to an increase in foodgrain production of nearly 2.5 percent/year during the life of the project, with an 8 percent increase in rice and 12 percent increase in wheat during the Boro season (50 percent of the annual production of paddy).

- Construction of 34 godowns with a capacity of 188,000 mt, increasing BADC total storage capacity to more than 400,000 mt.

- Importation of 527,000 mt of fertilizer used to close the "supply gap".

- Gross national economic benefits exceeding FDI-I direct costs ($222 million).

- Increased availability of fertilizer on an equitable basis, as small farmers (less than 2.5 acres) gained access to fertilizer and other modern agricultural inputs to an improved cropping system.

- Availability of fertilizer in remote areas at a marginally higher price that reflected higher transport costs and less competition due to the lower concentration of dealers.

- Nationwide establishment of a free market system of wholesalers and retailers handling 99 percent of all fertilizers, though still lifting their supplies at BADC warehouses.

- Implementation of the highly-regarded BADC Dealer Development and Training (DD&T) Program.

- Complete decontrol of retail fertilizer prices with no serious negative impact on fertilizer marketing, in spite a simultaneous dramatic reduction in fertilizer subsidies over the last six years of FDI-I.

Overall, three distinct periods of activity have been implemented since the start of the USAID Bangladesh fertilizer program.

In the early and mid-seventies, before the start of FDI-I, the program promoted the use of fertilizer, supported imports, and organized BADC storage facilities. FDI-I, during its ten year lifetime, created a self-sufficient private sector wholesaler and retailer distribution network and lifted all retail price controls while coping with a dramatic reduction in subsidies. During the past five years, FDI-II has completed the development of a wholly

private and fully integrated three-tier marketing system that operates from procurement to retailing and reaches even the remote areas of the country.

A period of consolidation and institutionalization of the assets of the program is now starting, and will include the expansion into other agricultural inputs that reach the same end-user community.

SECTION II

FDI-II's GOAL AND OBJECTIVE

SECTION II
FDI-II's GOAL AND OBJECTIVES

As mentioned above, the goal of FDI-II is not different from that of FDI-I, namely: "to increase agricultural production by increasing fertilizer consumption through more responsive and cost-effective distribution of fertilizer, while simultaneously continuing assurance of adequate supplies of fertilizers nationwide."

The objectives listed in the Project Paper can be summarized as follows:

1. To continue the development of significant private sector involvement in the distribution of fertilizer.

2. To continue the development of large-scale private wholesalers with the potential for marketing fertilizers nationwide.

3. To provide $65 million in project funds for financing a fertilizer and retailer credit program and/or fertilizer imports; technical assistance and training; and infrastructure improvements to ease physical constraints in the wholesaler distribution network.

4. To implement policy reform focusing on private sector entry into large-scale fertilizer wholesaling, price rationalization, dealer development, and sales promotion.

To achieve this last major objective, the Project Paper recommended an intricate strategy. The BDG would offer large lots of fertilizers to wholesalers at discount prices, funded by the savings in operations costs obtained by the public sector through privatization.

By allowing wholesalers to sell their fertilizer anywhere in the country at any price, it was anticipated that competition would force prices to reflect distribution costs more precisely, and that as nearby markets became saturated, competition would force wholesalers to transport fertilizer in large quantities farther away from BADC depots, BCIC factories, and ports.

Meanwhile, BADC was to continue—at least during the initial period of FDI-II—to fulfill its traditional warehousing role and to act as the nation's fertilizer. In addition, BADC would remain linked with the nation's agricultural research and extension systems in order to promote fertilizer use and to transfer technology to retailers and farmers through its Dealer Development and Training Program (DD&T). Periodic adjustments in the minimum quantities lifted by wholesalers would keep the network operating competitively with a sufficient number of wholesalers.

Finally, a formal evaluation of the fertilizer distribution system and FDI-II would be conducted near the end of the second year to identify constraints and, if necessary, to recommend adjustments to allow the system to operate competitively nationwide.

The objectives of FDI-II evolved somewhat in April 1992 following the extension of the project through August 1994. The revised FDI-II work plan for April 1992-August 1994 now states: "The main objective of the project is to increase agricultural production through a more judicious use of fertilizer."

The work plan, which is discussed in more detail in Section VI, goes on to say:

> "The FDI-II project is a policy reform and technology transfer project with a focus on improving agricultural input (primarily fertilizer) marketing. With emphasis on promoting the private sector's active, ongoing involvement in the supply and marketing of fertilizer and other agricultural inputs, this project is directed toward the development of a highly competitive market economy for agricultural inputs in Bangladesh."

Consequently, the main focus of FDI-II has shifted to broader issues, i.e. from distribution to marketing (of which, by definition, distribution is one aspect), and from fertilizers to all agricultural inputs (primarily fertilizers). The project also intends to diversify into agribusiness. In essence, FDI-II has evolved from an institutional support project for BADC to a policy reform project assisting the MOA.

SECTION III

REVIEW OF FDI-II IMPACTS

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REVIEW OF FDI-II IMPACTS

The congruity of objectives between FDI-II and the MOA, and the excellent working relationships which have developed between the MOA Secretariat and the FDI-II team, have made the project's advisory role by far its most important activity. All of the policy reforms proposed by the project to develop a free and open fertilizer market have been implemented. FDI-II is now entering a phase during which it will attempt to institutionalize and consolidate the achievements of USAID's fertilizer program.

A. Marketing

The USAID fertilizer program was for many years—including during the first part of FDI-II—a fertilizer distribution program which has since expanded into marketing. Indeed, at its early stages the program was simply a distribution improvement effort addressing issues of storage, bulk handling, and supplies. Today FDI-II deals also with such marketing issues as procurement, distribution, and sales.

A1. Policy

The strategy used to achieve the program's goal of raising agricultural production through increased use of fertilizer consisted initially of improving a state-owned marketing organization—BADC. It was soon realized that further improvement necessitated drastic changes over a long period of time. Progress could be achieved quickly and economically only by creating a privately-owned distribution network that controlled all aspects of fertilizer marketing, from procurement to imports to sales. This step required significant policy reforms which became possible when IFDC shifted its focus in December 1989 from BADC to the MOA. Since that time, FDI-II has become a policy reform project working with the deregulation of state monopolies. However, while BADC has all but ceased interfering in the market, BCIC still plays a restrictive role, refusing to adapt to the open free market economy in which it now operates.

USAID's fertilizer program in Bangladesh is unique in that it demonstrates (as pointed out in the FDI-I final evaluation) that agricultural development projects with major policy reform objectives must have long implementation periods (5-10 years) if effective institutional change is to occur.

Because of the strength of the private distribution network on which these reforms were based, their adoption by the BDG allowed quick progress toward program goals. During FDI-I, retailers and wholesalers supplied from BADC godowns were gradually developed. Eventually, some of the larger-scale dealers were helped to expand into distributorship. This upper tier of the network was then allowed to lift its supplies directly from any port or factory gate and to sell anywhere to anyone they liked. In July 1991, the

top of this three-tier distribution system was established when distributors started to import TSP and MP. This final step was made possible by the project-initiated lowering of subsidies on imported products and the provision of foreign aid to cover foreign exchange requirements.

This strategy not only provided a strong foundation for the private fertilizer market, it has created a new class of small entrepreneurs, some of whom have rapidly become large-scale operators. It has also, it is hoped, avoided supplanting "crony socialism" with "crony capitalism."

One final possible policy reform—beyond the scope of FDI-II but with important potential repercussions for the agriculture sector—would be the privatization of the national fertilizer manufacturing industry. Such a process would involve going beyond the present deregulation reforms, which are easier to implement.

A2. Market Information

An elaborate management information system has been developed by FDI-II's Planning, Monitoring, and Evaluation (PME) Unit to evaluate and correct when necessary the progress and failures of fertilizer marketing policy reforms. The MIS allows the project to address issues systematically and make informal decisions regarding appropriate responsive actions.

This information system is unique compared to any other agrochemicals marketing aid project known to the evaluator. In fact, most of the information contained in this evaluation report is based on data produced by the PME Unit. Details about the operation of this system can be found in a report by A.H.M. Obaidul Bari, listed in the Bibliography.

In general, the PME Unit processes information collected by a team of 100 enumerators stationed at factory gates, main ports, and markets, where they interview distributors importing or lifting products and farmers who have just purchased fertilizer. Every month 1,000-1,500 farmers (1,320 in August 1992) are selected at random and interviewed.

After being processed through a computerized system, the data are reported monthly in two documents and circulated to BDG officials, multilateral and bilateral aid institutions and projects in Bangladesh, IFA in Paris, FADINAP in Bangkok, and IFDC in the U.S. The *Monitoring Report on Fertilizer Distribution in Bangladesh* contains information from the preceding month on national fertilizer sales, production, imports (including import schedules), exports, factory stocks and issue prices, and international market prices. The second monthly document is the *Farm-level Fertilizer Prices and Availability in Bangladesh* report, which discusses fertilizer prices and availability at the farm level, and lists crop prices received by farmers broken down by markets and regions. Relevant fertilizer data include motivation for and mode of purchase (loose and bagged), sources of fertilizer use, fertilizer use by crop, farm credit availability and terms, and seed use and availability.

A quarterly report is also produced by each FDI-II unit and is circulated only to USAID and the MOA. It is USAID's intention to transfer the MIS to the MOA by the end of the project.

A3. Sales Volumes

Sales of fertilizer are now almost exclusively in the hands of the private sector. BADC still holds some quantities of triple superphosphate (TSP) and muriate of potash (MP) imported in 1991, which it is allowed to sell until its stock is exhausted. Once this is done, all marketing of fertilizer—from procurement to sales—will be restricted to the private sector.

Table III.1 on the following page shows that sales of fertilizer, expressed in nutrient content have increased five-fold during the past 20 years, from 182 mt in 1972/1973 to 930 mt in 1990/1991.

Table III.2, on page III-5, shows that the volume of fertilizer handled by the distribution network totalled nearly 2.3 million mt in 1991/1992:

Data in Table III.3, also on page III-5, demonstrate that fertilizer sales in 1989/1990—the first year the private sector was allowed to lift urea directly from factories and TSP and MP from ports—increased more rapidly than during the previous four years. The slowdown over the last two years is the result of the price increase caused by the BDG's lowering of subsidies.

At the importer/distributor level (factory gate issue price for local lifting and C&F for imports) the value of the 2.3 million mt sold in 1991/1992 is estimated at $306 million. At June 1992 unit prices (i.e., with most of the subsidies phased out) this amount would increase to $350 million. At the farmer level it reaches $372 million.

According to FDI II's quarterly progress report for the nine-month period ending March 31, 1992, the private sector accounted for 92 percent of all sales.

A4. Procurement

A4a. Imports

As discussed above, procurement of fertilizer is now entirely in the hands of the private sector, with state involvement limited to the selection of importers under FDI-II guidance. Once subsidies are completely eliminated, the administration of donor funds (on which all imports are still drawn) might require some state assistance to comply with donor country rules. These loans and grants come mainly from the Asian Development Bank, Japan, the United States, Canada, the Netherlands, and Denmark. This diversity allows fair coverage of competitive sources of fertilizer around the world. It is interesting to note that currently a consignment of MP is being imported by a private importer at a competitive price without any subsidy and with foreign currency acquired without donor support.

Sales of Selected Fertilizers in Bangladesh, 1972-1991

Year	Fertilizer Sold (in Thousand mt)				
	N	P	K	Total	% Increase/ Decrease Over Previous Year
1972-73	129.1	41.6	11.3	182.0	--
1973-74	125.1	43.5	11.2	179.8	-1%
1974-75	81.6	35.3	10.9	127.8	-29%
1975-76	147.0	52.6	15.7	215.3	+68%
1976-77	166.1	59.7	15.3	241.1	+12%
1977-78	224.4	89.9	25.8	340.1	+41%
1978-79	226.7	99.7	26.6	353.0	+4%
1979-80	258.3	117.0	29.3	404.6	+15%
1980-81	265.7	119.8	28.8	415.3	+3%
1981-82	248.6	119.4	28.1	396.1	+95%
1982-83	304.0	129.8	31.7	465.5	+16%
1983-84	342.6	163.1	38.0	543.7	+17%
1984-85	384.3	160.8	43.2	588.3	+8%
1985-86	365.7	136.8	35.9	538.4	-8%
1986-87	420.9	154.4	39.6	614.9	+14%
1987-88	474.8	179.5	51.7	706.0	+15%
1988-89	522.2	191.4	56.8	770.4	+9%
1989-90	630.0	221.0	72.0	923.0	+20%
1990-91	608.0	233.0	89.0	930.0	+1%

Source: FDI-II, August 1992

NOTE: N = Nitrogen
$P = P_2O_5$
$K = K_2O$

1991-1992

Fertilizer	Volume (mt)	Volume (%)	Value ($ million)
Urea	1,529,529	67	185 factory gate
TSP	456,694	20	100 C&F
MP	136,935	6	21 C&F
Gypsum	115,333	5	Not available
ZN products	3,811	--	Not available
SSP and Others	41,030	2	Not available
TOTAL	2,293,332	100	Not available

Source: FDI-II, August 1992

Table III.3
Sales Trends for Bangladesh Fertilizers, 1985-1992

Year (July to June)	UREA		TSP		MP		Others		Total	
	Sales Quantity	Growth Rate (%)	Sales Quantity	Growth Rate (%)	Sales Quantity	Growth Rate (%)	Sales Quantity	Growth Rate (%)	Sales Quantity	Growth Rate (%)
1985-86	794,946	--	297,418	--	59,867	--	4,269	--	1,156,500	--
1986-87	915,019	15.10	335,659	12.86	65,850	9.99	4,415	3.42	1,320,943	14.22
1987-88	1,029,077	12.47	390,195	16.25	86,139	30.81	9,816	122.33	1,515,227	14.71
1988-89	1,125,062	10.30	415,993	6.61	94,172	9.33	64,423	556.31	1,709,650	12.83
Average		12.62		11.91		16.71		227.37		13.92
1989-90	1,369,237	20.63	497,767	15.33	118,663	26.01	75,509	17.21	2,043,176	19.51
1990-91	1,323,397	-3.35	514,671	7.29	149,761	26.21	119,650	58.46	2,107,569	3.15
1991-92	1,533,478	15.87	456,680	-11.28	137,127	-8.44	161,697	35.14	2,288,982	8.61
Average		11.05		3.78		14.59		35.94		10.42

Source: FDI-II, July 1992

Imports of fertilizer by the private sector started in July 1991 and totaled approximately 212,000 mt by the end September 1992. For the nine-month period ending March 31, 1992, the private sector accounted for 31 percent of all imports, and as per a major policy decision recently taken by the BDG, the public sector henceforth will not import any fertilizer.

The first private sector fertilizer import shipments contained 64,000 mt of TSP and were funded by USAID. Of the 77 private importer candidates with approved creditworthiness, eight were selected by MOA/FDI-II and formed into three groups which imported 20,000, 20,000, and 24,000 mt respectively.

The second shipments were funded by ADB loans and contained 82,000 mt of TSP and 20,000 mt of MP. The fertilizer arrived in Bangladesh in November 1991, and six groups of importers were selected out of 215 candidates. Five brought in around 16,000 mt each of TSP, and one group imported the 20,000 mt of MP. Last February, three groups imported 46,000 mt of TSP, and two more TSP loads of 16,000 mt each were scheduled to arrive in October 1992.

In total, approximately 244,000 mt of fertilizer have been imported by private dealers since July 1991, of which 180,000 mt entered Bangladesh during the last twelve months. All shipments arrive in bulk and are bagged on ship upon arrival at a rate of 800 mt per day.

The majority of large foreign fertilizer manufacturers interested in offering products in Bangladesh are represented in Dhaka by appointed agents. This is necessary since donors generally solicit fertilizer importer candidates by issuing invitations to bid in the local press.

As already noted, the selection and grouping of importers was necessary because of the ongoing subsidy supporting these products and because of the need to comply with the regulations of foreign loans and grants, which continue to fund all fertilizer imports.

A4b. Local Supplies

In local factories—all of which are state-owned by BCIC—lifting is done in bulk only for gypsum, at TSP Complex Ltd (TCL) in Chittagong. This factory has stopped producing TSP and is now manufacturing SSP instead. So far this year, TCL has sold 40,000 mt of SSP against a target of 84,000 mt, and 55,000 mt of TSP. All urea lifting at the other six factories is done in 50-kg bags.

The minimum lifting quantity at the Chittagong Urea Fertilizer Ltd factory is 300 mt. According to the FDI-II Chittagong office, the largest barges which can bring the product up-country can carry 500-600 tons.

A5. Distribution

Prior to 1978, the fertilizer market was completely controlled by the public sector through BADC, which was selling fertilizer from 460 centers—one in each thana, the administrative unit comprising several villages. At that time 6,000 retailers were each given an exclusive area in which to sell BADC products at fixed prices against a commission.

Over the past 14 years, under the guidance of the USAID fertilizer program, fertilizer marketing in Bangladesh has gradually evolved from a state monopoly system into a modern free market economy. According to a recent FDI-II report, there are now 110,000 retailers, of which 1,271 have grown sufficiently over the past four years to become wholesalers and 215 to become importers/distributors. Since last year, any retailer can purchase supplies from any source (even imports) and resell them at any price the market will allow.

BADC is nonetheless still in business and will remain so as long as it has fertilizer in stock. At the same time, this stock would have already been exhausted if BADC had not violated MOA guidelines and continued to send large quantities of TSP from ships to its primary dispatch and transportation discount points, where the fertilizer can be purchased by private dealers. According to FDI-II's April 1992 Quarterly Report, because BADC's variable distribution costs are substantially higher than the discount rates from ports (Tk400/mt), BADC must sell its fertilizer at less than a break-even price, with the resulting losses being absorbed by the BDG. If BADC were to sell at a proper, cost-based price, its products would remain unsold at PDPs, and money would again be lost by BDG. This case illustrates reasons why BADC must not compete with the private sector. It shows also that subsidizing BADC's sales has the effect of slowing down the takeover of the fertilizer distribution system by the private sector, at a cost to the BDG which could have been easily avoided.

The distribution system now operating in Bangladesh is basically a three-tier network. It consists first of large operators lifting products at factory gates or, since last year, importing TSP and MP. These operators then bring their products to local wholesalers via barges and trucks. While this process is easiest for urea, which can be lifted directly from the six BCIC fertilizer factories, for other products most consignments must be stored immediately when their arrival from overseas does not coincide with one of Bangladesh's three selling seasons.

At present, the country's 215 importers/distributors handle 5,000-20,000 mt of fertilizer per year. Every one of these entrepreneurs is also engaged in other business, the nature of which varies widely and includes transport, construction materials (cement, bricks, etc.), food, grains, textiles, and others. Importer/distributor storage facilities comprise 649 godowns holding around 515,000 mt, according to an FDI-II report, and are currently operating below full capacity.

Jute warehouses are now commonly used for fertilizer because of the depression affecting this fiber plant. In addition, most of BADC's 400,000 mt of storage capacity is

apparently idle, and these facilities could be hired by private fertilizer dealers if necessary and if BADC were willing.

A January 1992 study of 161 fertilizer distributors who in 1990/1991 lifted products from ports, factories, or TDPs, or who imported fertilizer from abroad, shows that on average, each distributor covers at least four regions, reaching 16 thanas and serving 74 dealers.

The study reported that the distributors own approximately one-half of their godown capacity and hire the rest. In addition, 73 of the 161 owned their own transport, totaling a capacity of 40,771 mt, 98 percent of which was made up of barges and coasters with maximum 300 mt capacities.

Further down the line of distribution, wholesalers generally move a few thousand tons of fertilizer each. Some lift their supply from local urea factories, from BADC's TSP primary distribution and transportation discount points, and since last year, from private importers. Wholesalers own or lease godowns of a few hundred mt capacity and generally use hired transport to replenish their stocks.

A6. Pricing

A6a. Price Fluctuation

One successful result of FDI-II is the evolution of fertilizer prices at both ends of the distribution chain, following the liberation of market forces. In spite of continuous reductions in BDG subsidies over the past few years, prices to farmers have not increased by the same proportion. In other words, thanks to aggressive competition, the total amount of price increases is not being passed to the end users. At the upper end of the market, the private sector's recently-gained access to fertilizer imports has immediately brought down the C&F prices of both TSP and MP, as shown in Table III.4 on the next page.

However, because this access was granted at the same time as the near elimination of subsidies on imported fertilizers, the result was an increase in TSP and MP import costs which has been partially absorbed by the private entrepreneurs' marketing network. Under the old marketing system (state monopoly) the farming community, and in turn the consumer, would have had to foot the entire bill.

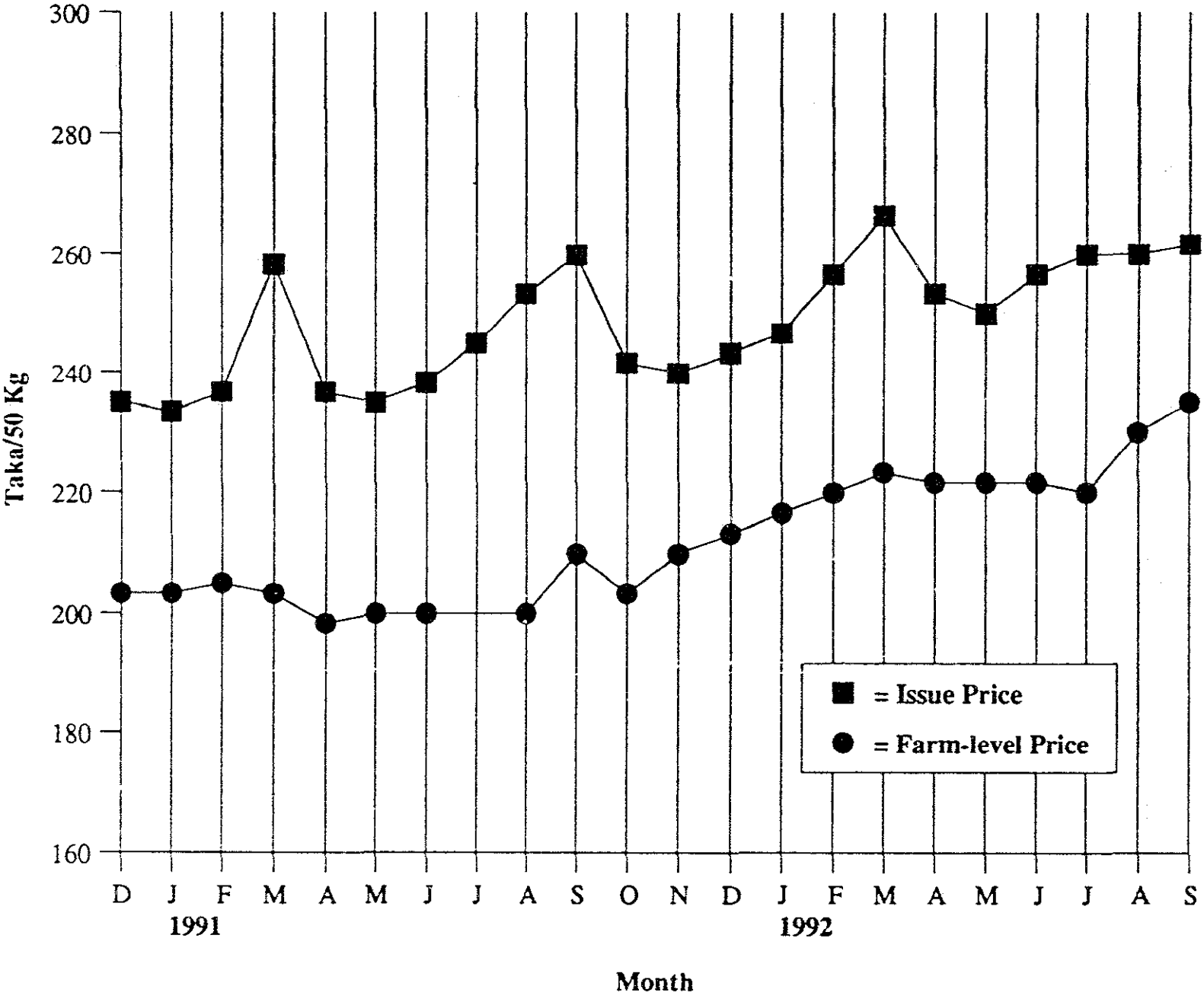
This situation is best illustrated by Figures III.1-3, on pages 10-12 which show the comparison between the issue price (the ex-factory cost for urea and the C&F import cost for TSP and MP) and the farm-level sale price for the three primary fertilizers sold in Bangladesh from July 1991 to September 1992. For TSP and MP, Figures III.2 and III.3, respectively, show also the import costs with and without subsidies. All three graphs show that for each product the farm price has increased with the issue price, but at a slower rate. This is particularly true for TSP and MP. The fact that the distribution margins have slimmed significantly shows that the issue price increase caused by the phasing out of BDG

Table III.4:
Bangladesh Public and Private Sector Import Prices for TSP and MP

Period	Imports (mt)		Average C&F price US$ per mt		Savings in US$ per mt
	Public Sector (BADC)	Private Sector	Public Sector (BADC)	Private Sector	
TSP					
July 1990 to June 1991	312,007	--	208.55	--	--
July 1991 to June 1992	318,632	147,035	203.89	187.43	16.46
MP					
July 1990 to June 1991	144,895	--	166.099	--	--
July 1991 to June 1992	100,184	19,925	153.89	142.44	11.45

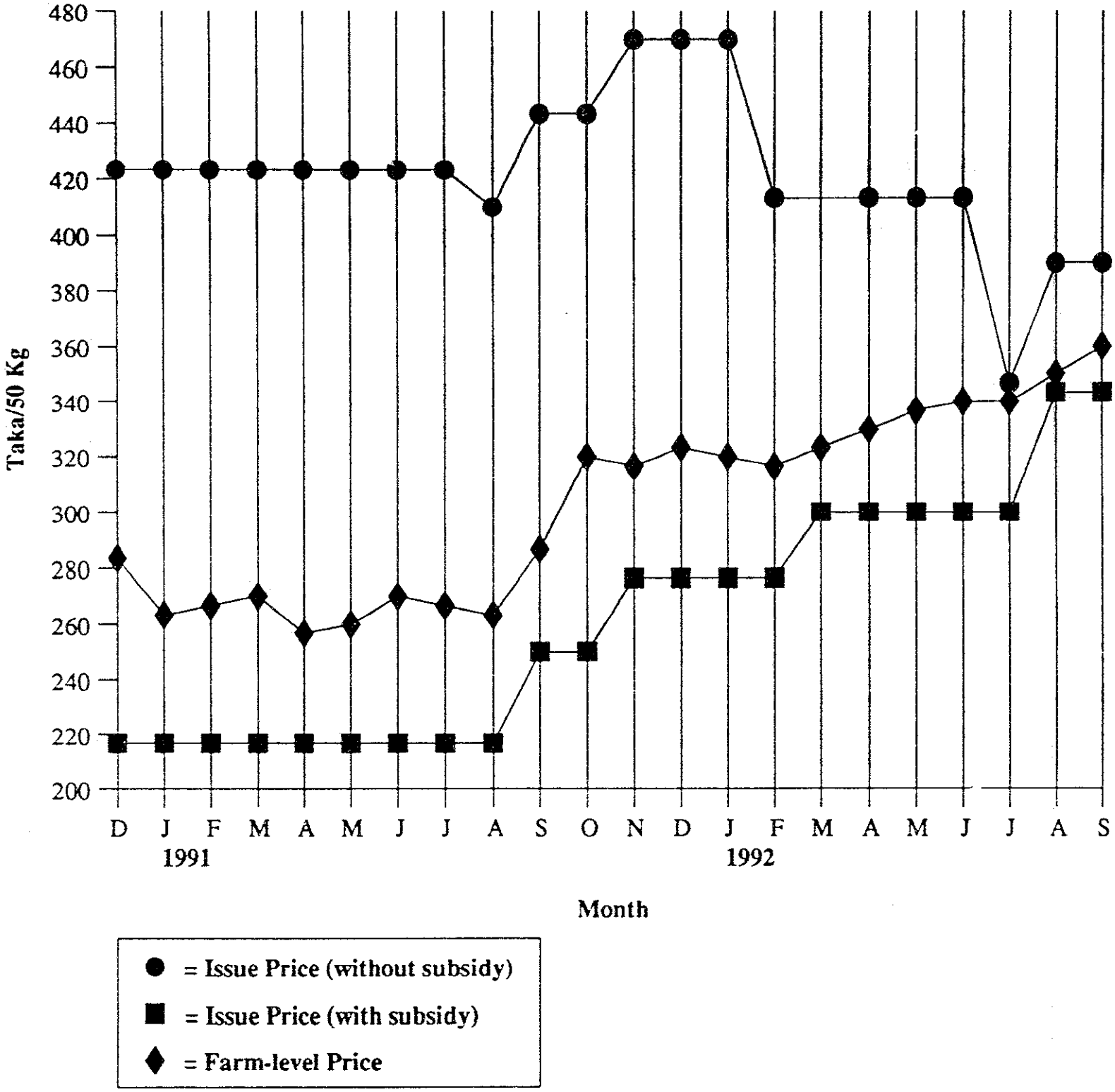
Source: FDI-II Annual Report 1991-1992

Figure III.1
Issue Price vs. Farm-level Price for Bangladesh Urea, 1990-1992



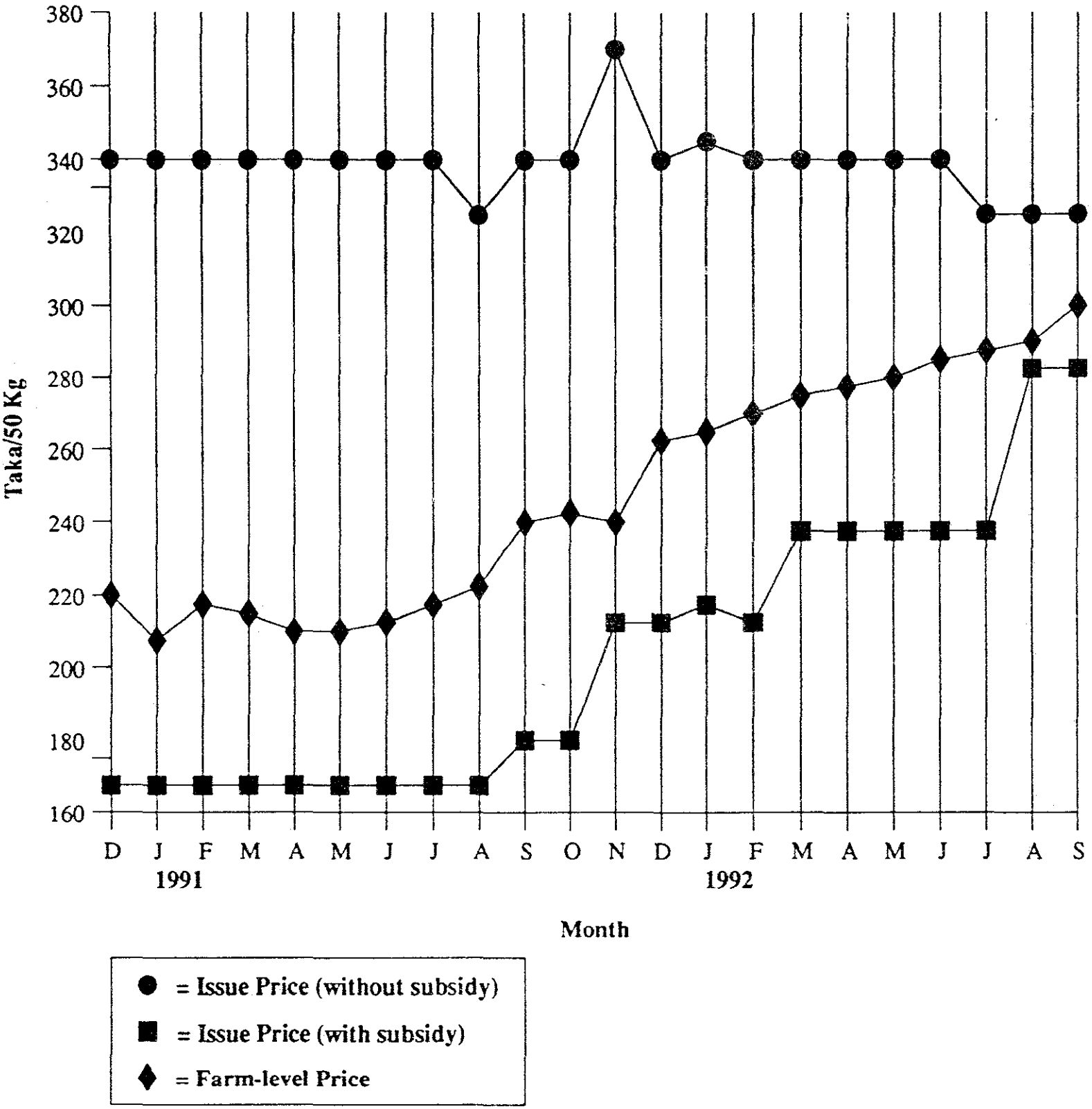
Source: FDI-II, October 1992

Figure III.2
Issue Prices vs. Farm-level Price for Bangladesh TSP, 1990-1992



Source: FDI-II, October 1992

Figure III.3
Issue Prices vs. Farm-level Price for Bangladesh MP, 1990-1992



Source: FDI-II, October 1992

subsidies has not been passed entirely to the farmer, but has been partly absorbed by the private distribution network.

A6b. Price Monitoring

Statements about price fluctuations at both ends of the market, such as the one above, are made possible by the monitoring efficiency of the management information system established by FDI-II. When product shortages or abnormal price increases occur in some areas, the MIS identifies the problems and can help persuade new dealers to bring fertilizer to those areas by arranging priority delivery at the factory level. This intervention mechanism, operated by FDI-II field staff, has apparently maintained adequate supplies and acceptable price levels in remote areas of the country. Even so, FDI-II continues to receive regular criticism from official circles, local politicians, and the local press.

A6c. Payment Terms

Payments are made to BCIC's urea factories with two types of promissory notes: bank drafts and inland letters of credit (ILCs). These promissory notes are essential since the factories use their issuing dates to allocate serials orders, which establish lifting priority at the factory gate. Drafts are used by small operators whose creditworthiness with the banks is not good enough to obtain an ILC and who are buying small quantities. They are drawn on recently-made cash deposits. ILCs are nothing more than promises by the customer's bank that it will pay the factory the value of the fertilizer lifted on the supply date, and they are obtained mainly by large distributors who can meet the guarantees required by the banks—generally a 25 percent deposit on the ILC value.

For BCIC, sales against drafts are "cash sales" while those using ILCs are "credit sales," even though both are paid by the customers' banks into BCIC accounts within a few days of delivery. By imposing these strict terms, BCIC is essentially paid cash on delivery without taking any commercial risk. However, seen from the other side, these terms mean small traders must pay 100 percent of their purchases in cash in advance, while the larger distributors must settle 25 percent of their bills in advance.

BCIC has so far ignored FDI-II's suggestion to institute off-season discounts. The corporation does not seem to understand that these discounts would be as advantageous for BCIC as for its customers. Discounts would both ease the factory production flow and reduce the amount of investment and working capital tied up in factory storage space and inventory.

During a visit to the Chittagong Urea Fertilizer Ltd factory, CUFL management stated that only 2 percent of CUFL's domestic sales are made against drafts, and 98 percent against ILCs. Management also claimed it had the authority to lower the domestic price of urea by as much as 10 percent under the price set by BDG, thus allowing CUFL to implement a "variable price" policy. From discussions with private distributors and FDI-II/Chittagong, it seems that in practice this discretionary power is not used by CUFL and that in 1991/1992, payments against drafts (i.e., in advance) totalled 70 percent of CUFL

sales, and not 2 percent as reported by management. If 25 percent of the value of ILC sales is then added, it means that almost 80 percent of all urea supplies in Chittagong are paid for against cash in advance.

Orders of less than 1,000 tons must be settled with bank drafts, although CUFL's loading jetty can only accommodate vessels of several thousand mt. All deliveries for the domestic market are therefore supplied in 50-kg bags which are loaded onto trucks in the CUFL warehouse at the customer's expense, only to be discharged a few hundred meters away on river barges. This awkward, slow, and consequently expensive procedure hampers the fertilizer delivery system. The CUFL factory was built for the export market, and therefore its loading jetty was set to berth 10,000-15,000 mt vessels. However it is unacceptable for an enterprise to exploit its monopoly position by imposing such expensive and archaic constraints on trade—and consequently on the farmer community—with a factory that came on stream only five years ago. CUFL is, moreover, a unique case, as other urea factories directly load barges through chutes, using sales terms that are free on board (FOB).

It is important to note here that in the past, all sales to BADC were on extended credit terms.

For imports, the taka equivalent of fertilizer consignments must be paid by the importer's bank into the Bank of Bangladesh within five days of the consignment's arrival in country.

A6d. Price/Subsidy Conclusion

Figures III.1 and III.2 (TSP and MP), summarize in a glance the complete price/subsidy issue. They illustrate that the private dealer network has proven true the marketing principle advocated by FDI-II: with adequate competition, marketing margins slim down and proportionally reduce the costs to the end user.

A7. Credit

Although the number of traders met by the evaluator was not large enough to be considered statistically representative, it is worth noting that, as in most developing countries, all fertilizer traders met during the evaluation effort ranked the lack of working capital for stocks and credit in kind to farmers as the primary constraint restricting their business. All stated also that the overall situation improved greatly over recent years thanks to the assistance of the FDI-II project.

Indeed, FDI-II's Commercial Credit Program has fostered the emergence of a new class of entrepreneurs who rose from the retail level. As mentioned at the Chittagong workshop on credit, fertilizer, and food, without the CCP—which built up bankers' interest in the subsector—many dealers would not be in business. The CCP, using $23.1 million in USAID funds since June 1989, and the Dealer Development and Training Program made it possible to create a large, aggressive distribution network all over the country.

Fifteen banks have thus far participated in the CCP, approving fertilizer loans totaling $195 million, of which an estimated $156 million have been disbursed. Seventy-five percent of these loans were of approved during the 12 months ending August 31, 1992—and indication that the CCP growth rate is accelerating. Much of the growth is from the participating banks' own funds, which accounted for 61 percent of the total in August 1992. The above data are illustrated in Figures III.4 and III.5 on page III.16 and page III.17.

The amount of refinancing approved by the Bank of Bangladesh during the life of the CCP is $77.08 million, 98 percent of which has been disbursed.

FDI-II workshops that bring together fertilizer distributors and dealers with bankers and BCIC staff effectively allow the needs and concerns of both groups to be discussed. This dialogue has apparently motivated the banking sector to grant up to three months of credit to fertilizer distributors to finance their trade. It is hoped that the suppliers (BCIC) attending these seminars will realize it is in their own interests to adopt the commercially-minded policy discussed in the preceding section on payment terms. The current payment system of bank drafts unduly extends the credit commitments of traders. Moreover, the slow and expensive loading system at factories such as CUFL's in Chittagong stretches even further the credit requirements of private dealers.

A8. Profitability

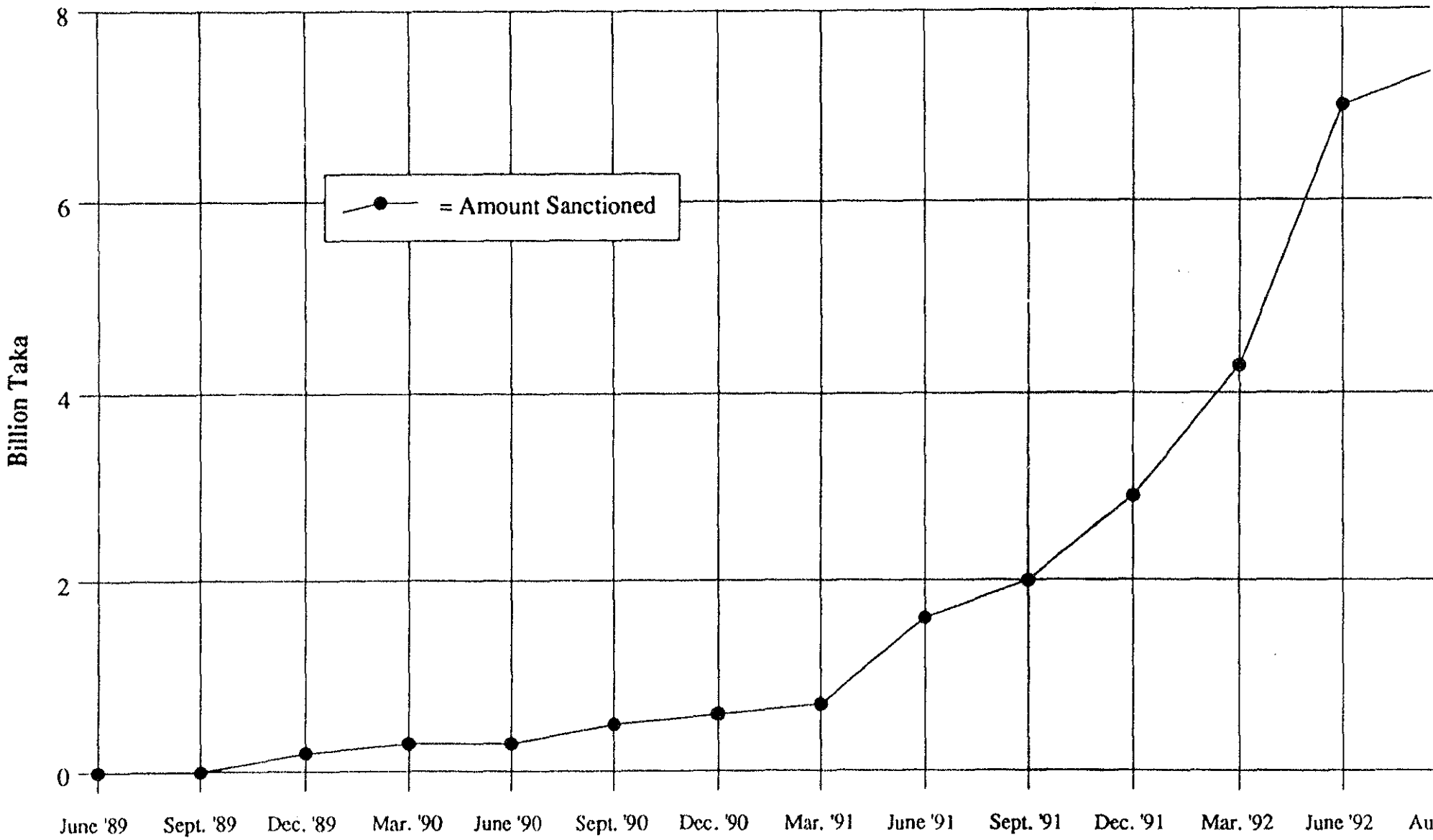
Fertilizer profitability in Bangladesh is probably one of the lowest in Asia because of the intense competition. Net income at the retail level of Bangladesh's three-tier system is only 2 percent. Consequently, the country's 110,000 dealers share around $7.4 million in net income each year—an average of less than $70 per year per dealer. This average increases to $115 when sales at weekly bazaars are included. It is estimated that 45,000 of the 110,000 Bangladesh retailers sell fertilizer at these bazaars.

In spite of these amounts, those few dealers met by the evaluator all ranked fertilizer as their main profit maker among the various other trades they handle, including agricultural inputs and equipment, construction materials (cement, bricks), food, and grain. Reasons for this include the fast rotation of a high-volume product like fertilizer (three selling seasons per year). In addition, most of the traders use existing facilities which were previously operating below capacity, such as transport, godowns, shops, and even staff. Finally, they are able to sell the fertilizer to a customer base in the farming community that they were already reaching with other products.

B. Dealer Development

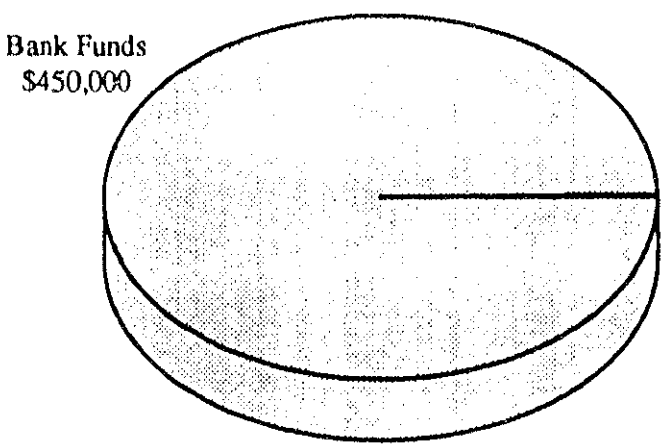
According to a recent evaluation by the FDI-II Marketing Unit and summarized in the tables below, the steady creation over recent years of a new class of businessmen has resulted in the emergence of 1,271 fertilizer distributors and 110,000 retailers. It is further estimated that the network employs 15,252 permanent labor and 36,859 casual workers—a total of 52,111 workers. See Tables III.5 and III.6 on page III.18.

Figure III.4
Cumulative Fertilizer Loans Approved by Bangladesh Banks

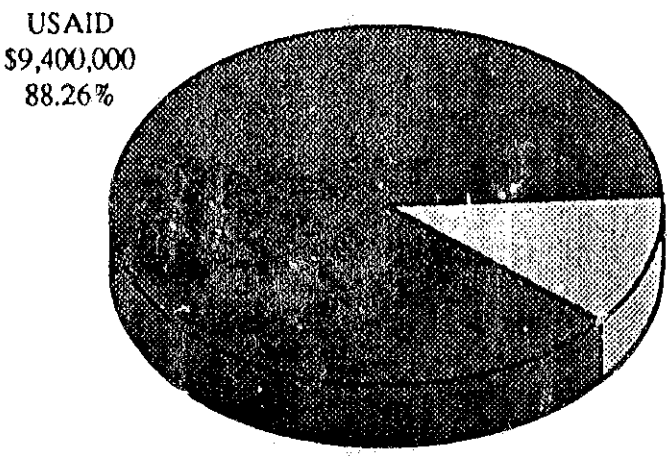


Source: FDI-II, September 1992

Figure III.5
USAID Funds as a Percent of Total Fertilizer-related Loans

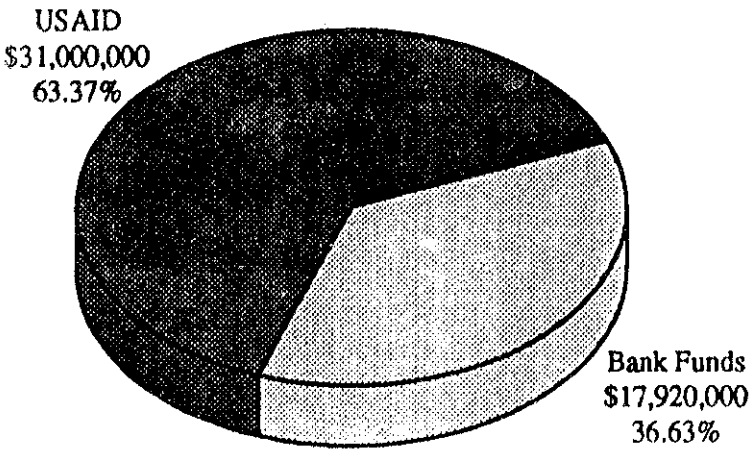


August 1989

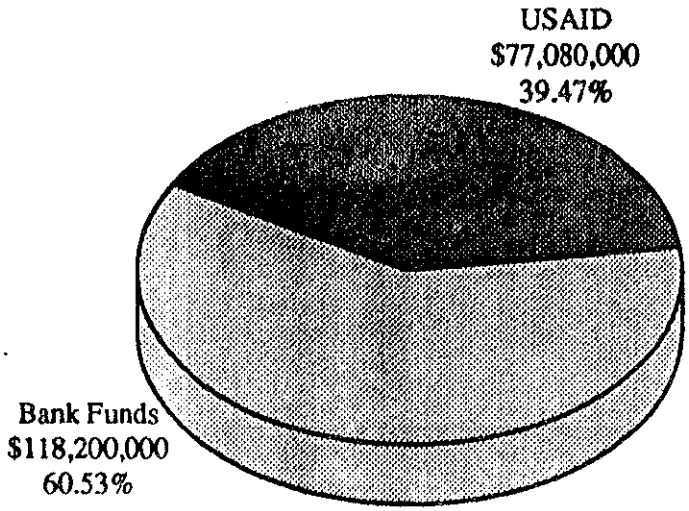


August 1990

1 US$ = Taka 38.00



August 1991



August 1992

Source: DFI-II, September 1992

in Bangladesh

	1989-90	1990-91	1991-92
Distributors	276	590	1,271
Importers	--	147*	215*
Dealers and Retailers	55,000	80,000	110,000

Source: FDI-II Marketing Unit, October 1992

*Applied and listed

Table III.6
Employment Created by Private Bangladesh Fertilizer Distributors, 1989-1992

	Regular	Casual	Total
1989-90	828	1,656	2,484
1990-91	3,540	5,310	8,850
1991-92	15,252	36,859	52,111

Source: FDI-II Marketing Unit, October 1992

Note: Number self-employed = 110,000 (retailers)

Banks, transport companies, and import-related shipping companies associated with fertilizer marketing and distribution business have morethan 5,000 personnel on their payrolls.

According to DD&T's April-June 1992 Quarterly Activity Report, 76 in-country training sessions for an estimated 10,000 participants were planned for the life of FDI-II. These sessions focus on improving traders' technical knowledge of fertilizer procurement, marketing, and use, and on upgrading their business expertise in providing services to farmers.

C. On-farm Fertilizer Use

A recently added goal of the FDI-II project is the more judicious use of fertilizer. To achieve this, the project will have to establish contacts with MOA's research and extension service institutions, beyond the demonstration work now carried out by FDI-II for the placement of urea in rice and the introduction of maize cultivation.

Additionally, field interviews by the evaluator elicited several aspects of fertilization techniques that farmers and dealers feel should receive special attention during the remaining project years.

Crop micronutrient deficiencies are reportedly becoming more common, the best-known being zinc in rice and boron and magnesium in other crops in the northern part of the country. Some distributors asserted that by and large, farmers identify zinc deficiencies in rice by themselves, without any outside assistance.

Flood control work has also been reported as having a detrimental effect on crop production, as it suppresses the source of fertilizing elements brought by the siltation process. Another problem is the sterilization organically-poor soil due to repeated application of chemical fertilizer without the addition of cattle or green manures.

Finally, it was noted that the recommendations contained in the Bangladesh Agricultural Research Council's 1989 "Fertilizer Recommendation Guide" have not reached a very large audience.

D. Marketing of Other Inputs

Although they are smaller than the fertilizer subsector, lessons can be learned from the marketing and organizational experience of other agricultural input subsectors. This is particularly true for agrochemicals, which have been deregulated for a longer period than fertilizer (12 years) and which enjoy a business association far more organized than that of the fertilizer market. Agrochemical businesses' contacts with research and extension institutions are very close, and these dealers have broad experience selling to wholesalers on credit.

The marketing of all agricultural inputs is closely associated. After sowing his/her seeds, the farmer must fertilize and bring water to the crop. The harvest must then be protected further. This cycle is even more intricate for high-yield varieties.

D1. Seeds

Wheat, paddy, mustard, pulse, and sorghum seeds are handled and in some cases multiplied locally by BADC, while vegetable seeds are marketed by private dealers through the same channels as fertilizer and agrochemicals. The actual market for cereal seeds totals around 20,000 mt for wheat and 7,000 mt for paddy, with renewal rates of 20 percent and 3 percent respectively.

Based on information from informal contacts, it appears that the Netherlands and Canada—both of whom are supporting BADC's cereal seed multiplication—are considering pulling out as the Germans did two years ago because of the operation's economic inefficiency. BADC employs 4,000 people where one-third that amount would probably still be more than enough. Moreover, the corporation uses excess land, factories, warehouses, and trucks.

Because private dealers would not be interested in seed multiplication (large volumes, low margins), but only in their marketing, the European Community is studying the possibility of funding a project to form a new state corporation for multiplying cereal seeds. Currently, Danish and Belgian bilateral aid organizations are involved in a seed project in Bangladesh, but private entrepreneurs might nonetheless be interested in producing other seeds, such as oilseeds, maize, and vegetables.

D2. Irrigation Equipment

The only information on irrigation gathered during the evaluation is that the World Bank is involved in an equipment distribution program, and that the Asian Development Bank funds the supply of irrigation equipment just as it does for all other agricultural inputs.

D3. Agrochemicals

According to Ciba-Geigy Bangladesh Ltd (C-G), prior to 1980, agrochemicals were marketed by BADC and given free to farmers. By 1978, subsidies were progressively reduced to approximately 50 percent of farmer costs, and in 1980, all subsidies were eliminated and private dealers were asked to take over the marketing of agrochemicals. Because this sudden policy change was implemented without adequate preparation, the on-farm use of agrochemicals dropped to almost zero. Since then, demand has steadily risen from $5 million in 1982 to $25 million during FY 1991/1992. Present demand growth has leveled off, however, apparently because the market cannot sustain any further production cost increase. The agrochemicals market today consists of 90 percent insecticides (mainly for rice), 8 percent fungicides (mainly for vegetables), and 2 percent herbicides (mainly for young tea).

Agrochemical importers/distributors have organized themselves into a national association which is a member of the international Group of National Associations of Agrochemicals Manufacturers and Distributors (GIFAP). Some agrochemical manufacturers

are represented in Bangladesh by the national petroleum corporation. It is interesting to note that 40 percent of Ciba-Geigy Bangladesh's equity is held by BCIC.

Agrochemicals are distributed by exactly the same channels as fertilizer. C-G, the world and local market leader (holding about 65 percent of the Bangladesh market) claims that all of its 250 stockers (wholesale level) and most of the 2,500 chemical retailers throughout the country are engaged in fertilizer marketing as well. In the Dhaka Division, for example, all but one of C-G's dealers are fertilizer wholesalers.

Eighty-five percent of C-G stockers also buy agrochemicals from the other ten importer/distributors in Bangladesh. As C-G holds a 65 percent share of the agrochemicals market, it can be said that fertilizer dealers diversify into the distribution of agrochemicals. Still, according to C-G staff, agrochemicals and imported vegetable seeds are the two agricultural inputs most commonly associated with fertilizer.

Agrochemical distributors are forced to sell on credit since wholesalers' working capital is generally tied up in seeds and fertilizer when the time comes to think about protecting the crop. The recovery rate is excellent, however: C-G's bad debts amounted to less than 1 percent of all sales over the last decade.

Since the privatization of marketing in 1980, the Bangladesh agrochemicals industry has built up strong working links with the MOA and its regulatory, research, and outreach functions. Agrochemicals registration is performed by the Plant Protection Department on the basis of confirmation trials conducted by the relevant crop research institutes. Product demonstrations are conducted at the farm level through the three-tier extension organization, which comprises 64 plant protection subject matter specialists at the district level, 464 plant protection subject matter officers at the thana level, and several thousand extension workers advising farmers directly. To transmit specific technology information to farmers, C-G uses "train the trainers" techniques for its stockers and at the district level of the three-tier extension system.

E. Indirect Achievements

Other ministries including the Ministry of Food are examining the success of fertilizer deregulation in order to learn lessons about increasing access to an open free market economy. For example, an October 1992 MOA/FDI-II workshop on credit, fertilizer, and food held in Chittagong for the benefit of fertilizer traders, bankers, and BCIC officials was organized in cooperation with the MOF. The ministry chaired some of the meetings, which were attended by officials of the United Nations Food and Agriculture Organization and the International Food Policy Research Institute. Clearly, the MOF is convinced that the fertilizer subsector's model for policy reform can be adapted to other sectors of the economy. The vertical integration of the food grain trade with the agricultural input sector, if opened to free and aggressive competition, could help the transfer of credit to farmers.

Moreover, the success of FDI-II has expanded beyond the nation's borders, and the eyes of many agricultural input professionals are now turned toward Bangladesh. The

country is becoming the show window of IFDC (and possibly the world), with the Center's Asia office having been recently inaugurated in Dhaka.

IFDC is also looking to apply in Eastern Europe some of the lessons learned in Bangladesh on privatization and deregulation techniques. Several foreign parties have visited Bangladesh to learn from this outstanding project, including a delegation of senior Egyptian banking and fertilizer industry officials. In addition, former FDI-II staff have been employed as consultants in Albania and Indonesia, and IFDC/Asia in Dhaka is helping USAID/Albania to design and implement a program to introduce a free-market fertilizer sector in that country.

SECTION IV

PROJECT TECHNICAL ASSISTANCE CONTINUITY

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The continuity of FDI-II's technical assistance has been an important factor in the success of USAID's fertilizer program in Bangladesh. The fact that a single agency with worldwide experience in the fertilizer industry has been implementing the project for 14 years is directly responsible for the program's remarkable accomplishments. The technical competence and leadership of IFDC's chief of party has in itself become a major asset in Bangladesh. In turn, IFDC must be extremely grateful to USAID and to the BDG for having been given the opportunity to prove its theories regarding the impact of fertilizer deregulation and privatization on agricultural production.

USAID/Dhaka's commendable decision to continue to pursue the goals of the fertilizer program by broadening its scope through the Agricultural Technology Development project will ensure that all of the important past investments will continue to benefit the Bangladesh farming community and the entire nation. As stressed in the preceding section, the experience of fertilizer subsector policy reform in Bangladesh could serve as a model for other countries wishing to move towards a free market economy.

SECTION V

SUSTAINABILITY OF FDI-II IMPACTS

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As with any other foreign aid technical assistance project, the contribution of FDI-II to the development of Bangladesh's agriculture sector will be judged in the long term on its sustainability and on the extent to which its principal components are adopted by local bodies. The two remaining years of the project are directed at institutionalizing some of FDI-II's functions, and are therefore critically important. The challenge consists of transferring to other institutions—public and private—some of the spectacular results achieved during the 14-year effort. This difficult task requires other parties' willingness to adopt the project's philosophy, strategy, and techniques, and eliciting this acceptance will require patience and diplomacy in addition to technical skills. Fortunately, there is little doubt that the operators of the fertilizer program have demonstrated these abilities over the past years.

This evaluation has already recognized FDI-II's achievements in deregulation and the establishment and institutionalization of a privately operated fertilizer distribution system. There is little doubt that a free fertilizer market now exists in Bangladesh. In addition, the fertilizer credit program has been consolidated to some degree. There is concern, however, about the viability of these institutions once the project ends. Sustainability will depend first and foremost on government support in the form of policies and legislation. It will also depend on a number of market support services successfully initiated by the project.

Key project components which remain to be institutionalized through transfer to other public or private entities include the DD&T program, management information system, and market advisory service. It now appears that it will be difficult to plan this transfer in an orderly manner by August 1994. A logical approach would therefore be to shift most FDI-II activities to USAID's Agribusiness Technology Development project, now being designed.

According to the Budget and Expenditures section of FDI-II's 1991-1992 Annual Report, it is unclear whether any of the present project activities could be transferred and maintained by the MOA in the unlikely event that USAID ceased its support to the ministry at the end of FDI-II in August 1994.

Priority should be given to addressing these sustainability issues. Studies should be performed to determine what policies, legislation, and market support services will be needed to reinforce a free market for agricultural inputs in the absence of FDI-II. Such a series of reports could be incorporated into ATDP.

SECTION VI

1992-1994 PLANNED ACTIVITIES

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1992-1994 PLANNED ACTIVITIES

The goal and objectives of FDI-II evolved in April 1992 following the extension of the project through August 1994. According to the new project work plan: "The main objective of the project is to increase agricultural production through a more judicious use of fertilizers."

The work plan states further:

> "The FDI-II project is a policy reform and technology transfer project with a focus on improving agricultural input (primarily fertilizers) marketing. With emphasis on promoting the private sector's active, ongoing involvement in the supply and marketing of fertilizers and other agricultural inputs, this project is directed toward development of a highly competitive market economy for agricultural inputs in Bangladesh."

The new principal work areas are as follows:

Marketing and Agribusiness. The primary goal is to promote private sector development in fertilizer marketing and agribusiness and to institutionalize a market-oriented fertilizer and agribusiness economy.

Monitoring and Evaluation. The primary goal is to provide accurate and timely information on fertilizer market conditions.

Credit and Dealer Development and Training (DD&T). The primary goals are to ensure that financial resources are available under acceptable terms to support the needs of private sector fertilizer businesses and to promote orderly distributor/dealer operations through a human resource development program. The principal activities include: designing, monitoring, and coordinating (with banks, donors, and private businesspeople) fertilizer credit programs; conducting needs-based training programs; and demonstrating modern agricultural practices to dealers/distributors and farmers.

Farmer-level Fertilizer Use Survey (FLFUS). The primarily goal is to provide information on fertilizer use at the farm level. This activity will be phased out when current work in progress is completed.

Overall, the main focus of the project has shifted to broader issues, i.e. from distribution to marketing (of which by definition distribution is one aspect), and from fertilizers to all agricultural inputs (primarily fertilizers). FDI-II also intends to diversify into agribusiness. In effect the project has evolved from institutional support to BADC to policy reform for the MOA.

The above activities planned for the remainder of FDI-II are sound and will allow the consolidation of most of the present accomplishments. However, it is not yet clear where and how the transfer of Planning, Monitoring, and Evaluation Unit activities to another institution will take place.

SECTION VII

CONCLUSIONS AND RECOMMENDATIONS

SECTION VII
CONCLUSIONS AND RECOMMENDATIONS

A. General Conclusions

A1. Continuity and Professionalism

The USAID project officers and managers, the FDI-II chief of party and staff, and the BDG officials who supported the project, must all be praised for the exceptional success of the fertilizer program. They should be particularly congratulated for convincing the BDG to adopt drastic policy reforms in spite of a very difficult and at times dangerous environment.

Two main factors led to these accomplishments. First, the step-by-step approach adopted by the USAID fertilizer program, and second, the high quality and professionalism of the USAID/Dhaka and FDI-II staffs.

It is important to note that the professionalism of IFDC is now shared by the Bangladeshi staff of FDI-II, many of whom are former employees of BADC, BCIC, and the MOA. The contacts these personnel have maintained with their former colleagues have facilitated the project's information flow to appropriate BDG and MOA authorities, and have certainly contributed immensely to the government's adoption of critical policy reforms.

FDI-II's success must also be attributed to the high morale, work satisfaction, and familial atmosphere among all project staff met during the course of the evaluation.

A2. Dealer Development

The successful development of the private fertilizer dealer marketing network is one of the outstanding outputs of FDI-II. This network is the foundation of the project strategy to provide better and cheaper fertilizer services to farmers to increase their productivity.

A3. MIS

The impressive management information system established and operated by FDI-II's PME Unit allows the project to address any marketing issue with a rational and systematic approach. This system is unique among all agrochemical marketing aids known to the evaluator.

A4. Subsidy Elimination

Another of the project's noteworthy successes is the elimination of most fertilizer subsidies, which partly supported the costly centralized marketing system. As seen in Figures III.1 and III.2 in Section III, this reduction was achieved without transferring the

entire bill to the farmer community, thanks to savings on distribution costs from the aggressive competition in the new private marketing network. However, the MOA has still to resolve the question of whether some segments of the agricultural economy should be stimulated by subsidies. Furthermore, if the government decides to continue to subsidize the cost of production, should this be done through subsidies to agricultural inputs or through support prices at the farm gate or consumer levels?

While these questions lay outside the scope of FDI-II, the project has helped the BDG come to the indisputable conclusion that subsidies must not be used to preserve noncompetitive state-owned corporations.

B. Unresolved Issues

B1. Transfer of Technology

To an outsider who knows nothing about the Bangladesh's fertilization problems and who has not visited any of the country's crop research institutes, it appears that FDI-II should have closely examined farmers' concerns about on-farm fertilizer use. Each of these concerns could be assigned to an appropriate research institute, whose findings could then be translated into making available practical techniques to farmers and transferring necessary technology to them through extension services.

B2. BADC's New Role

One major unresolved issue, following the deregulation of fertilizer marketing, is the role of BADC and the fate of its 20,000 employees, several hundred of whom are qualified agronomists, engineers, and laboratory staff. All previous USAID plans to solve this problem have failed due to the opposition of both the workers' union and BADC management.

In addition, the deregulation of fertilizer marketing has led to idle BADC warehouses with a capacity of 400,000 mt scattered around the country, often in poor locations. The enormous investment in the construction of these warehouses could have been saved if private dealers had been involved earlier in the distribution of fertilizer.

It can be assumed that the difficulties experienced during this evaluation to clarify certain situations also hamper negotiation efforts by USAID/Dhaka and FDI-II. These obstacles are no doubt common in any dealings with public sector corporations such as BADC and BCIC, and the attitudes of these institutions are in many ways understandable given the important social issues at stake.

C. Recommendations

As FDI-II will be terminated by August 1994, all of the following recommendations should be implemented in the short term. Several of them, however, may require a longer period to be consolidated or become sustainable. Since some of the present activities of FDI-

II are likely to be transferred to the Agribusiness Technology Development project (to be designed in the forthcoming months and implemented soon thereafter) some recommendations may be extended into the medium (5 years) or long term (10 years).

The objectives for the last two years of FDI-II can be summarized in two words: consolidation and institutionalization. The consolidation of project outputs primarily involves progress in the quality, rather than the quantity of the marketing network. Fortunately, now that the design and implementation of USAID's Agribusiness Technology Development project has been assigned to a consortium with IFDC as the leading partner, this institutionalization process, which might be achieved by 1994, can be carried on during the course of ATDP. The continuity of technical assistance will consolidate FDI-II's achievements after its termination.

C1. Short Term

C1a. 1992-1994 Work Plan

To date, little consideration has been given to the long-range sustainability of the functions which have led to FDI-II's success.

It should therefore be a major task of the ATDP design team to identify what components of FDI-II are ready to be transferred, to whom, and how, and what components should be transferred by ATDP after further transformation and/or adaptation to the new project. Currently, none of these activities are included in the 1992-1994 FDI-II work plan. The plan should be altered accordingly with the proposals of the ATDP design team as soon as they are accepted by USAID/Dhaka.

C1b. Import System

State involvement is now limited to the MOA's selection of private sector importers with the assistance of FDI-II. Such involvement will be necessary until the remaining subsidies for imported fertilizers (mainly TSP and MOP) are eliminated. State involvement in fertilizer procurement through the Bangladesh Bank is also necessary to handle foreign grants (in kind or in foreign exchange), without which imports of fertilizers would be difficult.

However, FDI-II management expects it will be possible to convince all donors to follow ADB's system of entrusting the central bank with the administration of loans reserved for the purchase of agricultural inputs on a first-come, first-served basis using the commercial banking system. Such a scheme should be actively pursued. If adopted by the donor community, it would facilitate a completely open import market system, allowing a far greater number of importers to compete for the same 750,000 mt market. Increased competition will lower fertilizer quotations and, in FDI-II's opinion, enable the elimination of the remaining fertilizer subsidies.

It is essential that FDI-II and its successor be able to intervene in future cases of

abnormal import cost increases, possibly through a mechanism similar to the one used in the domestic market to encourage the entry of newcomers. This ability will necessitate very close monitoring of world prices by FDI-II and the availability of important financial resources that can be invested rapidly. A study to develop such a system is hereby recommended.

C1c. BCIC's Commercial Urea Policy

FDI-II should obtain agreement from BCIC that FOB terms will be strictly applied at the Chittagong Urea Fertilizer Ltd factory (see Section III A6c).

As explained earlier, BCIC's commercial policy is characterized by a lack of flexibility. The variable pricing policy FDI-II is asking the corporation to adopt—involving quantity, off-season, and cash discounts, as well as the application of true FOB prices for CUFL—appears sound, and its acceptance by BCIC and its urea factories should be actively pursued.

Ending BCIC's urea monopoly is probably the only way of forcing the factories to adopt a commercial attitude. This important policy reform could possibly be achieved progressively by first convincing the BDG that urea should be sold to the private dealers at export FOB parity. This export parity could be based on the value of the last exports sold by BCIC. The second step would be to propose that the government deregulate the importation of urea.

C1d. Marketing Network Consolidation

The present dealer development and training activities should continue along with the sensitization of the banking system to the financial requirements of the fertilizer subsector. These requirements will continue to expand substantially, especially if the present objective of obtaining financing for crop term credit to farmers through distribution channels is successful.

In order to avoid discouragement among distributors and dealers and prevent their pulling out of fertilizer marketing to enter more rewarding businesses, the following issues require urgent attention.

1. The present system of selecting and grouping fertilizer importer candidates has allowed the successful entry of the private dealers in spite of the complexity of grant and loan rules set up by donor countries. However, the desired increase in competition among importers will require the adoption by all donors of the ADB procedure whereby funds are deposited with the Bangladesh Bank, which will use them in accordance with ADB's wishes and the bank's own rules concerning allowable imports of agricultural inputs.

2. The adoption of quantity, off-season, and cash payment discounts by BCIC's fertilizer plants and the improvement of loading facilities at CUFL are indispensable to avoid discouraging distributors and smaller dealers. The evaluation was able to visit only two of the seven fertilizer factories, and therefore cannot list all of the problems needing closer attention. Nonetheless, those reported earlier for the two Chittagong plants seem to indicate that there is ample ground for improvement and savings at this level, and that there are huge discrepancies in sales conditions between what is said by factory management and what is reported by customers and confirmed by FDI-II staff. Small operators complain that larger groups find ways to bypass the serial system (first in, first out) established for the lifting of fertilizer.

3. As far as cost savings are concerned, the supply terms at factory gates must be reviewed as soon as possible. The cost of transport is certainly one area where further savings could be achieved, according to some traders. Private dealers claim also that they could reduce costs by lifting urea in bulk and rebagging it themselves.

C1e. Fertilizer Industry Association

FDI-II's plans to consolidate the existing Bangladesh Fertilizer Businessmen Association (BSBS) and turn it into a competent, dynamic organization should be pursued.

One of BSBS's main function will be to represent the interests of private fertilizer dealers within the agriculture sector. Depending on how BSBS develops, it is possible that by grouping forces with other agricultural input subsectors, the association might undertake MIS activities.

C1f. Fertilizer Act

Given the establishment of a fertilizer free trade market, it is indispensable that a fertilizer act be proposed to the Parliament of the People's Republic of Bangladesh to give the BDG the legal means to monitor the use of fertilizers.

The Marketing Unit of FDI-II has prepared a document entitled "Fertilizer Materials Law and Regulation," which once revised will be submitted to the BDG. The document addresses all relevant the issues which should be covered by the new law.

C1g. Contacts with Other Agricultural Input Subsectors

Since the ATDP is expected to expand the scope of FDI-II into other subsectors such as seeds and irrigation equipment, closer contacts with agricultural input businesses should be pursued by fertilizer businesses. In this way, the fertilizer subsector could learn from the experience of other subsectors and avoid committing mistakes, such as in seed production, which might be difficult to correct later. Indeed, the now possible creation of a new state-owned national seeds producing corporation would defy the BDG's current deregulation and privatization policies in the agricultural input marketing sector.

In particular, lessons can be learned from the marketing and organizational experience of the agrochemicals subsectors, which has been deregulated for a longer period and possesses a far better organized business association than the fertilizer subsector. Agrochemical firms in Bangladesh have excellent contacts with research and extension institutions and a solid record of selling to wholesalers on credit.

C1h. Fertilizer Technology Transfer

Because the evaluator was not able to visit the countryside, and in particular the public sector institutions in charge of agricultural research and extension, it is impossible to give sound advice on how to tackle the various problems which seem to exist as far as on-farm use of fertilizer is concerned.

However, it is probably worth investigating whether FDI-II, and possibly ATDP afterwards, should appoint a technology transfer advisor who would work with all parties concerned to make sure required actions are taken in this field. This new function seems essential for ensuring the systematic development of the fertilizer subsector, given the number of related issues still needing attention. Although FDI-II is a marketing improvement project, it has addressed technical issues such as the deep placement of urea and the fertilization of high-yield maize hybrids. Thus it is appropriate to consider whether other technical issues should be considered more important.

C1i. Planning, Monitoring, and Evaluation

The existence of efficient planning, monitoring, and evaluation functions is fundamental to ensuring the survival of the entire agricultural input sector in an open free market economy. It is therefore essential that an in-depth study be conducted to decide where and how PME activities should be transferred at the end of FDI-II. As the ATDP will certainly involve PME of all input subsectors, the project design team should include such a study as part of its duties. Attention must be focused on sustainability and on which institution (public or private) should eventually inherit PME responsibilities. The selected body should start operating well before the end of USAID technical assistance, in order to correct any deficiencies following takeover.

C1i(1). Price Monitoring

FDI-II and its successor should be able to intervene in import costs when needed, as the project now does in end-user prices. The implementation of this mechanism will require close monitoring of world prices and further investigation into what available intervention parties should be involved. Breaking down collusion at this level is a slower and more capital-intensive process than at the farmer level.

C1i(2). Decision Maker and Management Information

It might be a good idea to investigate whether the information and presentation of the *Monitoring Report on Fertilizer Distribution in Bangladesh* prepared by the PME Unit suits the requirements of its recipients. Specific features to be added might include:

- An executive summary presenting key indicators.
- Graphs summarizing long tables of figures, e.g. comparisons of quarterly performances or trends in sales, storage, and import volumes. These could also be included in the quarterly reports submitted to USAID.
- Data on sales, storage, and import and export volumes expressed in money terms as well as tonnages.
- Graphic comparisons showing factory/import costs, farm-level prices, and subsidy amounts for individual products over a number of years, as in Figures III.1-3.

C1i(c) Marketing Network Information

Fertilizer distributors and dealers should receive summary MIS data related to their businesses that is collected by the PME Unit. Either by request or subscription, these entrepreneurs could be mailed more detailed information on imports (prices, tonnages, et al.) inventory, and farmer-level prices in the country's various fertilizer markets. This mailing system could be implemented by BSBS as soon as it is properly organized.

BSBS could eventually also release this information in Bangla, in order to ensure its accessibility to the entire trading community. Such participation by BSBS would have the advantage of showing the association the value of market intelligence and giving it an incentive to help further with the collection of the required data. Giving the private dealer network better intelligence on the fertilizer market would reinforce competition by showing where the best business opportunities lay. It would also provide its members with the means to tackle business issues in a more rational and economical manner.

As a final recommendation, the feasibility of radio broadcasting of fertilizer market information should be studied.

C2. Medium and Long Term

Most of the above recommendations will extend to the medium term (if not longer) if they are not implementable within the next two years. In these cases, they would fall under the scope of the ATD project.

Among the recommendations suggested above, the following will most probably extend into the medium term, requiring action from ATDP:

- Implementation of an import monitoring system, depending on the willingness of international aid donors to adopt the procedure promoted by the ADB through the Bangladesh Bank.
- Adoption of a commercial urea policy by BCIC, assuming corporation management remains unreceptive to the practices suggested above.
- Consolidation of the fertilizer industry association.
- Implementation of the Fertilizer Act.

D. Lessons Learned

The experience of FDI-II confirms the lessons learned by FDI-I, namely:

- AID agricultural development projects with major policy reform objectives should be implemented over 5-10 years if institutional change is to be successful.
- Agricultural policy reform must be viewed as an evolutionary process.
- Significant agricultural policy reform is possible, given sufficient resources and commitment by USAID and the host government.

One additional lesson learned from FDI-II is that deregulation policy permits the financial difficulties associated with privatization (e.g. finding a private enterprise willing to take over the excess staff and unadapted facilities of a state corporation) to be bypassed. Deregulation, however, does not by itself solve social problems arising from unemployment or the inactivity of redundant personnel.

The contribution of sociologists to this project, even on a part-time basis, would help address these important issues raised by policy reforms of this nature. It is not too late to include such assistance as part of ATDP.

ANNEX A

LIST OF PEOPLE MET

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USAID/Dhaka

Nizam U. Ahmed, Project Officer
David Atwood, Food Aid Program
Helen Gunther, Deputy Director
Mafizal Haque Khan, Program Management Specialist
Kevin L. Mullally, Director of Food and Agriculture
Larry Paulson, Agricultural Development Officer
Jan Rockliffe-King, Evaluation Specialist

FDI-Dhaka

John H. Allgood, Deputy Chief of Party, Credit and DD&T Consultant
A.H.M. Obaidul Bari, Marketing Advisor
Mohammed Mofizul Islam, DD&T Advisor
Qamrul Islam, Marketing Advisor, BCIC Liaison and Public Relations
M.A. Malek, Marketing and Import Development Advisor
Kenneth L. Moots, Chief of Party
Thomas P. Thompson, Monitoring, Evaluation, and Computer Consultant

FDI-II, Chittagong

Farrukh Ahmed, Demonstration Supervisor
S.A.Mokarrum, Chittagong Division Marketing Advisor

Ministry of Agriculture, Dhaka

Akmal Hossain, Joint Secretary
Hedayet Hossain, Research Officer
Shahib Ali Mridha, Deputy Secretary
Motiur Rahman, Deputy Secretary

BADC, Dhaka

Shahidul Islam, Chairman
Mizanur Rahman, Chief of Planning
M.A. Wadud, Member-Director, Finance

BARC, Dhaka

Z. Karim, Member-Director, Soils and Irrigation
Robert E. Witters, Senior Research Management Specialist, ISNAR

BCIC, Dhaka

Mohammed Habibur Rahman, Commercial Director

BSBS, Narayanganj

Mohammed Shahzada Mian, Convenor of Bangladesh Sar Baboshaye Samity (BSBS), fertilizer importer/distributor, Chairman of Narayanganj District Fertilizer Dealer Owner Cooperative Society Ltd

CUFL, Chittagong

Mobarak Hossain, Deputy Manager of Exports
Shafiqur Rahman, Managing Director

TSP Complex Ltd, Chittagong

M Bahar, Chief of Accounts
R.H. Chowdhury, Chief Marketing Manager
Jamiul Islam, Managing Director

Private Businesses

Ashrafuddin Ahmed, Dhaka Division Sales Manager, Agricultural Division, Ciba-Geigy, Dhaka
Nesar Ahmed, fertilizer, agrochemicals and vegetable seeds retailer, Charnangandi Bazaar, Polash, Narsingdi
Sarwar Ahmed, Agricultural Division Manager, Ciba-Geigy, Bangladesh Ltd, Dhaka
Sultan Ahmed, fertilizer and agrochemicals retailer, Charnagandi Bazar, Polash, Narsingdi
Khurshid Alam, Managing Director Sharf Trading Co,, United Impex Limited, A.B. Sangstha, fertilizer, cement and food (sugar, milkpowder, etc. importer/distributor, Dhaka
A.M. Anisuzzaman, Chairman of Uttara Bank Ltd, Dhaka, former MOA Secretary
Akther Ahmed Chowdhury, Eastern Agencies, fertilizer importer/distributor and agrochemicals wholesaler, Chittagong
Jahurul I. Chowdhury, Managing Director, Purbani Lighterage (Pvt) Ltd., Pacific Maritime Ltd., Crest Fertilizer, fertilizer/distributor, Dhaka
Shafi A. Choudhury, Chairman, A.A. Enterprise (Conagra U.S.A.) fertilizer and Continental Grains, U.S.A., Dhaka

Mr. Hannan, fertilizer distributor, Narsingdi
Emdadul Haque, Marketing Officer, Ciba-Geigy, Narsingdi
Hans O. Hrechdakian, Unifert, Bruxelles, Belgium
Syed M. Altaf Hussain, Managing Director, W & W Grains Corporation, fertilizer and grain Agent for Cargill, U.S.A.
Sayed H. Jamal, Senior Vice President, IFIC Bank Ltd, Chittagong
Nur Mohamed Meah, M/S Abdus Meah & Sons, fertilizer importer/distributor and agrochemicals wholesaler, Narsingdi
Abdul Baten Mollah, fertilizer and agrochemicals wholesaler, Rup-Ganj, Narsingdi
Mr. Muniruzzaman, fertilizer importer/distributor, Narsingdi
Mohammed Shaker Naim Sharf Trading Co.
Zaffar Sadeque, Manager, W & W Grains Corporation, fertilizer and grains agent for Cargill, U.S.A., Dhaka
Mohammed Momen Sarker, Proprietor M/S Momen Sarker, building and road contractor, construction material dealer, and fertilizer importer/distributor, Narsingdi

ADB, Dhaka

Karimul Haque Talukdar, Project Officer

FAO, Dhaka

A.S.M. Gowser Reza, Program Officer

World Bank, Dhaka

Wahida Huq, Program Officer
Hikmat G. Nasr, Senior Agriculturist

Foreign Embassies

Bertien de Langen, Second Secretary, Royal Netherlands Embassy
Takeshi Ota, First Secretary, Embassy of Japan

Other Projects

Steven Haggblade, Chief of Party, International Food Policy Research Institute, Dhaka
John Landsberg, Credit Bureau Specialist, Financial Reform Project, Bangali Bangladesh Bank, Dhaka
Jean Jacques Peters, River Survey Study, European Community
David Prag, Economist and Financial Analyst, EC/BADC Seed Project
Frans Van De Ven, Project, FAO Chief Technical Advisor, Ministry of Food Reorganization Dhaka

ANNEX B

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ANNEX C

SCOPE OF WORK FOR MIDTERM EVALUATION OF BANGLADESH FDI-II PROJECT

ANNEX C
SCOPE OF WORK FOR MIDTERM EVALUATION OF BANGLADESH FDI-II PROJECT

A. Position: Agricultural Project Evaluation Specialist (Evaluator)

B. General Responsibilities

The Evaluator will be responsible for conducting a midterm evaluation of the Bangladesh Fertilizer Distribution Improvement project, Phase II (FDI-II), which is being implemented under a host-country contract between the Bangladesh Ministry of Agriculture (MOA) and the International Fertilizer Development Center (IFDC). From his assessment, the evaluator will prepare for USAID and the MOA a report of findings and recommendations for short- and medium-term actions to improve project performance. A special emphasis will be placed on information that will provide the basis for guiding decision making in strategic focus and implementation.

C. Tasks

Considering the FDI-II project as a follow-on to FDI-I, the evaluator will review project activities from 1984-1992, examining the approach to achieving objectives and assessing progress in meeting those objectives, as well as the factors affecting project achievement. The evaluator will:

- Assess the project's impact on fertilizer distribution, pricing, and marketing in Bangladesh, and on overall improvements in agricultural input marketing policy. He will also assess the sustainability of policy changes effected by the project.

- Evaluate the effects of project and technical assistance continuity on project performance, with particular reference to its impact on policy.

- Assess the role of the commodity import component in project achievement.

- Assess the project's use of dealer credit.

- Assess the potential of planned activities from 1992 to the end of the project in August 1994 to contribute to project success.

Based on detailed findings and conclusions in each of the areas above, the evaluator will provide ranked recommendations for short- and medium-term evaluation findings. He will also provide a set of recommended long-term actions related to policy reform in agricultural input marketing.

D. Reports and Deliverables

1. A work plan for the evaluation, which includes the planned methodology.

2. A written final report which contains:

- Executive summary of 3-5 single-spaced pages.

- Succinct statement of findings, conclusions, and recommendations, with topics identified by a short subheading related to the areas of investigation identified in the statement of work. Recommendations will correspond to the major findings and be actionable and prioritized, specifying who should take the recommended steps.

- A body of no more than 40 single-spaced pages providing evidence and analysis to support the findings and conclusions.

- Appendices to include, at a minimum, the evaluation scope of work, a description of the evaluation methodology, a bibliography of documents consulted, and a list of people interviewed.

- Completed sections of the AID Evaluation Summary: Sections H (Evaluation Abstract) and J (Summary of Findings, Conclusions and Recommendations).

3. The evaluator will brief the MOA, USAID, and the project technical assistance staff on the evaluation findings, conclusions, and recommendations during the course of the evaluation and prior to departure. To the extent possible, these briefings will be combined.

E. Schedule of Reports and Deliverables

The evaluator will submit a work plan, including evaluation methodology, to the USAID project officer within three days of arrival in Bangladesh, and will submit a draft final report at least three days before departure.

USAID will circulate the draft report to appropriate MOA officials and FDI-II technical assistance staff and will convey comments on the report to the evaluator within 10 working days.

The evaluator will finalize the report in England in the allotted three days and send it on a 3.5" diskette, via DHL, to the Chemonics home office for final editing and reproduction. Chemonics will deliver 30 copies to USAID within five working days. The evaluator will prepare the report on Word Perfect 5.1 (USAID must be informed if this is not available). Tables preferably will be prepared on Lotus 1-2-3 for final processing. If this is not possible, the evaluator will send tables prepared legibly by hand for Chemonics' home office to finalize.

F. Level of Effort

The required level of effort is based on an approved six-day work week for five work-weeks, plus two days of travel time. Following is the breakdown of effort:

- Three work-days in England for desk review of relevant project materials and consultation with IFDC/Washington.
- Twenty-four work-days in Bangladesh.
- Three work-days in England for report finalization.
- One additional work-day provided by Chemonics at no cost to USAID.
- Two travel days.

G. Logistics

Chemonics' home-office Travel Bureau will arrange international travel in consultation with the evaluator. The evaluator, in consultation with the Chemonics home office, is responsible for organizing evaluation logistics including local travel, lodging, office space, secretarial and other support services, transportation, and scheduling of interviews. IFDC/Bangladesh and USAID will assist where possible in scheduling appointments and will provide copies of project documents.

H. Technical Direction

The USAID project officer in Bangladesh will provide the evaluator with technical directions during the performance of this delivery order.

ANNEX D

AID EVALUATION SUMMARY

A. Evaluation Abstract

The goal of the Bangladesh Fertilizer Distribution Improvement project, Phase II (FDI-II), which started in 1987 and ends August 1994, is to increase agricultural production through improving the marketing of agricultural inputs—primarily fertilizer. FDI-II has partly achieved this goal, as Bangladesh is now self-sufficient in rice (the country's staple food) as a result of developing a highly competitive market economy for fertilizer. The project has successfully promoted a wholly private three-tier distribution network that is fully integrated from retail to import by convincing the Ministry of Agriculture to adopt drastic policy reforms deregulating the old state-centralized system.

Through a program of dealer training; credit from local banks; and planning, monitoring, and evaluation through an elaborate management information system; FDI-II has reshaped Bangladesh's agricultural input sector. During the course of the project, fertilizer demand has increased by 73 percent; one-third of imports are now bought by private dealers; and local liftings totaling two-thirds of all fertilizer use are in the hands of the new network. The government's heavy subsidy burden has been almost completely eliminated, yet prices to farmers have not increased by the same amount because part of this increment has been absorbed by dealers' trade margins.

The indirect achievements of FDI-II can be observed in the project's impacts on other ministries such as the Ministry of Food. In addition, the success of FDI-II has crossed the borders of Bangladesh, with the International Fertilizer Development Center—the project's implementing agency—recently inaugurating an Asia office in Dhaka and looking also to replicate FDI-II successes in Eastern Europe.

B. Summary of Evaluation Findings, Conclusions, and Recommendations

This midterm evaluation of the USAID-funded Fertilizer Distribution Improvement project, Phase II (FDI-II) is the result of a one person-month effort between September 22 and October 22, 1992. It was conducted by Charles J. Heureux, Ir. AIGx, a consultant from Chemonics International of Washington, D.C..

C. Purpose of the Evaluation and Methodology Used

The purpose of this midterm evaluation is to assess progress made since the last evaluation in 1984; identify changes to improve project performance; and assist USAID in considering longer-term directions to strengthen competitive private sector involvement in fertilizer input markets.

The methodology used by the evaluator during the month spent in Bangladesh consisted of desk research and interviews with parties directly involved with the project and outsiders impacted by FDI-II activities, i.e., fertilizer traders (supplier agents, importers/distributors, wholesalers, and retailers); officials of the Ministry of Agriculture; managers of the state corporations BADC and BCIC and of two BCIC fertilizer plants; staff of multilateral and bilateral aid institutions (ADB, World Bank, and the Royal Netherlands and Japanese Embassies); agricultural organizations (FAO, Bangladesh Agriculture Research Council); consultants involved with seed project design, banking reforms, and food research projects; and other agricultural input distributors. Contacts outside Dhaka were limited to agricultural input traders in the Narayanganj, Norsingdi, and Chittagong areas.

The evaluator attended parts of MOA/IFDC workshops in Dhaka on agricultural credit for bank management, and in Chittagong on credit, fertilizer, and food for local fertilizer distributors, bankers, and BCIC fertilizer plants staff. The evaluator also visited one of the three FDI-II regional offices, in Chittagong.

D. Findings and Conclusions

An important feature of Bangladesh's fertilizer subsector is that the local urea industry, by exploiting the country's significant gas deposits, not only covers domestic nitrogen fertilizer requirements, but produces exports that if well managed can offset the import bill disbursement for other fertilizers (mainly phosphate and potash).

Below is a description of the most significant accomplishments of the FDI-II project thus far.

Sales of fertilizer have risen from 1.32 million mt in FY 1987 to 2.29 million mt in FY 1991—a 73 percent increase—while the country has become self-sufficient in rice. The value of this demand is estimated at a procurement cost level of $306 million (of which $121 million is for imports), while at the farm level, demand reaches $372 million—a 25 percent mark-up.

Since June 1992, imports have been handled entirely by private importers. Previously, these entrepreneurs handled only 31 percent. All local lifting of urea is carried out by private traders.

During the past five years, FDI-II has completed the development of a wholly private and fully integrated three-tier fertilizer marketing system from procurement (including importation) to nationwide retailing that reaches even the remote areas of the country.

Ten years ago, under the state-centralized marketing system, there were 60,000 appointed retailers, of which around 6,000 were active. In the present free market system, however, there are 110,000 retailers (65,000 regular outlets and the rest bazaar-type retailers), of which 1,270 have grown to the level of wholesalers and 215 to importers/distributors. These dealers use 650 depots with a capacity of 515,000 mt. This

growth in dealers was possible due to the FDI-II training program, which will run 76 sessions for an estimated 10,000 participants over the life of the project.

The Commercial Credit Program (CCP) of FDI-II has made possible the emergence of a new class of entrepreneurs who would not otherwise be in the fertilizer distribution business. Since mid-1989, 15 banks have used CCP to disburse $156 million in loans, 61 percent of which were from their own funds. From the start of CCP two years ago, refinancing disbursed by the Bank of Bangladesh has totaled $77 million.

All policy reforms proposed by FDI-II to develop a fully open fertilizer market have been implemented. In principle, anybody today can purchase supplies directly from any port or factory gate and resell them at whatever price the market will bear. This situation has been achieved through the deregulation of state import and retail monopolies. In spite of the continuous reduction of BDG subsidies, however, prices to farmers have not increased by the same amount because part of this increase has been absorbed by the trade margin.

An elaborate management information system (MIS) has been developed by FDI-II's Planning, Monitoring, and Evaluation Unit (PME) to monitor, evaluate, and correct the progress and failures of the fertilizer marketing policy reforms. The MIS allows the project to address any issue with a rational, systematic approach, and makes it possible to take appropriate actions, particularly when abnormally high farm-level prices are observed in a marketplace.

Indirect achievements of FDI-II include its impacts on agencies other than the MOA, such as the Ministry of Food, which is examining fertilizer subsector deregulation in order to learn more about the free market economy.

Continuity, professionalism, team spirit, and excellent contacts with the public sector are some of the outstanding assets acquired over 14 years by the FDI project. The MOA's support for FDI-II and its implementation has been central to the project's accelerating progress since 1989. FDI-II's advisory role to the Ministry has become by far the most important activity of the project.

The one major unresolved issue, following the continuing deregulation of the fertilizer marketing, is the still undefined role of the Bangladesh Agricultural Development Corporation (BADC), its 20,000 employees (including several hundred qualified agronomists, engineers, and laboratory staff), and its idle 400,000 mt warehouses.

A period of consolidation and institutionalization of the project's assets is now underway, as is a broadening to other agricultural inputs which reach the same end-user communities as fertilizer.

E. Principal Recommendations

E1. Urea Monopoly

The Bangladesh Chemical Industries Corporation (BCIC) continues to enjoy a state monopoly in the supply of urea. BCIC's factories use an approach completely unadapted to a free market economy. The variable pricing policy FDI-II is asking BCIC to adopt appears sound, and its acceptance by BCIC—and subsequently by each of its urea factories—should be actively pursued. The pricing policy involves quantity, off-season, and cash discounts, as well as the application of true free on board (FOB) prices in the case of Chittagong Urea Fertilizer Ltd.

Ending BCIC's urea monopoly is probably the only way of forcing the urea factories to adopt a commercial attitude. A strategy to deregulate urea imports should also be developed.

E2. Imports

Competition for fertilizer imports must be improved. The FDI-II plan to convince all donors to follow the ADB system is probably the best solution for the moment, although probably difficult to accomplish. The plan would entrust the Bangladesh Bank with the administration of loans reserved for the purchase of agricultural inputs. Such a scheme, if adopted by the whole donor community, would facilitate the advent of a completely open import market system.

E3. Transfer of FDI-II Activities

As nothing in the present and planned activities of the project seems to indicate that anything is being done to ensure the sustainable transfer of its components to another institution, most of FDI-II activities should be transferred to the new USAID Agribusiness Technology Development project (ATDP) now being designed.

[[[Chemonics: take into account here: (1) the credit system is more-or-less institutionalized, and (2) private sector marketing is institutionalized.]]]

It might therefore be one of the major tasks of the ATDP design team to identify components of FDI-II that are ready to be transferred; specify to whom and how they will be shifted; and identify which are not yet ready or should be transferred by ATDP after they are adapted to the broader scope of the new project.

E4. Fertilizer Industry Association

Plans for the consolidation of the existing Bangladesh Fertilizer Businessmen Association (BSBS) should be developed to turn it into a competent, dynamic organization. One of BSBS's main functions will be to represent and defend the interests of private

fertilizer businesses. BSBS could also eventually collaborate with other agricultural input subsectors in MIS activities.

E5. Fertilizer Act

The proposed "Fertilizer Materials and Regulation Act" prepared by FDI-II should be submitted when ready to the BDG. The Act addresses all legal issues relevant to a free and open fertilizer market.

E6. Planning, Monitoring, and Evaluation

An in-depth study should be carried to determine where and how PME activities will be transferred at the end of FDI-II.

E6a. Price Monitoring

It is essential to implement a mechanism similar to the one used for monitoring farm-level prices, and to investigate in particular the availability of "intervention parties." Eliminating collusion at this level is a slower and, by far, more capital-intensive process than at the farmer level.

E6b. Decision Maker and Management Information

Investigating the information needs of the 46 recipients of the monthly *Monitoring Report on Fertilizer Distribution in Bangladesh* would increase subscriber interest.

E6c. Marketing Network Information

Similarly, sending market information adapted to marketing network needs should also be pursued, and the feasibility of radio broadcasts of fertilizer market information should be studied.

F. Lesson Learned

Deregulation policies allow businesses to bypass the financial difficulties associated with privatization, e.g. finding a private enterprise willing to takeover the excess staff and unadapted facilities of a state corporation. Deregulation does not, however, fully solve the social problems rising from unemployment or inactivity of redundant personnel.

The contribution of sociologists to this project, even on a part-time basis, would help address these important issues raised by policy reforms of this nature. It is not too late to include such assistance as part of ATDP.