

VOLUME IV

**AGRICULTURE GOVERNANCE IN
BANGLADESH:**

A SURVEY OF SIX THANAS

AGRICULTURE SECTOR REVIEW

**MINISTRY OF AGRICULTURE,
GOVERNMENT OF BANGLADESH**

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The survey has been funded by the United Nations Development Programme and executed through the Food and Agriculture Organization of the United Nations. A consultant team consisting of ATM Shamsul Huda (Research Director), Md. Abul Quasem (Agricultural Economist), Luthar Das (Programmer) and field investigators was responsible for the design and conduct of the survey while the report has been prepared by the Research Director with the assistance of the Programmer.

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Abbreviations and Acronyms

AEZ	Agro-ecological Zone
ADP	Annual Development Program
APB	Actionable Policy Brief
ARMP	Agricultural Research Management Project
ATI	Agricultural Training Institute
BADC	Bangladesh Agricultural Development Corporation
BARC	Bangladesh Chemical Industries Corporation
BCIC	Bangladesh Agricultural Research Institute
BFA	Bangladesh Fertilizer Association
CBO	Community Based Organization
DAE	Department of Agricultural Extension
DAP	Di-amonium Phosphate
DANIDA	Danish International Development Agency
DLS	Department of Livestock Services
DOF	Department of Fisheries
DTW	Deep Tube Well
FAO	Food and Agriculture Organization
FD	Forest Department
FSMP	Forestry Sector Master Plan
FSR	Farming System Research
GDP	Gross Domestic Product
GOB	Government of Bangladesh
HYV	High Yielding Variety
IADP	Integrated Agriculture Development Plan
IPM	Integrated Pest Management
MDG	Millennium Development Goals
MOA	Ministry of Agriculture
MOFL	Ministry of Fisheries and Livestock
MOP	Muriate of Potash
NAP	National Agriculture Policy
NAEP	New Agricultural Extension Policy
NSP	National Seed Policy
POA	Plan of Action

PRSP	Poverty Reduction Strategy Paper
SAAO	Sub-assistant Agriculture Officer
SCA	Seed Certification Agency
SRDI	Soil Resources Development Institute
STW	Shallow Tube Well
TOR	Terms of Reference
TSP	Triple Super Phosphate
T&V System	Training and Visit System
UNDP	United Nations Development Programme

Glossary

Aman	Aman rice crops are of two types : broadcast and transplanted. Broadcast aman is planted in March/April under dry land conditions but is areas liable to deep flooding. Harvested during October to December. Transplanted aman is usually planted during July/August during the monsoon. Harvested in November/December.
Aus	Both broadcast and transplanted types are planted during March/April under dry land and irrigated conditions respectively. Harvested during June/July.
Beel	Natural depression, normally a permanent or temporary water body or swamp
Block	A farmer contact group under the T&V system of agricultural extension consisting of 1000 farm families
Boro	A rice crop planted under irrigation during the dry season from December to March and harvested during April-June. Local boro varieties are more tolerant of cool temperatures and are usually planted early in areas which are subject to early flooding due to rise in river levels. Improved varieties, less tolerant of cool conditions, are usually transplanted from January onwards. All varieties are insensitive to day length.
Dighies	Large ponds
Haor	Low-lying natural depression area
Khas	Owned by the Government
Patilwala	Small traders of fish fingerlings who carry their merchandise in earthen pots (patil). Hence the name 'Patilwala.
Rabi	The dry season crops grown during November to February. Crops grown are wheat, potato, pulses, oilseeds and vegetables.
Thana (Upazila) Parishad	A suspended level of local government to be run by elected

representatives. It is positioned between the district and the union levels containing an average of 8 union parishads. This is also the lower tier of administration represented by all central government agencies.

Union Parishad

Lowest level of elective local government consisting of 10-12 villages. An average of 8 unions makes up a thana.

Zila Parishad

Another proposed level of local government to be run by elected representatives. A zila (district) consists of an average of 7 thanas. This is also another tier of administration that plays a vital role in implementing government policies in the field, maintains law and order and manages disaster relief and rehabilitation and other crises.

EXECUTIVE SUMMARY

In the last ten years or so, different Ministries belonging to the broadly defined agriculture sector have issued their sub-sectoral policies. These policy frameworks and other subsequent studies created an enabling environment for pursuing and analyzing the most pressing issues faced by the sub-sectors that need to be addressed for their long-term development. As a follow up to these developments, the Ministry of Agriculture (MOA), commissioned in 2004, a quick crop sub-sector review to meet the critical observations of the earlier reviews and develop a longer term perspective and a vision for the growth of crop sub-sector of Bangladesh. The review, known as *Actionable Policy Brief (APB)*, came up with a number of short and medium term recommendations for consideration of the MOA. However, it also pointed out the difficulties in formulating long term agricultural policy due to lack of information and data on some critical areas. Such areas include, among others, farm level productivity, agro-industries and marketing and trade of agricultural products including livestock, fishery and forestry. There is also lack of information on governance at the grass root level and on the efficiency and equity of services intended to be delivered to the farmers. The review made a very strong plea for a broad-based review of the sector including forestry, fishery and livestock with a focus on an efficient and transparent framework of governance.

Efficiency and Equity: the issue of Governance

All the studies conducted recently have persistently focused on governance as the major bottleneck towards increasing agricultural productivity. The PRSP document, finalized recently, has identified governance singularly as the determining factor in poverty alleviation in as much as governance is directly related to the implementation of policies and programs of service delivery to the poor farmers. Unfortunately, there is serious lack of information and assessment of the policy formulation process to ascertain as to whether attention is paid to the question of implementability of various policies, taking into consideration the objective realities obtaining in the country. Nor is there any systematic monitoring and evaluation of the multitude of decisions that trigger implementation process and the capacity of the entire administrative chain to absorb the intent of the policies and further processing them for appropriate service delivery.

There are many reasons for this lack of information on the process of governance. Firstly, there is a hesitation to undertake studies on governance due to conceptual difficulties. The act of governance is all encompassing and covers all types of institutions—government, non-government and private covering local, regional and national levels. Each type and level is so deeply linked with each other that it is difficult to isolate one part and venture to improve its performance without corresponding changes in other relevant parts. Secondly, much of governance activities are carried out in secrecy and the real processes are not revealed for critical review and analysis. Thirdly, past efforts at improving governance has met with stiff resistance from vested powerful quarters that has generally discouraged new initiatives for a long time. However, improving governance has become such a critical issue for the economic development of the country in general and agricultural development in particular that some modest beginnings need to be made.

Rationale of the Study

It is in this spirit that a study of agriculture governance in terms of implementation of policy at the local level was carried out to find out the processes and mechanisms of procurement and delivery of inputs meant for the farming community through various public policies and programs and make an assessment as to how much of that is actually received by the intended beneficiaries. The goals of what is called agricultural governance are defined as efficiency and equity in the delivery of various services for agricultural development. These goals are derived from the higher level goals enshrined in the Constitution of the Republic. Conceptually, the Constitution has set the goals of good governance in very clear and unambiguous terms. Meeting basic needs of people, removing social and economic inequality through equality of opportunity, promoting rural development and local government,

mainstreaming of women in development and establishing a corruption free society are elements of good governance. The goals, however, form only a part of the equation: the other part consists of the organizations and institutions that will translate them into reality. At the operational level, governance is the delicate task of designing as well as operating a set of institutions and their mechanisms and processes through which citizens can articulate their interests and needs, mediate their differences and exercise their rights and obligations. Governance activities include legal frameworks, policies, institutions and management tools. Without a proper legal framework, policies do not have political legitimacy; without appropriate policies institutions cannot function; without appropriate institutions policies will not work; and without a working set of policies and institutions, management tools are irrelevant. Good governance further requires partnership between governmental institutions, civil society organizations and private sector for participatory, transparent, accountable and equitable service delivery and development.

The foundations of governance are thus laid by some higher level goals and, in this case, these are derived from the Constitution of the country. Poverty alleviation through agricultural development is the fundamental goal we seek to realize through efficient and equitable service delivery to the farmers. To be specific, we are interested in that aspect of governance that deals with the *formulation* of policies relating to various services to the farmers and their *successful implementation* at the local level. Theoretically, it would seem that the relationship between policy and implementation is pretty straightforward: when a policy is announced, it is generally assumed that it will be implemented in due course. But in reality, this is hardly so. Many policies based on apparently sound ideas have encountered difficulties in practical application. This gives us the clue to the definition of our problem we are seized with. Why do not things get executed as intended in policy documents? Where does the problem lie? Is it policy formulation or implementation or both in combination?

Selected Policies for the Survey

Agricultural governance survey was conducted in 36 villages of 6 thanas, one each randomly selected from the six administrative divisions of the country. The survey focused on delivery of inputs to the crop and smallholder dairy, poultry and pond fishery sub-sectors. For the crop sub-sector, 50 farm households were randomly selected in each village according to proportion of different size of farms, viz, marginal, small, medium and large from the list of farmers maintained by the local agriculture office. For the other categories, 20 for each category was selected from each survey thana. For purposes of the survey, the following policies were selected:

- New Agricultural Extension Policy, 1996
- National Seed Policy, 1993
- Policy on Monitoring of Fertilizer Distribution and Sale, 2001 and Policy on Subsidies to TSP, DAP and MOP, 2004
- Policy on Subsidies on cost of Electricity and Diesel for running irrigation equipment
- Smallholder Dairy and Poultry Development Policies
- Development of Pond Fishery

OBJECTIVES OF THE SURVEY

The survey was designed to provide data for an in depth analysis of the implementation of the above government policies to:

- i. find out the processes and mechanisms of procurement and delivery of inputs meant for the farming community through various public policies and programs and make an assessment as to how much of that is actually received by the intended beneficiaries at the set price and quality standard;
- ii. identify the bottlenecks related to agriculture governance at the local level that relate to institutional deficiencies and to processes/procedures for implementation ; and
- iii. propose practical remedial measures to address the problems

Issues covered by the Survey

The survey was designed to look at the efficiency and equity of delivery of services to the farmers and to that end tried to extract information on the following:

Extension (crop, diary, poultry and fishery)

- 1) The frequency of contact between the farmer and extension agent or others at the time of his need
- 2) If departmental extension was not available, wherefrom did he receive the needed advice
- 3) The extent to which the farmer has opportunity to participate in ‘field days’ or other training activities
- 4) In case of contact with the farmer, what kind of advice did he get and was it useful to him
- 5) Who are the beneficiaries of all these activities—the big, medium or small farmers?

Seed

- 1) What are the farmer’s sources of supply of seeds (certified or not)
- 2) Does he know about certified seed
- 3) Whether he buys packet seed or open seed
- 4) In case of open seed , the rate of germination
- 5) Price and quality of certified seed
- 6) Action taken by the farmer in case of non-availability of certified seeds
- 7) Percentage of certified seeds received by the small farmer

Fertilizer

- 1) The quantity, quality and price of different types of fertilizers and their timely availability
- 2) In case of scarcity, the months of the year when fertilizer has been scarce
- 3) Price of fertilizer during 2003-2004 and 2004-2005 boro season to ascertain the impact of subsidy to certain types of fertilizer

Minor Irrigation

- 1) Whether DTW groups/ owners have received 20% discount on their electricity bills
- 2) If they have received the discount, whether the benefits have been passed on to the individual members in terms of water rate charged

Smallholder diary, poultry and fishery

- 1) Availability of veterinary services and the needed vaccines
- 2) Availability of feed, its quality and price
- 3) Price of milk at farm, village market, cooperative society or upazila market
- 4) Availability of departmental micro credit or other cash incentives
- 5) Availability of credit for setting up small poultry farm
- 6) Availability of chicks and their price
- 7) Rate of mortality
- 8) Availability of veterinary services and vaccines
- 9) Availability of feed and its price
- 10) Access to pond
- 11) Access to credit for pond fishing
- 12) Availability of quality fingerlings and their price

Survey Findings

The survey findings give a mixed review of the implementation status of the policies surveyed. There is improvement in some area but in many cases there are considerable gaps between policy intent and implementation. On the policies on crop agriculture, the coverage and effectiveness of agricultural extension service have improved a bit but still it operates much below the expected level. The highest level of contact was 38.4% during the boro season of 2005 that does not compare favorably with the performance of its counterparts in other south-east Asian countries. There is, however, significant improvement in the coverage of small farmers.

On the availability of quality seed, the survey results repeat the old story again. BADC is able to supply only 5% of the requirement, the private sector is not developing and seeds kept or produced in their farms meet the farmer's requirements. It seems that the NSP is not implementable in its present form whereas the farmers have shown their dynamism in producing quality seeds with necessary support.

There is stability in the fertilizer market and the supply situation during the just concluded season has been satisfactory. However, the price has been quite variable and farmers generally buy this commodity at higher price. This is mainly due to compromising the criteria of selection of dealers on political pressure. Many appointed dealers do not have the godowns at the designated thana headquarters and they operate from the district town. At the farmers' level, fertilizer is sold by another set of retailers who for sure keep a margin, thereby enhancing the price above the government approved rates.

The subsidy policy has totally failed to reach the intended beneficiaries. A comparison of price of the imported fertilizers targeted for subsidy reveal that there has been no impact of the subsidy on price. Similarly, the benefit of subsidy to electricity charges for running irrigation equipment has also not been passed on to the individual farmers. In both cases, the wholesalers have grabbed the full benefit denying this to the intended beneficiaries.

Smallholder dairy, poultry and pond fisheries all suffer from similar maladies. There is hardly any extension coverage, lack of good quality chicks and fingerlings, lack of veterinary services and medicines and lack of institutional credit.

Recommendations

On the basis of survey findings and comments by the farmers themselves as to how agricultural governance improved, the following recommendations have been made for consideration of the government:

1. Set up Agricultural Services Resource Center at every union beginning at those unions where union complexes have already been constructed. In order to turn them into resource centers, the DAE will need capacity building in terms of both logistic and training.
2. In order to maintain accountability and transparency of its operations, the DAE should focus on a well planned and well executed group contact system. Government may also consider diversifying the source of extension by training the dealers of different agricultural inputs.
3. There is a very urgent need to allocate adequate fund under the revenue budget for carrying out normal development activities of the DAE.
4. As far as quality of extension service is concerned, there is a need for better research and extension linkages. Agricultural research institutes may consider including extension officials and farmers as their research partners.
5. Implement the NSP for the full development of the private sector and streamlining the operations of the BADC according to the role envisioned for it.
6. Carry out the institutional reforms of the SCA as outlined in the *MOA Agency Management Framework*.
7. Implementing 1 and 2 may take considerable time. In order to give interim relief to the farmers, government should expand seed production at farmer's level by expanding the scope of the project titled "Production, Storage and Distribution of Quality Seeds at Farmer's Level."
8. The selection process of fertilizer dealers needs to be more transparent and fair. To overcome the problem of retail sale to the furthest corners of the country, the number of BCIC dealers may be increased.
9. The subsidy allocated for crop agriculture may be given as cash to all farmers on the basis of farmers lists maintained by the DAE. The list is somewhat dated and may be updated at village level in open forums. Entitlement criteria may be fixed on the basis of ownership of cultivable land.
10. Since government has agreed in principle to provide subsidy to broad agriculture sector, the present cash incentive support may be further expanded to cover more smallholder dairy farms.
11. The Thana Livestock Office needs to be strengthened with more Voluntary Field Assistants (VFA) by imparting them necessary training at the Veterinary Training Institutes (VTI).
12. The cost of medicine and vaccines may be reduced by making them free of all duties and taxes.
13. To partly overcome the problem of good quality fingerlings, government should expedite implementation of the Thana Brood Ponds.
14. Lack of fisheries extension is a genuine problem but it cannot be mitigated by expanding public sector bureaucracy. The most cost effective method of technology is through farmer to farmer contact. This can be achieved by imparting practical training to groups of farmers as part of regular fisheries extension program.
15. Government needs to set up adequate quality control mechanism for ensuring good quality feed to the customers.

INTRODUCTION

1.1 Background

In the last ten years or so, different Ministries belonging to the broadly defined agriculture sector have issued their sub-sectoral policies.¹ These policies are: National Forestry Policy (1994), National Fisheries Policy (1998) and National Agricultural Policy (1999). A recent review of these and other related policies reported that “in most cases the policy framework across related sectors is not only mutually compatible, but often mutually reinforcing.”² Another earlier review had also expressed similar views.³ These policy frameworks created an enabling environment for studying and analyzing the most pressing issues faced by the sub-sectors that need to be addressed for their long-term development. Follow up action to the national policies was the most immediate in the case of the forestry and crop sub-sectors, though others are also trying to catch up. It is against this background that the Forestry Sector Master Plan for implementation of the National Forestry Policy and the Plan of Action (POA) for the implementation of the National Agricultural Policy (NAP) were prepared in 1995 and 2003 respectively.⁴ Other developments include the institutional analyses of the Ministries of Agriculture (MOA) and the Department of Livestock Services⁵ (DLS) and thorough reviews of the livestock⁶ and fisheries⁷ sub-sectors. A draft livestock policy and action plan has also been prepared and now is under the active consideration of the government.⁸ At the policy level at least, major advances have been made and the time has come to start implementing some of the priority policy prescriptions.

The POA did not lead to implementation of the NAP straightway as it pointed to a number of inconsistencies among different policy prescriptions and the absence of a sense of direction for a transition from subsistence to industrial/commercial agriculture. The Plan also noted that there was no prioritization of the program areas identified in the Policy and no clear indication of the critical areas where public sector interventions were the most desirable. In response to the critical reviews of the NAP, the MOA commissioned a quick crop sub-sector review to meet those criticisms and develop a longer term perspective and a vision for the growth of agriculture sector of Bangladesh. The review⁹ came up with a number of short and medium term recommendations for consideration of the MOA. However, it also pointed out the difficulties in formulating long term agricultural policy due to lack of information and data on some critical areas. Such areas include, among others, farm level productivity, agro-industries and marketing and trade of agricultural products including livestock, fishery and forestry. There is also lack of information on governance at the grass root level and the efficiency and equity of services intended to be delivered to the farmers. The review made a very strong plea for a

1 'Livestock Development Policy' drafted in 1992, though never approved by the Government, has, however been followed for initiating many actions in the sub-sector.

2 Ministry of Agriculture, Government of Bangladesh, Food and Agriculture Organization and the United Nations Development Programme. 2004. Bangladesh: Plan of Action on National Agricultural Policy. BGD/00/006: SPPD Final Report.

3 Project Development Office. 2001. Integrated Coastal Zone Management: An Analysis of Different Policy Documents. Dhaka, PDO -ICZM.

4 Asian Development Bank and the United Nations Development Programme. 1995. Development Perspectives of the Forestry Sector Master Plan: Bangladesh. Dhaka: ADB and UNDP; and Ministry of Agriculture, Op Cit

5 Policy and Planning Support Unit, Ministry of Agriculture, Government of Bangladesh and DANIDA. 2001. Institutional Analysis: The Policy and Planning Function of the Ministry of Agriculture. Dhaka: PPSU; Policy and Planning Support Units, MOA and MOFL. 2003. An Integrated Agricultural Development Plan (Dhaka: PPSUs, MOA/MOFL); Ramboll / PPSU -MOA. 2002. Institutional Analysis of the Ministry of Agriculture. Dhaka: PPSU

6 Ministry of Fisheries and Livestock, Government of Bangladesh. 2004. Livestock Sector Review: Summary of the Livestock Sector Review and Future Development. Dhaka: MOFL

7 The draft Fisheries Sector Review has not yet been finalized and is under consideration of government.

8 Ministry of Fisheries and Livestock, Government of Bangladesh. 2005. Livestock Policy and Action Plan. Dhaka: MOFL

9 Ministry of Agriculture, Government of Bangladesh. Actionable Policy Brief and Resource Implications. Agriculture Sector Review (Crop Sub-sector). Dhaka: MOA

broad-based review of the sector including forestry, fishery and livestock with a focus on an efficient and transparent framework of governance.

1.2 Actionable Policy Brief and MOA Implementation Strategy

The MOA has now the benefit of a number of reviews and a large body of recommendations out of which it can develop an action program on the basis of priority needs of the sub-sector. The overall macro-economic and policy framework is provided by the recently approved Poverty Reduction Strategy Paper (PRSP)¹⁰. Recent analyses of the sector fit in very well with the poverty reduction strategies of the government. While the broad-based sector review as recommended in the *Actionable Policy Brief* (APB) has to wait for a while, the MOA has accepted the other recommendations of the APB for implementation. In fact, it has already started implementing a few of those recommendations that it can do without any external assistance. There are, however, a large number of recommendations that the Ministry would not be able to implement with its own resources and would require donor support. The MOA strategy to implement the APB is, firstly, to meet the critique of the NAP, the POA and the APB relating to inconsistencies, lack of direction and lack of data and then proceed with the preparation of an Agricultural Development Program. The information gap on governance is endemic and would need a large program to get dependable information. However, such information has been collected in the past either through case studies or rapid rural appraisals. In the instant case, the information gap on governance is sought to be covered through a quick and representative survey of governance issues at the local level. Inter-sectoral policies, as has already been mentioned, have generally been found to be mutually compatible and the remaining incompatibilities are sought to be identified for action through a desk review of current programs and policies of the broad agriculture sector. These two activities are expected to generate reasonable information towards the development of the envisaged development Program. When developed, the Program would clearly indicate the components that are to be executed by the government with its own resources and other components to be executed with donor support.

1.3 Steps towards Program Development

At the request of the Government of Bangladesh, United Nations Food and Agriculture Organization (FAO) with financial support of the United Nations Development Programme, has undertaken the execution of a Technical Assistance (TA) Program towards preparing the Agricultural Development Program mentioned above. This TA program consists of three activities in sequence leading finally to the preparation of the Program. These are:

1.3.1 Governance and Policy Implementation

All the studies mentioned in section 1.1 have persistently focused on governance as the major issue towards increasing agricultural productivity. The PRSP document has identified governance singularly as the determining factor in poverty alleviation in as much as governance is directly related to the implementation of policies and programs of service delivery to the poor farmers. Unfortunately, there is serious lack of information and assessment of the policy formulation process to ascertain as to whether attention is paid to the question of implementability of various policies, taking into consideration the objective realities obtaining in the country. Nor is there any systematic monitoring and evaluation of the multitude of decisions that trigger implementation process and the capacity of the entire administrative chain to absorb the intent of the policies and further processing them for appropriate service delivery.

¹⁰ General Economics Division, Planning Commission, Government of the People's Republic of Bangladesh, 2005. *Unlocking the Potential: National Strategy for Accelerated Poverty Reduction*. Dhaka: Planning Commission.

The component on ‘Governance and Policy Implementation’ shall look into the linkages between policy formulation and implementation process and the various constraints that impede their implementation at the grass root level. This component will also make suitable recommendations for overcoming those constraints for ensuring more effective and equitable service delivery system. The output of this component will provide the much needed input on governance at local level that will help both desk review of current policies and programs and preparation of the Agricultural Development Program.

1.3.2 Review of Current Policies and Programs

This is the second best option to a broad review of the agriculture sector as suggested in the APB. This review is necessitated by the fact that rural non-farm sector (RNF) is emerging as the key driver of pro-poor growth strategy.¹¹ Over the years, significant changes in the rural economy have taken place covering both structural transformation and enterprise diversification in farm and non-farm sectors. Along with crop production, several sub sectors such as fisheries, poultry, small-scale diary, horticulture and social forestry have shown notable dynamism. The RNF sector has become much more important to rural incomes exceeding agriculture GDP (36% to 25%) and has undergone considerable diversification marked by the growth of different activities, such as, construction, manufacturing, trade, transport, and other services.¹² The need for a comprehensive review of the broad agriculture sector is, therefore, necessary for a clear understanding of the linkages of the different sub-sectors that call for their integration at different levels to achieve the optimal results.

Though the rapidly changing rural scenario is bringing in new elements in the relationship between the farm and the RNF sectors, the traditional notion that agricultural growth is the main driver for non-agricultural growth still remains valid and will remain so as long as agriculture continues to be a major economic activity. Experience from developing countries suggests that initial impetus to RNF growth comes from a growing agriculture through production, consumption and labor links. Evidence from developing countries further shows that initial impetus to RNF growth and subsequent diversification in agriculture come from the development of agricultural supply chains.¹³ Bangladesh has been no exception to this trend and has achieved considerable growth of the RNF sector. There is evidence that a number of rural industries, such as, agricultural machinery, food processing and rural construction possess substantial potential for further rapid growth. Government policy framework that focuses on four issues, viz, (i) intensification of major crops (cereals), (ii) diversification to high value non-cereal crops (fruits and vegetables), (iii) development of non-crop agriculture (livestock, poultry, fishery), and (iv) promotion of rural non-farm activities (rural construction, transport and services) intends to build on these past achievements. Buttressing the linkage between the farm and RNF sectors is all the more crucial for the reason that the latter will have to absorb the larger share of about a million people that will be entering the labor market every year according to the latest projections. The shrinking agricultural sector will have very limited capacity to absorb an incremental labor force.

Unfortunately, policies and programs for broad agricultural and rural development are handled by a number of Ministries and public sector agencies with limited coordination of each other’s work, though the intensity of coordination has been increasing in recent time. Except at the time of project processing, there is no overall policy review and synthesis of different sub-sectoral policy documents and to assess their mutual compatibility and need for harmonization for achieving common goals. Under this activity, a desk review will be carried out of all the sub-sectoral and rural development policies (crops, fisheries, livestock, rural development, food security and RNF) focusing on their linkages and inter-dependencies and contradictions and compatibilities with a view to identifying the

¹¹ Planning Commission, Government of Bangladesh, Op cit

¹² World Bank (October, 2004): Bangladesh: Promoting the Rural Non -farm Sector in Bangladesh. Volumes I&II. Report No 29719 -BD

¹³ World Bank, *ibid*, Volume II.

areas requiring harmonization of policies and coordination of action. The output of this exercise will have ramifications in the preparation of the Agricultural Development Program.

1.3.3 Preparation of the Agricultural Development Program

Activity I and II would set the stage for the preparation of the Agricultural Development Program. This would be done by:

- Reviewing the analyses carried out under Activity I and II and delineating the priority areas for government intervention;
- Reviewing the current status of the priority areas so identified and their potential for contributing to the overall economic development of the country focusing on poverty alleviation and food security needs;
- Reviewing and assessing the ongoing and planned interventions by the government and other development partners in support of the priority areas, identifying the gaps that need to be covered for accelerating development
- Recommending and proposing action to fill in the gaps and addressing the constraints, clearly indicating how these may be overcome and preparing a program in suitable form for submission to the development partners; and
- Providing an analysis within the framework of the PRSP as to how the proposed action will contribute to growth and poverty reduction within the overall rural transformation that is taking place in the country.

1.4 Governance in terms of Policy Formulation and Implementation

The present study is concerned with the issue of governance in terms of policy formulation and implementation at the local level. It would be appropriate at this stage to understand the meaning of governance and explicate the processes involved in the act of governance and their impact on the efficiency and equity of service delivery at the local level.

Governance can be looked at from different perspectives. For our purpose, governance needs to be looked at in terms of a means-ends relationship. The act of governance is merely a means of achieving some higher goals of fundamental nature: without such goals there would be no justification for the existence of the state. The goals of the state are enshrined in the Constitution of the Republic¹⁴ and it is worthwhile to recapitulate the principal ones for their relevance to governance.

The Constitution of the Republic provides clear directives which the government has to take into account while formulating development policies and implementation strategies. Fundamental Principles of State Policy, as embodied in the Constitution, vest on the government the responsibility of securing to its citizens:

- a. the provision of the basic necessities of life, including food, clothing, shelter, education and medical care;
- b. the right to work, that is the right to guaranteed employment at a reasonable wage having regard to the quantity and quality of work;
- c. the right to reasonable rest, recreation and leisure; and

¹⁴ The Constitution of the Republic of Bangladesh . (As modified up to 31st December, 1998). Dhaka: Ministry of Law, Justice and Parliamentary Affairs

- d. the right to social security, that is to say, to public assistance in cases of undeserved wants arising from unemployment, illness, or disablement suffered by widows or orphans, or in old age, or in other such cases.

On the question of equity, the Constitution unequivocally asserts that the state shall endeavor to ensure equality of opportunity to all citizens and shall adopt effective measures to remove social and economic inequality to ensure equitable distribution of wealth among citizens and of opportunities in order to attain a uniform level of economic development throughout the Republic.

With regard to rural development, the Constitution provides that the state shall adopt effective measures to bring about a radical transformation in the rural areas through promotion of an agricultural revolution, provision of rural electrification, the development of cottage and other industries, and improvement of education, communications and public health, in those areas, so as to remove progressively the disparity in the standard of living between the urban and rural areas.

On the issues of promoting local government institutions and mainstreaming of women in development, the Constitution commits that the state shall encourage local government institutions composed of representatives of the areas concerned with special representations, as far as possible, of peasants, workers and women; and that steps shall be taken to ensure participation of women in all spheres of national life.

On the establishment of a corruption free society, the Constitution provides that the state shall endeavor to create conditions in which, as a general principle, persons shall not be able to enjoy unearned income.

Conceptually, the Constitution has set the goals of good governance in very clear and unambiguous terms. Meeting basic needs of people, removing social and economic inequality through equality of opportunity, promoting rural development and local government, mainstreaming of women in development and establishing a corruption free society are elements of good governance. In our study of what we call agricultural governance, we derive our goals of efficiency and equity in the delivery of various services for agricultural development from those higher level goals. The goals, however, form only a part of the equation: the other part consists of the organizations and institutions that will translate them into reality. At the operational level, governance is the delicate task of designing as well as operating a set of institutions and their mechanisms and processes through which citizens can articulate their interests and needs, mediate their differences and exercise their rights and obligations. Governance activities include legal frameworks, policies, institutions and management tools. Without a proper legal framework, policies do not have political legitimacy; without appropriate policies institutions cannot function; without appropriate institutions policies will not work; and without a working set of policies and institutions, management tools are irrelevant. Good governance further requires partnership between governmental institutions, civil society organizations and private sector for participatory, transparent, accountable and equitable service delivery and development.

Governance is such an encompassing term that the above discussion was initiated with the aim of defining the scope of the present study. We have tried to show that the foundations of governance are laid by some higher level goals and, in our case, these are derived from the Constitution of the country. Poverty alleviation through agricultural development is the fundamental goal we seek to realize through efficient and equitable service delivery to the farmers. To be specific, we are interested in that aspect of governance that deals with the *formulation* of policies relating to various services to the farmers and their *successful implementation* at the local level. Theoretically, it would seem that the relationship between policy and implementation is pretty straightforward: when a policy is announced, it is generally assumed that it will be implemented in due course. But in reality, this is hardly so. Many policies based on apparently sound ideas have encountered difficulties in practical application. This gives us the clue to the definition of our problem we are seized with. Why do not things get executed as intended in policy documents? Where does the problem lie? Is it policy formulation or implementation

or both in combination? We will look at both the processes separately to delineate those attributes that are responsible for particular outcomes. We will first deal with policy formulation process.

1.4.1 Policy Formulation

The first difficulty encountered in any discussion of policy relates to a clear grasp of its meaning. Policy may signify different things to different people. To some it may mean a statement of intent; while others may look upon policy both as a goal and a process of achieving it. Public policy, by definition, has to serve the public interest and for that reason it has to provide both the vision and its accomplishment. There is no clearly laid out road map as to where the process begins and ends and no set precedent as to under what circumstances they occur. Generally speaking, policy process is triggered by problems that need to be resolved by the government; but the process may begin for other reasons also. A policy is sometimes the outcome of political compromise among the leading political parties who agree on a common program for totally different reasons. At other times, it may reflect a strong personal preference of a certain issue by the head of the government. Sometimes policies emerge from opportunities presented by circumstances and not necessarily out of problems. However, we are not concerned here with the highly exceptional cases and would like to concentrate on the normal pattern of policy process that is problem-oriented.

The second difficulty in evaluating a policy is presented by the dynamics of the policy formulation process. In an ideal construct, policy needs to articulate clear goals and well designed process of implementation. However, policy-making is inherently a political process and its outcome is consequentially vague and imprecise. Objectives constitute the core element of any policy: however, objectives are characteristically multiple (because we want many things, not just one), conflicting (because we want different things) and vague (because that is how we can agree to proceed without having to agree also on exactly what to do). In some cases, the outcome of the political process may not only result in vague and imprecise policies but in totally different policies than what was originally intended when the process had begun. It is hard for any *post facto* analysis to find out as to what had gone wrong on the way to sound policy making because of behind the scene maneuverings. The policy formulation process, from initiation to final approval, traverses two parallel tracks. The formal track represents the government blueprints for policy formulation enshrined in the official codes of the Government. The second track, which is more important but less visible may be traversed by some of those very people positioned on the formal track but assuming totally different roles. It is here that behind the scene maneuverings take place for influencing policies with the acquiescence of the Agencies, Ministries, the Cabinet, Parliamentary Standing Committees and the National Parliament. In such cases, the formal track is used to sanctify these maneuverings and gain legitimacy of those policy outcomes.

It would be too simplistic and naive to suggest, in consideration of the dynamics of the policy making process, that such a process does not lend itself to much scrutiny to find its deficiencies that impede subsequent implementation. However, vagueness, ambiguity and distortion do not manifest themselves in absolute terms: these attributes are relative to different dimensions. Any number of policies can be ranked on a 0-10 scale to indicate more or less of such attributes. The interaction between the rational and the political processes generally takes place within limits set by societal norms. There are instances where such limits are exceeded but by and large, majority of policies are kept within an acceptable range. This disposition gives an opportunity to make a comparative analysis of different policies with regard to their effectiveness and implementability. They can be evaluated against the following attributes:

- **Initiation of Policy.** How was the policy process triggered? Was there a demand for such a policy? Was the policy supported by any study or was it based on some previous experience?

- **Stakeholder Consultation.** Who are the beneficiaries? Who are the losers? Did any stakeholder consultation take place? How did the policy plan to mitigate the grievances of the losers without compromising the fundamental objectives of the policy?
- **Design of Policy.** To what extent are the objectives of the policy precise, consistent and to the point? Did the policy take into consideration the constraints in reaching the set goals and did it indicate the measures for overcoming them? Are the goals of the policy realistic in terms of (i) availability of resources, (ii) time required for implementation, (iii) resistance to alteration of existing system, (iv) conflict of interest, (v) institutional rigidities and (iv) inadequate legal cover and lack of enforcement of whatever laws are in force? Did the policy contain an implementation plan delineating (i) the main actors (ii) their respective roles and responsibilities, (iii) financial arrangements for executing the plan (iv) creating scope for all actors to take an active role in implementation, and (v) institutional arrangements for coordination and conflict resolution, progress monitoring and periodic review and a adjustment? To what extent did the policy take into consideration the lessons learnt from past experience in the overall policy design and implementation plan?

1.4.2 Implementation

The important thing to note about implementation is the policy-implementation dichotomy that artificially separates two aspects of the same activity. There is a common perception, emanating from the dichotomy, that policy making is extremely difficult to the extent it has to encounter conflicting interests and can only reach a satisfactory outcome through a process of bargaining, compromise and accommodation of each other's interests. Once a policy is made, people think, implementation should be easy. They are, therefore, upset when expected events do not occur or turn out badly despite the prevalence of normal circumstances. However, it is not the unusual circumstances and dramatic events that cause implementation failures: perfectly ordinary circumstances present serious obstacles to implementation. Implementation, under the best of circumstances, is exceedingly difficult.

A large part of the implementation problem can be traced back to policy formulation. Policy and implementation are two opposite sides of the same activity and their functional division is a matter of convenience only. However, the separation of policy design from implementation is fatal. Implementation must not be conceived as a process that takes place after, and independent of, the design of policy. Policy content shapes implementation by defining the arena in which the process takes place, the identity and role of the principal actors, the range of permissible tools of action and of course by supplying resources. The possibility of mismatch between means and ends, lack of coordination among principal actors, inordinate delays in the procurement of goods and services and non-availability of fund for executing policy are some of the more important risk factors impeding implementation process. Sound policy formulation demands an understanding that apparently simple sequences of events depend on complex chains of reciprocal interaction and that difficulties of implementation need to be made a part of the initial formulation of policy.

The deficiencies of policy design are further aggravated by serious lack of communication between the policy makers at the national level and implementers at the field level. National level institutions should help create the enabling economic, institutional and regulatory framework under which policies drawn at the sector level can be implemented at local levels. Unfortunately, the national institutions do not always take the pains to disseminate the main features of the policies through discussions and clarifications down the line for generating motivation and commitment for their pursuit. Information sharing is an important step in raising understanding of complex policy issues and in building trust and confidence. Public sector institutions in Bangladesh have habitually been found lacking in free flow of information. Important policy decisions that need to be disseminated across the board are found restricted to a few people at the top.

The other factor responsible for implementation failures is the lack of flexibility of the implementation plan. Because the implementability of a policy decision cannot be comprehensively considered during policy formulation, there will always be uncharted territory in the implementation process. Inflexibility denies the implementing authorities the opportunity to adjust the implementation process to changing needs and circumstances. For these reasons, the record of successful policy achievement is rare. The small percentages of policies that ever get implemented do not exactly achieve the goals with which the process had begun: these are marked by innumerable adaptations on different aspects as work progressed. In fact, the ability to adapt to pressing and specific needs was among the reasons why a certain policy ever got implemented.

Policy formulation and implementation, as relevant components of governance, have been discussed in this section separately for analytical purposes only. We have seen that these two are integral part of an activity and need to be treated as such in any evaluation of policy outcome. A policy's value must be measured not only in terms of its appeal but also in light of its implementability. It is sometimes tempting to politicians to announce policies with impossible targets as a means of political expediency to tide over some current difficulties. Other may do it from ideological convictions. But at the end of the day only those policies would be considered as successful that were implemented without encountering serious difficulties.

1.5 Objectives of the present Study

This study has a very specific focus on governance. It wants to investigate, on a limited scale, implementation status of a few policies adopted by the government for delivering various services to the farmers for poverty alleviation and agricultural development of the country. Governance includes many different types of institutions, ranging from large national, regional and local entities to much smaller civil society groups and community organizations. Central government Ministries and agencies form the core of the national level institutions and are primarily responsible for policy formulation. However, policies are not implemented by the national level institutions. These have to trickle down to the local level in clear and unambiguous form to institutions that have the capacity to grasp them and the motivation to deliver them to their intended beneficiaries. This study looks at governance in terms of implementation of policy at the local level and not with the process of policy formulation *per se* though they are conceptually and structurally inseparable.

Local level institutions in the public sector either belong to "local government" or "local administration". Local government is a lower level of government mandated by the Constitution of the country to be run by elected representatives of the people. The Zila, Upazila and Union Parishads constitute the local government system. Under pressure from centralizing tendencies, local government has become more and more an extension of the central administrative structures. Whatever little autonomy is left is non-operational due to lack of firm decisions on the future of the Zila and Upazila systems. Though elections are regularly held for the Union Parishads, their capacity for service delivery is limited due to fund constraints. Local administration, on the other hand, consists of the field units of the public sector agencies based at divisional, district, thana, union and village levels. There is thus a huge organization gap at the local level that has adversely affected the overall development of the country. The two groups that are functional at the local level are the field units of the central government agencies and the union parishads. The principal burden of implementing government policies at the grass-roots level lay squarely on their shoulders. Most of the times, these organizations perform their service delivery functions in close cooperation with the NGOs / CBOs and the private sector, whenever necessary.

Policies adopted at the national level and passed on to the field level are mostly assumed bureaucratically to have been implemented. However, in between the hierarchical levels, there is a serious lack of information as to whether policies are translated properly into actions, and whether the

multitude of administrative decisions that trigger implementation process reach concerned parties accurately and in time and, assuming that these are received, how they are further processed for appropriate service delivery.

The proposed study is designed to examine and elaborate the above processes in actual situation or practice, by conducting field surveys at selected thanas. Through an in depth analysis of the implementation of a few government policies on the basis of the data collected through the survey, the objectives of the study, broadly, are to:

- iv. find out the processes and mechanisms of procurement and delivery of inputs meant for the farming community through various public policies and programs and make an assessment as to how much of that is actually received by the intended beneficiaries at the set price and quality standard;
- v. identify the bottlenecks related to agriculture governance at the local level that relate to institutional deficiencies and to processes/procedures for implementation ; and
- vi. propose practical remedial measures to address the problems

The terms of reference of the study is given at Annexure I.

1.6 Rationale for the Study

With almost complete withdrawal of the public sector from the input delivery system, question may be raised as to the relevance of governance issues any more in the matter. It is argued here that such a study, on the contrary, is highly relevant for at least two reasons. The first reason relates to the government's responsibility for maintaining food security for the country and the other to its regulatory role in keeping the market on track.

Despite phenomenal growth in cereal production from 11.47 million tons in the mid 1970s to 27 million tons in 2002-3 from declining quantum of land, the sub-sector suffers from low productivity in relation to land and labor. If the target set for the sub-sector in the PRSP of attaining an average growth rate of 4.5 percent is to be met, there is no option but to raise the level of its productivity. And agricultural productivity can only be raised on declining quantum of land through use of modern agricultural inputs.

Governance issues have assumed a new dimension in the wake of complete withdrawal of the public sector from the supply of a couple of agricultural inputs and partial withdrawal from a few others. The current policy framework seeks to define the role of the government more as a facilitator of development rather than as a direct provider of services. These changes suggest that government activities are now more focused on providing growth-enhancing public goods related to agriculture, such as, research, extension, training and a substantial part of the seed development program. These direct interventions are to be supplemented by continuous efforts by the government at maintaining an enabling environment for the procurement and supply of major agricultural inputs by the private sector by promoting market information services and rural infrastructure; addressing market imperfections and failures; and correcting environmental externalities associated with agriculture. People's perception of the role of government is such that its virtual withdrawal from the burden of supplying a number of inputs does not in any way absolve it of its essential function of monitoring the input market and of mitigating the market imperfections to the benefit of the farming community. Viewed in that manner, government bears the responsibility as well as the accountability of ensuring that the essential inputs for intensive agriculture reach the farmers in right time, right quality and quantity and at the right price, even though it is no longer engaged in directly providing many of the supplies and services.

1.7 Plan of Presentation

The survey report would be presented in four chapters. Chapter 1 briefly narrates the background and objectives of the study. An attempt is also made to clarify the Consultants' understanding of the TOR, particularly the definition of governance in terms of policy and its implementation at the local level. The processes of policy formulation and its subsequent implementation are analyzed for a clear understanding of their impact on service delivery. This analysis also informs us as to how the methodology would be set up for evaluating the extent to which the intended services were finally delivered. Chapter 2 is devoted fully to the development of the methodology of the study. In the broad agriculture sector, innumerable policies are in execution at any particular point of time. Limited resource would necessarily limit our choice to a few of them. The main highlights of the selected policies would be narrated briefly to bring out the benefits those policies intended to be delivered. However, the Chapter would be more focused on developing the survey design that will include the framing of questions that is expected to extract an unbiased and objective response from the farmers about the efficiency and equity of service delivery. Chapter 3 presents the survey data and their analysis. This also informs us as to why certain services could not be delivered as intended in the policies. The final Chapter gives some pragmatic suggestions as to what can be done to remove the policy and implementation deficiencies for ensuring better service delivery to the farmers.

METHODOLOGY

The scope of the survey is limited to crop production and small scale fisheries, poultry and dairy sub-sectors only. From time to time, government adopts various policies for the overall development of the agriculture sector. Some of these policies relate to the supply of various inputs needed by the farmers for higher agricultural productivity. There is some evidence that policies adopted by government for delivery of services to the farmers generally fail to deliver the benefits as intended in the policies. The survey seeks to find out the reasons why this is so? Is it due to deficiencies in policy formulation or in the process of implementation or a combination of both? This Chapter is devoted to the development of a methodology that would be able to find out the reasons for policy implementation failures and the ways in which the situation can be improved.

This methodology consists of two parts. In the first part, we briefly describe the selected policies as the subjects of our investigation and from their narratives try to frame the questions that will help the survey in extracting, as far as practicable, unbiased and objective statements about the delivery of services intended under those policies. In the second part, we design the survey by developing different criteria for sample selection and by setting the questionnaire on the basis of which the opinion of the farmers would be recorded on different aspects of service delivery.

1.8 Description of Selected Policies

For purposes of the survey, the following policies are selected:

- New Agricultural Extension Policy, 1996
- National Seed Policy, 1993
- Policy on Monitoring of Fertilizer Distribution and Sale, 2001 and Policy on Subsidies to TSP, DAP and MOP, 2004
- Policy on Subsidies on cost of Electricity for running irrigation equipment
- Smallholder Dairy and Poultry Development Policies
- Development of Pond Fishery

1.8.1 New Agricultural Extension Policy, 1996 (NAEP)

The Department of Agricultural Extension (DAE) was created in 1982 by merging six extension-oriented agencies. This action was taken to achieve three goals, (i) offering a single point of contact to the farmer as against multiple points, (ii) bringing other organizations not under the MOA within its frame of operation, and (iii) establishing a direct chain of management between different levels. The overall responsibility of the DAE is to equip the farmers with modern technical know how and improved methods of farming to increase agricultural productivity and farm income level. DAE's frontline staff is the Sub-assistant Agricultural Extension Officer (SAAO) who deals directly with the farmers. One or more village constitutes a block level. Each block comprises of about 1000 farm families depending on cropping intensity and geographical location. A highly routinized system of extension was sought to be established under what is called the Training and Visit (T&V) System.

However, with the passage of time, the shortcomings of the 1982 reforms were apparent in the following areas:

- The DAE had failed to coordinate the extension services of the various providers in order to optimize the use of the resources within the system.

- Vast multitude of poor and marginal farmers remained outside extension coverage.
- The extension advice is piecemeal while the farmers allocate their resources on the basis of their own calculation to maximize their return from crop, livestock, fisheries and other activities. The extension advice can not be piecemeal: there has to be a farm management approach.
- The practice of issuing uniform directives from the Head Office was not conducive to meeting the needs of the diverse farming systems. There is a need to devolve these responsibilities to the local level for planning and implementation.
- Poverty alleviation is one of the main objectives of the Agriculture Policy. However, extension programs did not have any specific focus on women's involvement. Similarly, it did not have a clear policy on mainstreaming environmental issues.

It was against this background that the New Agricultural Extension Policy (NAEP) was adopted for implementation in 1996. To remedy the past deficiencies, it targeted the following actions as its key components:

- § Extension support to all categories of farmers
- § Efficient extension services
- § Decentralization
- § Demand-led extension
- § Working with groups of all kinds
- § Strengthened extension-research linkage
- § Training of extension personnel
- § Appropriate extension methodology
- § Integrated extension support to farmers
- § Co-ordinated extension activities
- § Integrated environmental support

Of the targeted 11 types of activities, the survey intends to look at the first two only relating to extension coverage to all categories of farmers and efficiency of the service. The equity issue as an overarching goal of the policy will remain a major concern of the survey. To that end, the following information needs to be collected from the farmers:

- 6) The frequency of contact between the farmer and DAE extension or others during different crop seasons
- 7) The extent to which the farmers have opportunity to participate in 'field days'
- 8) In case of any contact with the farmers, what kind of advice did they get and was it useful to them.
- 9) Of the number of contacts made, what is the proportion of the beneficiaries in terms of categories of farmers—the big, medium or small farmers?

The collected data would then be sorted with the stratified samples of farmers as big, medium and small to see how much of the goals of universal coverage, efficiency and equity have been achieved.

1.8.2 National Seed Policy, 1993(NSP)

The overall objective of the NSP is to make the best quality seeds of improved varieties of crops conveniently and efficiently available to farmers with a view to increasing crop production, farmer's productivity, per capita farm income and export earnings. Other factors remaining constant, better quality seed can increase agricultural production by 15-20%. However, quality seed is in short supply. To ameliorate the situation, the NSP envisages, among other things, the following actions:

- a) Promote balanced development of the seed sector by providing equal opportunities to the public and private sectors at all stages of the seed industry from breeding to marketing of seeds;
- b) To achieve the goal of private sector development, BADC's role is to be limited to (i) production of foundation seed of all publicly developed varieties of controlled crops; and (ii) production of other kinds of seeds on a level playing field in competition with the private sector
- c) BADC will also gradually withdraw from production of those kinds of seeds that are undertaken by the private sector; and
- d) Institutional strengthening of all seed related institutions.

More than a decade has passed since the adoption of the NSP but very little progress has been made on its recommendations. BADC receives breeder seed from the agricultural research institutes and produces foundation seed in its own farms; truthfully labeled seeds (TLS) are produced through contract growers. BADC can produce only 5% of total seed requirements of the country, though BADC seeds are preferred by the farmers to private sector seeds.

Against this background, the survey wants to look at farmer's sources of supply of seeds (certified or not); his knowledge about certified seed; whether he buys packet seed or open seed; in case of open seed, the rate of germination; and price and quality of certified seed. We also want to know the action taken by the farmer in case of non-availability of certified seeds.

The data so collected would then be sorted to ascertain as to what percentage of seeds were purchased from the DAE, other farmer, BADC dealer, NGO dealer and private firm and how much demand is met from farmer's own seed. This information would be collected for aus, aman, boro and wheat crops. Data on availability, quality and price of certified seed for the above crops would also be collected. Farmers would also be asked to let us know as to how they met their seed requirements in case of non-availability of certified seeds. And finally we would ascertain the awareness of the farmers about the certified seeds.

1.8.3 Policy on Monitoring of Fertilizer Marketing, 2001 and Policy on Subsidies to TSP, DAP and MOP, 2004

Fertilizer distribution and sale is now fully in the hands of private dealers. However, urea crisis of 1995 due primarily to manipulation of supply by dishonest dealers led government to a regime of control of its procurement and distribution under the careful watch of government monitoring. The principal instrument of control is the District Fertilizer and Seed Monitoring Committee reconstituted by the MOA in 2001. The Committee is headed by the Deputy Commissioner of the concerned district while the Deputy Director, Department of Agricultural Extension of the district acts as its member-secretary. The Committee performs two major functions with regard to distribution of fertilizer produced in the country. It virtually selects the dealers for the district by inviting applications through the newspapers. There are strict eligibility criteria for consideration as a dealer. The applicant must possess a valid trade license, a 100 ton capacity godown in the district or Thana where he wants to carry on his business, solvency certificate from Bank, a security deposit of Taka 200,000 and an application fee of Taka 20,000 (refundable). After scrutiny of all applications received, the Committee makes the nominations and forwards the list to the Bangladesh Chemical Industries Corporation (BCIC) for final appointment. The other function of the Committee is to monitor overall fertilizer situation in terms of stock in

godown, distribution and price at retail level and takes or recommends suitable measures in case of any impending problem.

Beginning with the fiscal year 2004-2005, government decided through a Cabinet resolution in 2004 to give subsidy to imported TSP, DAP and MOP fertilizers. To give effect to this decision, it released guidelines indicating the modalities of its administration. In this case also the District Fertilizer and Seed Monitoring Committee share the major responsibility for running the program. The following are the main highlights of the subsidy policy:

- Only importers registered with the DAE are eligible to import the fertilizers under the subsidy program.
- Subsidy will be allowed only to that quantity of import as had been determined by the government.
- The price at the importer level will be determined by the MOA while the retail price would be fixed by the Monitoring Committee by adding contingency cost and nominal profit over and above the price fixed by the MOA.
- Fertilizers under this program would be allocated to districts on the basis of monthly requisition furnished by the Monitoring Committee.
- Only BCIC dealers would sell these fertilizers directly to the farmers at price fixed by the Monitoring Committee: there would be no retailers.
- On the basis of certification by the Monitoring Committee, the MOA would release subsidy amount directly to the importers.

In the case of fertilizer, the survey basically wants to ascertain the quantity, quality and price of different types of fertilizers and their timely availability. Data on availability of quality, quantity and price will be collected for the years 2003-2004 and 2004-2005. Price comparison between the two years is considered essential to ascertain the benefit of subsidy to the farmers. If the price of the subsidized imported fertilizers hovers around the same price level as in the previous year, it can be assumed that the benefit of subsidy did not reach the farmers. This may appear a little simplistic but there are no other direct methods to ascertain this fact due to diversity of sources of supply, differences in quality and different periods of shipment.

The data thus collected would then be sorted in different permutations and combinations to find out the effectiveness of the Monitoring Committee in controlling the fertilizer situation on behalf of the Government. More important from governance point of view would be the effectiveness of the administration of the subsidy program of imported fertilizer in view of the fact that administration of subsidies in this country has left a legacy mired with inefficiency, corruption and inequity.

1.8.4 Policy on Subsidies on cost of electricity for running irrigation equipment

Effective from the fiscal year 2004-2005, government has allowed a rebate @20% on all electricity bills for running irrigation equipment for agricultural production.

The rationale behind this policy is to lower the cost of irrigation in order to make Bangladesh agriculture competitive with the neighboring countries where subsidies are given generously to various agricultural inputs by their respective governments. Administering subsidy to irrigation equipment is difficult in Bangladesh due to the complexity of the minor irrigation system. Only a small percentage of irrigation equipments are run on electricity; about 80% of them are run on diesel. Per unit cost of irrigation by diesel-run equipment is already higher due to higher cost of diesel vis-à-vis cost of irrigation through electricity-run equipments. There is already discrimination between the two modes of operation: the new dispensation on electricity-run equipment without mitigating the higher cost borne

by diesel-operated equipments further aggravates this discrimination. Moreover, the tubewells are, by and large, owned and operated by big landlords and rich people who sell water to small and medium farmers at rates fixed by them. It is apprehended that they may not pass on the benefit of subsidy to farmers by reducing the unit cost of irrigation water.

1.8.5 Smallholder Dairy and Poultry Development Policies

The survey is confined to smallholder dairy farms defined as farms owning up to 10 local and / or cross bred cows and smallholder broiler, layer or pullet farms having 1000 or less birds. The development of such farms is covered within the mandate of the Department of Livestock Services (DOLS), though there are no specific policy prescriptions. Lack of a sound policy and a firm plan of action are major constraints to accelerate the development of a fast moving sub-sector. There are sporadic programs for providing incentives to small and medium entrepreneurs but no comprehensive policy. Various studies and reviews have pointed to number of constraints of a generic nature. So far as dairy development is concerned, these relate to non-availability of veterinary services and the needed vaccines, scarcity and high price of good quality feed and low price of milk at the village level. So far as they relate to poultry development, these are lack of credit, scarcity of good quality chicks at affordable price, high rate of mortality, non-availability of veterinary services and vaccines and scarcity and high price of feed.

Data will be collected on all the above constraints to verify the anecdotal evidence to support the Agricultural Program Development.

1.8.6 Development of Pond Fishery

National Fisheries Policy, 1998 has emphasized fish culture on all ponds, dighies and other water bodies. To encourage fish culture on a large scale, it envisages the following support to be provided by the Department of Fisheries:

- a) Interested fish farmers will be organized by the extension workers for delivery of extension services.
- b) Demonstration fish farms will be established at union level by both public and private sectors to expand aquaculture technologies.
- c) Khas ponds will be leased out on long-term lease to the poor and interested fishers and jobless youths.
- d) Ponds that remain barren due to multiple ownership or other problems would be brought under aquaculture through taking appropriate legal measures.
- e) Local entrepreneurs will be encouraged to produce aquaculture feed by using local ingredients.
- f) Regular training to fish farmers and entrepreneurs will be conducted at government fish farms and training centers on better aquaculture practices and technologies.

The survey will try to find out how much of these policies have been implemented at the field level and with what result.

1.9 Survey Design

The core of the study is a representative survey of delivery of inputs at the farm level. For the research team, this work involves the following tasks: (i) select study villages, farm households and non-farm enterprises; (ii) prepare the questionnaires; (iii) pre-test the draft questionnaire for finalization; (iv) recruit and train the field investigators; (v) and undertake periodic field visits to check if the data are collected as per design and with accuracy.

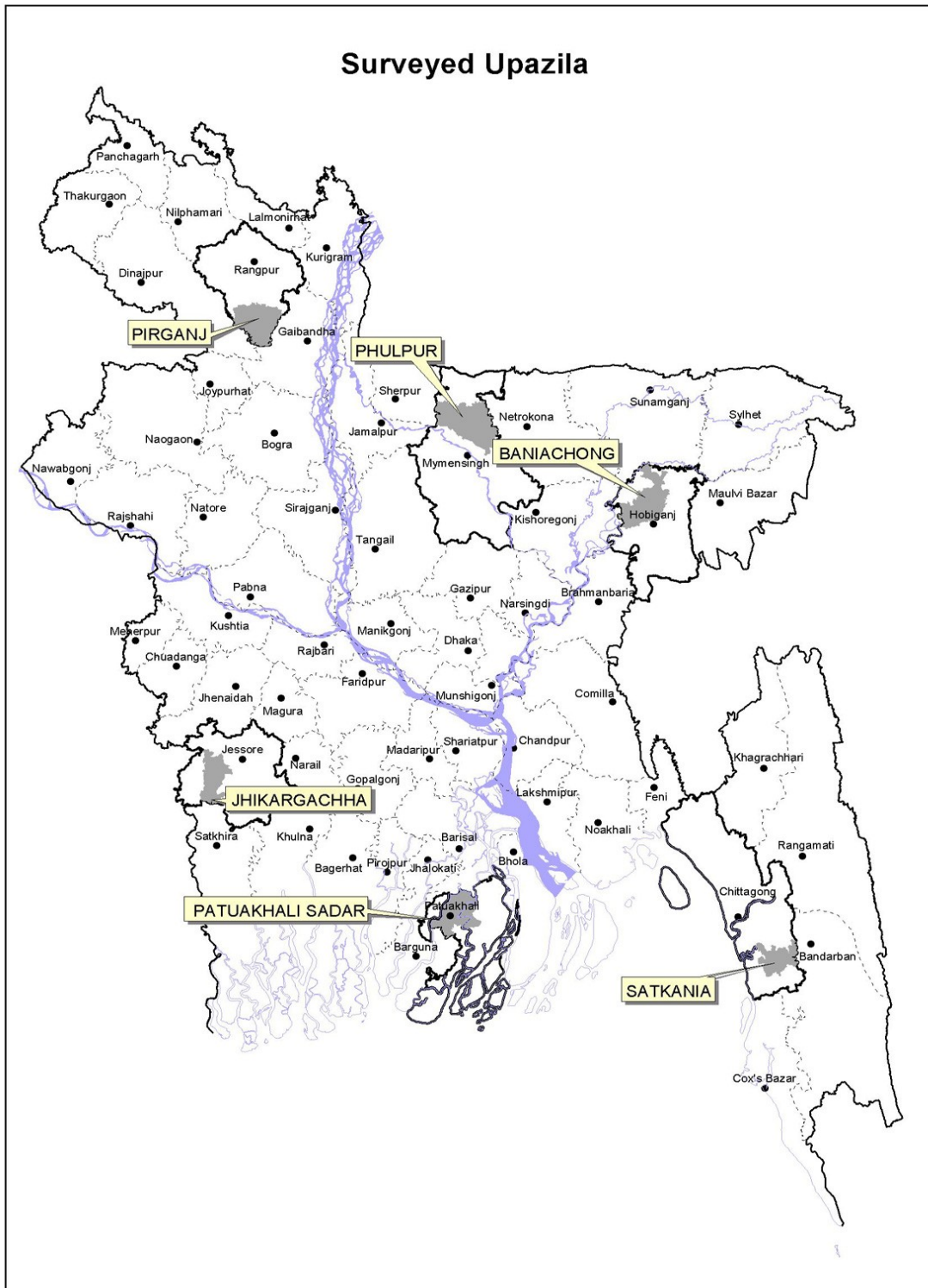
1.9.1 Selection of Thanas and Villages

It has already been pointed out that policies are generally implemented by the field units of the public sector agencies at different levels of administration. Beginning at the union level at the bottom, the hierarchy goes up the ladder to thana, district and divisional levels. Village is the basic social unit and the foundation of the administrative edifice. An average of 13 villages constitutes a union which is the recognized lowest level of both local government and local administration. Just above it is the thana level consisting of an average of 8 unions. This is the level where all public sector agencies are represented and through them most government programs are implemented. An average of 7 thanas constitutes a district and an average of 10 districts constitutes a division. The district and divisional level officers are mostly engaged in supervisory, coordination and monitoring work leaving the substantive work of implementation at the thana and union levels.

Due to time and resource constraints, it was decided to conduct the survey in 36 villages of 6 thanas, one each to be chosen from the 6 administrative divisions of the country. It may be mentioned that there are around 496 thanas, 4451 rural unions and 68,000 villages in the country. It was further decided that the thanas to be selected should not only be picked up from the six administrative divisions but they must also represent, as far as practicable, different agro-ecological zones. While selecting the thanas, therefore, special care was taken to meet this requirement and the selection can be termed as purposive random sampling. The selected thanas are:

- Phulpur in Mymensingh district located at the central Brahmaputra flood plain;
- Baniachong in Habiganj district located in the low basin area generally called the haor area;
- Satkania in Chittagong district located on a high topography contiguous to the hill tracts;
- Jhikargacha in Jessore district located at the Padma flood plain;
- Peerganj in Rangpur district located within the Teesta river basin; and
- Patuakhali Sadar in Patuakhali district located in the saline coastal area.

Map 1: The location of the thanas is shown in the accompanying map of Bangladesh.



At the next stage, 36 villages were to be selected at the rate of 6 villages per thana. The principal criteria for the selection of villages were the different level of access to roads and markets as they largely determine the availability of the inputs and their price. The villages thus selected represent two broad groups: developed and less developed. The villages are expected, as far as possible, to cover all

major cropping patterns practiced in the area following land topography, levels of flooding and type of soil.

1.9.2 Selection of Sample Farm Households

The next stage involved the selection of sample households from each village. It was decided to select 50 farm households in each village according to proportion of different size of farms, viz, marginal, small, medium and large. In the selection process, non-farm households including the landless have been excluded. However, households cultivating other's land, taken under share-cropping or mortgage are considered as farmers and included in the selection process. Farmer's lists available with the Sub-assistant Agriculture Officers (former Block Supervisors) were used as the basis for selection. The lists provided by the DAE staff were further checked by interviewing several groups of farm households and necessary modifications were incorporated. These modified lists show an increase in the number of small and medium farmers and a decline in the number of big farmers. In many villages the latter type of farms are not found these days. The distribution of farmers according to the farm size in the 6 selected thanas is compatible with the national distribution. These are shown in Table 1 below:

Table 1 : Distribution of farmers according to farm size in the selected thanas

Name of Thanas	Number of Unions	Category of Farmers ¹⁵				
		Marginal	Small	Medium	Large	Total
Phulpur	20	58500 (57.8%)	25764 (25.5%)	14376 (14.2%)	2434 (2.4%)	101074 (100%)
Baniachong	15	31229 (67.6%)	6894 (14.9%)	5854 (12.6%)	2142 (4.6%)	46189 (100%)
Satkania	17	29183 (66.7%)	11470 (26%)	-----	3100 (7%)	43753 (100%)
Jhikargacha	11	29384 (56.1%)	14429 (27.5%)	7500 (14.3%)	1050 (2%)	52363 (100%)
Pirganj		57952 (74.5%)	10396 (13.36%)	7968 (10.23%)	1466 (1.88%)	77782 (100%)
Patuakhali Sadar	12	17900 (36.2%)	22184 (44.8%)	7843 (15.8%)	1550 (3.1%)	49445 (100%)
National ¹⁶		9386345 (52.6%)	6066393 (34%)	2077784 (11.6%)	297665 (1.6%)	17828187 (100%)

¹⁵ Criteria for determining farmer strata:

Marginal: Owning land up to 0.5 acre; Small: Land holding >0.25-7.5; Medium: Land holding > 2.5-7.5 acre and Large: Land holding above 7.5 acre

¹⁶ BBS, Agriculture Census, 1996

1.9.3 Selection of Non-crop Entrepreneurs

For the selection of non-crop farm entrepreneurs, such as, poultry, diary and pond fish farms, no such sampling techniques could be followed as no list is maintained by the relevant offices. Such farmers are few and scattered. However, preference was given to those small holders who are operating in our selected villages at least for three years. Total number of farms to be covered in each category has been kept limited to only 20 in a Thana. In the rural non-farm sector total number of farms interviewed was 120 for each category of poultry, diary and fish farms.

1.9.4 Preparation of Questionnaires

The terms of reference for the study provided the basic input for developing the conceptual framework of the study. Literature review and discussions with relevant stakeholders had sharpened our focus on the various issues to be dealt with in this study. These have been discussed briefly in Chapter 1. An understanding of the nature of governance and its linkage with higher goals of the state enabled us to see the issues in hand in perspective and facilitated the framing of relevant questions. Our understanding of the issues and the method of obtaining information from the intended beneficiaries have also been discussed already. The main questions included in the questionnaire for the farm sub-sector are (i) availability of inputs and their quality; (ii) sources of their supply; (iii) the average purchase and sales price; (iv) farmer's information about subsidy to fertilizer and irrigation; (v) distribution of certified seed; and (vi) frequency and quality of extension services provided to the farmers. The questionnaire on the farm sub-sector is placed at Annexure II. In the case of the RNF sub-sectors, the main questions relate to (i) amount and sources of funding for establishing those farms; (ii) availability, quality and price of inputs; (iii) availability and quality of service by different public sector agencies; and (v) market access. These questionnaires on the RNF sub-sectors are placed at Annexures III-V.

1.9.5 Recruitment of Field Investigators and their Training

Qualified field investigators were recruited on the basis of oral interviews to collect data from the field following the questionnaires. They were given training for two full days explaining them the purpose of the survey and the methodology of collecting data by using the structured questionnaires. A few of the recruits were quite experienced and gave valuable suggestions for improving the questionnaire that had been finalized after extensive pre-testing in the field. The data collection was closely monitored and supervised by the Consultant Team at various stages of the progress of the work. Field visits by the Consultant Team also gave them an opportunity to talk to the farmers directly and discuss various issues with local level agriculture officials.

SURVEY FINDINGS

The survey was conducted to elicit farmer's views on the delivery of services relating to crop production, development of smallholder dairy, poultry and pond fishery and the subsidies and other incentives offered by the government to boost production. Survey findings are presented here under these four broad categories in that order viz, crop agriculture, dairy, poultry and pond fishery.

1.10 Crop Agriculture

In this category, we sought to find out the status of service delivery with regard to extension, availability of seed, availability of fertilizer and the benefit of subsidy to irrigation and fertilizer.

1.10.1 Extension

The criteria for determining the satisfactory level of extension were limited to coverage and quality. These are also in accord with the focus given in the NAEP,1996.

Coverage

The efficiency and effectiveness of the huge extension outfit has always remained suspect in terms of farmer contact, on-farm demonstrations and field days.¹⁷ The best score on farmer contact in the surveys cited below is 28% and the highest proportion of farm households participating in DAE field extension events is 9%. The current survey report shows some improvement in frequency of contact during the boro season than at any previous time. However, the frequency of contact widely varies from season to season as may be seen from the following Table:

Table 2 : Frequency of contacts made by listed extension personnel with farmers

Extension personnel	Percent of respondents contacted by extension personnel (N=1800)			
	Aus	Aman	Rabi	Boro
1. BS/SAAO	8.7	26.8	14.4	38.4
2. DAE staff	0.6	4.3	2.7	12.7
3. Private company representatives	0.2	0.3	0.6	0.6
4. Other	0.4	0.4	0.5	0.0

Note: The figures indicate contact at least once a season.

All figures are shown in percentage.

The other significant finding that comes out of the survey is that despite limitations, it is the government extension service that is the most accessible by the farmers. Private sector and other agencies have a very negligible presence in the field as is revealed in the following Table 3:

¹⁷ Department of Agricultural Extension. February, 1999. "Impact Assessment Programme, Final Report. Agricultural Support Services Project (ASSP), 1993. "Farmer Information Needs Survey"; Agricultural Services Innovation and Reform Project (ASIRP), 2000. "Extension Services Study"; and ASSP,1998. "Review of the DAE Group Extension Approach"

Table 3 : Relative frequency of farmer contact by different Extension Agencies

Extension personnel	Percent of respondents contacted extension personnel			
	Aus (n = 179)	Aman (n = 572)	Rabi (n = 328)	Boro (n = 931)
1. BS/SAAO	87.7	84.3	79.3	74.2
2. DAE staff	6.1	13.5	14.6	24.6
3. Private company representatives	1.7	1.0	3.4	1.2
4. Other	4.5	1.2	2.7	0.0

Note: n varied according to the number of farmers reported to have received extension service in the season. All figures are shown in percentage.

Previous surveys of extension contact also point to the concentration of service to the large and medium farmers at the cost of the small farmers. This has not only compromised the norm of equity in the delivery of public services but has also constrained the success of poverty alleviation strategies. Proportion of marginal and small farm operators in DAE activities was only 10% in 1995 which was raised to 65% in 1997 through the intervention of the Agricultural Support Services Project.¹⁸ The NAEP has focused on this issue and has projected universal coverage as one of its major thrusts. It seems that the achievements made under ASSP and ASIRP with regard to small farmer coverage are still holding. The current survey tends to confirm this. In the aman and rabi seasons, the small farmers get the highest level of coverage while in the aus season, the coverage of small farmers is almost double compared to the coverage of medium and large farmers. It is only in the boro season that the large and medium farmers get more coverage than the small farmers. The survey was not designed to probe this issue but it is speculated that since the boro crop is dependent on HYV inputs and technology, the extension staff prefer to devote more time with the larger and medium farmers to get better results. The Tables below give the details.

Table 4 : Extension contact by category of farmers**Aus Season**

Extension personnel	Small	Medium	Large
1. BS/SAAO	10.0	5.4	6.4
2. DAE staff	0.7	0.2	0.9
3. Private company representatives	0.2	0.2	
4. Other	0.3	1.0	

Note: Figures show percentage of respondents

Aman Season

Extension personnel	Small	Medium	Large
1. BS/SAAO	27.9	24.4	21.8
2. DAE staff	5.1	1.7	4.5
3. Private company representatives	0.4	0.2	
4. Other	0.2	1.2	

Note: Figures show percentage of respondents

¹⁸ DAE, "Impact Assessment Programme Final Report, Op cit

Rabi Season

Extension personnel	Small	Medium	Large
1. BS/SAAO	14.8	13.7	13.6
2. DAE staff	3.0	1.7	1.8
3. Private company representatives	0.7	0.5	
4. Other	0.4	1.0	

Note: Figures show percentage of respondents

Boro

Extension personnel	Small	Medium	Large
1. BS/SAAO	36.9	40.8	46.4
2. DAE staff	11.2	15.2	20.9
3. Private company representatives	0.8	0.2	
4. Other			

Note: Figures show percentage of respondents

Effectiveness

Effectiveness of extension service was sought to be measured in terms of service with regard to production management, pest management and diffusion of new technology. Majority of the farmers did not have any specific opinion about this. Of the small minority who had responded, it seems that extension advice on production and crop management was considered to be effective by more respondents than diffusion of new technology. It seems that the extension staff has not been able to acquire new information and technology that they could pass on to the farmers. The extension messages largely contained information already known and practiced by the farmers.

Table 5 : Effectiveness of Extension Services

Aus Season

Extension Personnel	Production Management			New Technology			Pest Management		
	E	NE	n	E	NE	n	E	NE	N
1. BS/SAAO	24		24	2		2	6		6
2. DAE									
3. Private company									
4. DLS		1	1	1		1			
5. DoF	4		4						
6. Other Agencies									
Total	28	1	29	3		3	6		6

Note: E = Effective, NE = Not Effective, n = Number of respondents
Figures indicate number of respondents

Aman Season

Extension Personnel	Production Management			New Technology			Pest Management		
	E	NE	n	E	NE	n	E	NE	N
1. BS/SAAO	39	3	42	23		23	18		18
2. DAE	6		6	10		10			
3. Private company	1		1				1		1
4. DLS				1		1			
5. DoF	3		3						
Total	49	3	52	34		34	19		19

Rabi Season

Extension Personnel	Production Management			New Technology			Pest Management		
	E	NE	n	E	NE	n	E	NE	N
1. BS/SAAO	58	5	63	9		9	19		19
2. DAE	3		3	1		1	1		1
3. Private company	1	1	2	2		2	4		4
4. DLS	1	1	2	1		1			
5. DoF	3		3						
Total	66	7	73	13		13	24		24

Boro Season

Extension Personnel	Production Management			New Technology			Pest Management		
	E	NE	n	E	NE	n	E	NE	N
1. BS/SAAO	43	2	45	3		3	30	1	31
2. DAE	7		7	1		1	7		7
3. Private company	1		1	2		2	2		2
4. DLS									
5. DoF									
Total	51		51	6		6	39		40

Note: E = Effective, NE = Not Effective, n = Number of respondents

Figures indicate number of respondents

Farmer's Field Day

Farmer's field day is one of the techniques adopted by the DAE for imparting practical training to a group of 20-25 farmers near a demonstration plot. This is a group training program conducted on farmer's field to practically demonstrate the application of improved cultural practices. Though some expenditure is incurred by the DAE to prepare the demonstration plot, no expenditure is involved in holding the farmer's field days. Of the 1800 farmers surveyed, only 160 had the opportunity to attend a field day program. All the participants had positive impression about the event and 45% of them reported that they had benefited from these events in many different ways. Of the 15 different kinds of responses received, the top ranked 5 responses are mentioned in the following Table. The entire list of responses may be seen in at Annexure IV.

Table 6: Top ranked 5 responses on the benefits derived from the Farmers Field Day

Benefits	Number of responses	Percent of responses
Benefited from FFD in many ways	73	45.6
New technique of cultivation	20	12.5
New technology	16	10.0
Proper use of fertilizer, seed, pesticide	14	8.8
Production increased	8	5.0

It is rather unfortunate that there is wide variation in the level of participation in this event by farmers belonging to different thanas, ranging from 51% to .3%. This is an indication that some thana agriculture officials have not been very up and doing either in setting up the demonstration plots or in mobilizing the farmers for holding the event on a programmed basis. The degree of variation in participation in the survey thanas is presented in Table 7.

Table 7 : Percent of farmers participating in Farmer's Field Day in different Survey thanas

Thana	Norm	Percent of farmers participating in the Field Days
	At least one demonstration plot in each union of a thana and three Field Days in three different crop seasons	%
Jhikargacha		46
Baniachong		51
Satkania		4
Peerganj		.3
Patuakhali sadar		10
Phulpur		15

Soil Testing

Continuous intensive use of land for cultivation of HYV crops has intensified monoculture and loss of soil fertility. There are many causes of soil degradation and it is important to find out, on a plot to plot basis, which one of those are responsible for this situation for taking remedial action. In order to assist the farmers in upgrading the quality of their land, the DAE launched in 2003-2004, a program of soil testing on seven elements including deficiencies of macro and micro nutrients and soil toxicity. The testing service is given free of charge and covers the whole country. Unfortunately, even after running the program for two consecutive years, the coverage is less than 1 percent. Lack of operating fund, lack of training of extension staff and shortage of chemicals for conducting the tests were mentioned as the major causes for this poor performance of this nationally important program.

Table 8 : Percentage distribution of soil tests conducted in different category of farms

Status of soil testing	Small (n=1281)		Medium (n=409)		Large (n=110)		Total (n=1800)	
	n	%	n	%	n	%	n	%
Tested soil	12	.9	4	.9	1	.9	17	.9
Did not test soil	1214	94.9	387	94.7	105	95.5	1706	94.8
Do not know / no response	55	4.2	18	4.4	4	3.6	77	4.3
Total	1281	100	409	100	110	100	1800	100

1.10.2 Seed

Availability of quality seed at the right time and at right price are the two major challenges faced by the farmer. The survey wanted to look at farmer's sources of supply of seeds (certified or not) and their price and quality. We also wanted to know the action taken by the farmer in case of non-availability of certified seeds.

From the Table below, it would appear that a large majority of farmers use their own seed for the aman and boro crop followed by BADC and other farmer's seed as distant second or third source. In the aus season, farmers almost exclusively use their own seed. The situation is somewhat different in case of supply of wheat seed which is almost equally split among BADC, own and other farmer sources. The private companies also cover a large part of the supply of wheat seed.

Table 9 : Sources of availability of seed by season (in percentage)

Season	Own	Other Farmer	DAE	BADC Dealer	NGO Dealer	Private Company	Total
Aus	89.4	7.1	0.2	1.1	0.0	2.2	100.0
Aman	73.8	13.1	0.3	11.9	0.2	0.6	100.0
Boro	62.2	16.0	0.5	19.6	0.7	1.0	100.0
Wheat	25.8	29.0	4.8	26.6	2.4	11.3	100.0

Farmers are highly knowledgeable about the importance of certified seed. Our survey indicated that 77.3% percent farmers are aware of the benefits of certified seed. 477 respondents who were not aware of it, cited the following reasons for their lack of knowledge:

Table 10 : Top ranked 5 reasons for not having knowledge of certified seed

Reasons	Number of responses	Percent of respondents
No one informed about certified seed	284	59.5
Use own seed	115	24.1
No campaign on certified seed	74	15.5
Limited land use own seed	2	.4
Own seed is best	1	.2
Use open market seed	1	.2
Total	477	100.0

Despite their resource constraints, a larger proportion of small farmers compared to medium and large farmers use certified seed in all crop seasons. The reasons for this could be their lack of resource to set apart a portion of their produce as seed vis-à-vis the ability of large and medium farmers to do so easily. The following Table presents the data on use of certified seeds by category of farmers:

Table 11 : Use of certified seed by category of farmers during 2003-04 and 2004-05

Crop	Small (N=1281)				Medium (N=409)				Large (N=110)			
	2004-2005		2003-2004		2004-2005		2003-2004		2004-2005		2003-2004	
	n	%	n	%	n	%	n	%	n	%	n	%
Aus	7	.5	3	.2								
Aman	180	14.0	134	10.5	38	9.3	32	7.8	10	9.1	7	6.4
Boro	339	26.5	303	23.6	69	16.9	56	13.7	17	15.4	1 3	11.8
Wheat	29	2.3	13	1.0	2	.5	2	.5	2	1.8	1	.9

Note: n = number of farmer s, % = percent of respondents

Farmers have shown their unreserved preference for seed produced and marketed by BADC. However, BADC can meet only 5% of farmer's requirements. In that case, what are their alternatives and what are the results of being forced to accept the second best solution? Of the 1800 farmers surveyed, 445 reported their failure to get certified seed. 433 of them obtained seed from alternative source while 10 others switched to other varieties of crop and another 2 changed their cropping pattern. Measures taken by farmers in case of failure to get certified seed are shown in Table 12 below:

Table 12 : Measures taken by farmers in cases of failure to get certified seed

Crop	Procured seed from alternative source		Changed variety of crop		Changed cropping pattern		Total number of farmers making changes	
	n	%	n	%	n	%	n	%
Aus	25	96.2	1	3.8			26	100
Aman	139	96.5	5	3.5			144	100
Boro	256	98.0	4	1.5	1	.5	261	100
Wheat	13	93.0			1	7.0	14	100
Total	433		10		2		445	

As to the consequences of switching to other sources or to other crops or cropping pattern, 23.6% farmers did not have any answer, 22% had no complaint about the yield while 54.4% reported lower yield in different degrees. Details may be seen in Table 13 below.

Table 13 : Top ranked 5 comments of farmers on impact on yield due to failure to get certified seed

Comments	Measures taken						Total responses	
	Changed source		Changed variety		Changed crop		n	%
	n	%	n	%	n	%		
Yield was good	96	22.0					96	
Yield was comparatively low	79	18.1	1	10.0	2	100	82	
Yield was lower by 20%	71	16.2	3	30.0			74	
Yield was lower by 30%	57	13.0	1	10.0			58	
Yield was lower by 10%	31	7.1	1	10.0			32	

And finally the seed price in the year 2004-2005 has shown a marked rise compared to their price in the year 2003-2004 supplied through the three principal sources except for the price for aus supplied by the private companies. Details may be seen from the following Table:

Table 14 : Comparative price of seed during the years 2003 -04 and 2004-05 (Taka per Kg)

Crop	2004-2005			2003-2004		
	BADC	NGO	Pvt.	BADC	NGO	Pvt.
Aus	17.25	15.00	11.50	10.33	14.00	14.00
Aman	21.22	24.80	22.26	20.33	19.67	21.22
Boro	20.64	23.00	24.77	19.76	22.00	22.17
Wheat	19.60	11.50	18.50			

1.10.3 Fertilizer

In the case of fertilizer, the sources of supply, price of fertilizer obtained from different sources and the benefit of subsidy given to imported fertilizers were the subjects of investigation:

Sources of Supply

Under government policy, BCIC appoints fertilizer dealers at the rate of 10 dealers for each thana who are expected to carry on their business within the jurisdiction of the concerned thana. These dealers are selected on the recommendations of the District Fertilizer and Seed Monitoring Committee who, among other things, should verify the existence of a 100 ton capacity godown under the control of the applicants. Government stipulation is that proper selection of dealers would enable the farmers to buy directly from the BCIC dealers so that they get their supply at a fair price. The ground reality is that most of the BCIC appointed dealers operate from the districts and depend on retailers for delivery to the farmers. The commission charged by the retailers adds up to the price that the government tried to avoid. The survey shows that an overwhelming majority of farmers get their fertilizer from the local market and not from the BCIC dealers.

Table 15 : Farmers Sources of Supply of Fertilizer

Fertilizer	Local market		BCIC Dealer		Other Sources	
	n	%	n	%	n	%
Urea	1624	90.1	101	5.6	78	4.3
TSP	1359	92.9	52	3.6	52	3.6
MP	1419	93.5	22	1.5	76	5.0
DAP	325	99.4	2	0.6		0.0

Note : A farmer may have procured fertilizer from more than one source.

Availability

Availability of fertilizer at the right time and in adequate quantity is an important precondition for higher agricultural productivity. Farmers were asked the simple question as to whether they considered the supply position of fertilizer for all crop seasons during the years 2003-2004 and 2004-2005 to be adequate. Around 20% of the respondents reported that fertilizer supply was inadequate during the boro season. Short supply of urea was more pronounced than that of any other type. The demand for all types of fertilizer is the highest during the boro season as most of the HYV crops are grown at that time. However, the reported shortage seems to be systemic to the extent it occurred in two years in a row and in respect of all types of fertilizer. With regard to fertilizer supply during other crop seasons, the farmers reported adequacy of supply. The details may be seen in the following Table:

Table 16 : Adequacy of Fertilizer supply during 2003-04 and 2004-05

Crop	Urea				TSP				MP				DAP			
	2004-05		2003-04		2004-05		2003-04		2004-05		2003-04		2004-05		2003-04	
	Ade	Ina	Ade	Ina	Ade	Ina	Ade	Ina	Ade	Ina	Ade	Ina	Ade	Ina	Ade	Ina
Aus	99.6	0.4	99.8	0.2	99.6	0.4	99.1	0.9	nr	nr	nr	nr	nr	nr	nr	Nr
Aman	98.8	1.2	98.6	1.4	99.5	0.5	99.2	0.8	99.8	0.2	98.6	1.4	99	1.0	99	1.0
Rabi	98.7	1.4	98.5	1.5	98.7	1.3	99.0	1.0	99.6	0.4	99.6	0.4	99.3	0.7	73.9	26.1
Boro	77.3	22.7	77.2	22.8	82.1	17.9	82.1	17.9	80.4	19.6	79.9	20.1	83.7	16.3	83	17

Note: Ade= Adequate, Ina= Inadequate and Nr= No response

The farmers were also asked as to what measures they take in case of shortage of fertilizer in a particular season. They were given two options to respond to this question: (i) reduce number of dosage and (ii) reduce amount of fertilizer per dose. Data shows that the second option is the preferred one by larger number of farmers compared to option 1 being taken recourse to. In both cases, the small farmers constitute the overwhelming majority to suffer the consequences of short supply. Details are given in Table 17.

Table 17 : Distribution of measures taken during short supply of fertilizers by different categories of farmers

Fertilizer	Reduced number of dosage								Reduced amount of fertilizer per dose							
	Small		Medium		Large		Overall		Small		Medium		Large		Overall	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Urea	11	91.6	1	8.4			12	100	57	78.0	13	17.9	3	4.1	73	100
TSP	10	71.4	3	21.5	1	7.1	14	100	96	76.2	24	19.0	6	4.8	126	100
MP	6	100					6	100	51	79.7	10	15.6	3	4.7	64	100
DAP	2	100					2	100	8	100					8	100

Note: Number and percentage of respondents

Price

Fertilizer comes to the market from two sources: fertilizer produced within the country and imported from abroad. At present, the country has facilities to produce Urea, TSP, SSP and ASP. The current level of production of Urea is considered sufficient to meet the local demand. Excess requirement of Urea in some years is met through import. The entire quantity of DAP and MP are imported.

The price of the commodity is subject to influence by a number of factors. One important factor is the country of origin of the particular type of fertilizer. In case of imported fertilizer, location of the exporting country will determine the transportation cost which is an important element in costing, even if other things remained the same. In case of fertilizer of local origin, the efficiency and transparency of the distribution system will affect the price. For getting a fair idea about retail price of fertilizer, we wanted to make a comparison of our survey averages for different types of fertilizer during different seasons with the figures compiled by the Market Monitoring and Information System (MMIS) of the MOA. As far as fertilizers of Bangladesh origin are concerned, there is noticeable difference between the MMIS average price and the survey average. Even within survey averages compiled for the two years under study, a sharp rise in the price of TSP is evident. Urea price in the survey average is the closest that compares with the figures of the MMIS average. As far as the imported fertilizers are

concerned, the gap between the two averages is still bigger with regard to MP, in addition to significant price difference between the two years of the survey. The average price of DAP in the survey for the two years remained more or less at comparable levels. It is to be noted that the MMIS average price of DAP is lower compared to the survey average for any of the two years. The details may be seen from Table 18 below:

Table 18 : Comparison of survey average price of fertilizer during 2003-04 and 2004-05 with corresponding national average (Tk/Kg)

Crop	Urea				TSP			
	2003-04		2004-05		2003-04		2004-05	
	Survey Average	MMIS Average	Survey Average	MMIS Average	Survey Average	MMIS Average	Survey Average	MMIS Average
Aus	6.55	5.85	6.91	5.90	15.60	14.00	17.77	12.78
Aman	6.18	5.79	6.41	5.95	15.78	12.72	17.10	14.35
Rabi	6.32	5.83	6.65	5.92	15.54	13.30	16.84	13.86
Boro	6.05	5.83	6.22	5.92	16.10	13.56	17.16	13.34

Crop	MP				DAP			
	2003-04		2004-05		2003-04		2004-05	
	Survey Average	MMIS Average	Survey Average	MMIS Average	Survey Average	MMIS Average	Survey Average	MMIS Average
Aus	12.17	7.23	13.10	8.89	17.19	NA	17.53	16.31
Aman	11.60	6.99	13.12	7.43	15.11	NA	15.78	16.41
Rabi	11.83	7.19	13.41	8.61	14.74	NA	15.48	18.37
Boro	12.26	7.14	13.51	8.90	16.20	NA	17.33	17.82

The above Tables clearly show that there is a significant difference in the average prices quoted in the MMIS and the survey averages. The reason for this is that the MMIS data is collected from the BCIC fertilizer dealers who according to the prevalent distribution system are expected to sell directly to the farmers. The ground reality is that these dealers hardly sell directly to the farmers; instead they sell it to thousands of retailers spread all over the country who, in their turn, sell to the farmers after adding their contingency costs and profit margins. Moreover, there is always a tendency on the part of sellers to report lower prices while reporting selling price to any organization. There would thus always be a price differential of taka 1-2 per kg depending on the type of fertilizer and the cropping season between the averages compiled by the MMIS and the price at which farmers actually buy, so long as the present system continues.

That farmers can get fertilizer at cheaper rate if they can buy from the BCIC dealers directly is borne by the comparative data given in the following Table:

Table 19 : Price of fertilizer according to source of supply (Tk/Kg)

Fertilizer	Market price of fertilizer							
	Local market		BCIC Dealer		Other Sources		Rate for purchase on credit	
	Tk.	n	Tk.	n	Tk.	n	Tk.	n
Urea	6.43	1624	6.07	101	6.81	78	6.44	350
TSP	16.52	1359	15.52	52	15.46	52	16.94	240
MP	13.46	1419	13.75	22	14.69	76	13.48	246
DAP	17.31	325	10.30	2			18.56	95

Quality

Quality of fertilizer has been a concern for quite some time. However, almost all the farmers expressed their satisfaction over the quality of fertilizer of Bangladesh origin. Of the imported fertilizer, the TSP imported from the USA, Tunisia and China were the most preferred ones. However, the farmers were skeptical about the quality of TSP imported from Indonesia and India and did not express their views on its quality. With regard to DAP and MP the farmers had lot of complaints about adulteration and generally were found to hold a negative attitude on them. Their negative attitude was construed as their dissatisfaction with regard to the quality of the product. On Urea and TSP produced locally and imported from the USA, Tunisia and China, the farmers have overwhelmingly expressed their satisfaction at their quality, as may be seen from the following Table:

Table 20 : Farmer's views about the quality of fertilizer used by them during 2003-04 and 2004-05

Fertilizer	Bangladesh		Cargill(US)		Tunisia		China	
	2004/5	2003/4	2004/5	2003/4	2004/5	2003/4	2004/5	2003/4
Urea	97.9	98.5						
TSP	90.9	90.9	98.0	98.3	96.7	95.6	96.1	97.2
MP								1
DAP								

Note: Percent of respondents that indicated fertilizer used by them to be good

Subsidy

Effective from the fiscal year 2004-2005, government has extended subsidies to cover two new areas to reduce the cost of producing higher yielding varieties of crop. Subsidy is given to all imports of TSP, DAP and MP authorized by the government @ 25% of the determined C&F/CRF value of each consignment. Government is also allowing a rebate @20% on all electricity bills for running irrigation equipment for agricultural production.

As far as subsidy to imported fertilizer is concerned, the only way to determine its effect is to find out if the farmers are getting the commodity at least at the previous year's level of price, if not lower. Data presented in Annexure V reveal that the cost of imported fertilizer has generally been higher compared to the price level of the previous year. The difference has been the highest in the peak boro season. The

overall picture does not give any indication that the subsidy had any effect on the price level. Farmers at the grass root level did not get any substantial benefit, while the importers and the dealer might have cashed in windfall profit.

The picture is no brighter with regard to subsidy on irrigation equipment. Let us first get the hard facts from the following Table:

Table 21 : Basic facts about tubewell irrigation in the survey thanas

Total Number of DTW	Number of diesel operated DTW owners	Number of electricity operated DTW owners	Status of supply of electricity		Number of owners who received subsidy	Average amount of subsidy (Taka)
			Uninterrupted	Interrupted		
344	290 (84%)	54 (16%)	13 (24%)	41 (76%)	37 (67%)	4,835

It will be seen from the above Table that of the 344 DTWs, 84% are diesel operated while only 16% are electricity operated. Majority of the operators have already received their subsidy while the remaining cases will be covered when the bills will be finalized. Unfortunately, majority of the owner/operators have not passed on the benefit of subsidy to the farmers by reducing unit cost of irrigation water. The ethical value of the subsidy is negated by the fact that it not only discriminates the diesel operated equipment owners by their exclusion from eligibility of subsidy but also aggravates manifold the existing disparity caused by escalating diesel price vis-à-vis cost of electricity.

1.11 Smallholder Dairy

Smallholder dairy farms have been defined as farms owning up to 10 local and / or cross bred cows. The survey sought to find out the status of these smallholder dairy farms on these following dimensions:

Sources of Fund

Smallholder dairy needs sufficient cash to start up the enterprise and subsequently operate and maintain it. Our survey findings show that 96% of the farmers had initially set up the farms with their own money while the banking sector covered only 8.3% and money lenders 5.8%. The NGOs have played a very insignificant role falling behind all listed sources of funding. The DLS also runs a credit program under a development project. However, no credit apparently was extended from that source for setting up smallholder dairy farms. The Table overleaf gives the details on sources of fund availed by the farmers for setting up their farms.

Table 22 : Initial source of funding of dairy farms by category of financing institutions

Source of Fund	Number of responses	Percent of responses
Own	115	95.8
Money lender	7	5.8
Relatives/Friends	5	4.2
NGO	3	2.5
Bank	10	8.3
Other	2	1.7

Note: One farmer may have more than one sources of financing.

Veterinary Services

Keeping the cows strong and healthy is crucial to the success of small dairy farms. These farms need prompt diagnostic services, proper treatment and regular vaccination of their cattle heads. However, with the exception of medicine, other services are not available to more than 20% farmers. Farmer's impressions about the quality of services are still worse as may be seen from the following Table.

Table 23 : Availability and quality of different veterinary services (percent of responses)

Medicine and services	Availability		Quality	
	Available	Not effective	Effective	Not effective
Doctor's Visit	41.7	20.8	40.8	15.0
Diagnosis	58.3	22.5	52.5	27.5
Vaccine	71.7	25.8	68.3	21.7
Medicine	87.5	10.8	78.3	15.0

Note: Excludes non - responses. Some of the responses are multiple.

The issues of doctor's visit and availability of vaccine were further probed. Out of 120 farmers interviewed, 38 responded about their views on doctor's visit. 23.7% confirmed that doctors are not just available and another 21% commented about the requirement of paying fees to the doctors for their visit that they thought should have been free like agricultural extension service. The other responses may be seen in the following Table.

Table 24 : Farmers comments about the availability of veterinary doctors

Comments	Number of responses	Percent of responses
Veterinary doctors is not available	9	23.7
Need to pay government veterinary doctors	8	21.1
Government veterinary doctors do not visit us	7	18.4
Government veterinary doctor charge high fees	5	13.2
Government veterinary doctors seldom visit	4	10.5
Unqualified doctors	2	5.3
Veterinary assistants charge high fees	1	2.6
Private doctors fees is high	1	5.2
Total	38	100.0

Note: Excludes non - responses

When asked about the availability of vaccines, 45.2% of the 42 farmers who had responded mentioned that they had to purchase the vaccines from the open market while 14.3% thought that the price of vaccine was high. All the responses may be seen at Table 25 below.

Table 25 : Farmers comments about the availability of vaccines

Comments	Number of responses	Percent of responses
Did not vaccinate cow	2	4.8
Do not know about vaccine	2	4.8
Government veterinary doctors do not come	3	7.1
Price of vaccine is high	6	14.3
Purchased vaccine from open market	19	45.2
Vaccine not available	3	7.1
Vaccine is not effective	3	7.1
Veterinary doctors are not qualified	3	7.1
Veterinary doctors fees is too high	1	2.4
Total	42	100.0

Note : Excludes non - responses

Availability of Animal Feed

Due to scarcity of land, open grazing fields are hardly accessible to the cows of the smallholder farms. Of the different types of feed, grass is the least available. The others are expensive inputs and the farmers generally complained about their high price, though there was no complaint about their availability. There were also no complaints about their quality as the farmers are aware that good

quality feed is more expensive than the low quality feed. The Table below gives the picture in more detail:

Table 26 : Availability, quality and price of feed

Feed	Availability of feed		Quality of feed		Price of feed	
	Available	Not available	Good	Not good	Good quality	Not good quality
	Percent of respondents	Percent of respondents	Percent of respondents	Percent of respondents	Taka per kg.	Taka per kg.
Rice bran	95.1	4.9	97.0	3.0	4.9	3.55
Wheat bran	98.0	2.0	91.8	8.2	11.1	9.00
Rice broken	93.1	6.9	94.4	5.6	10.1	8.80
Pulses bran	92.7	7.3	87.0	13.0	11.1	10.30
Oil cake	100.0	0.0	85.1	14.9	13.7	13.4
Straw	100.0	0.0	100.0	0.0	1.6	
Grass	63.6	36.4	84.7	15.3	1.9	1.8

The prices of different feed ingredients quoted by the farmers are in accord with the rising trend in their price documented in a recent study¹⁹. A comparison of their prices between 2003 and 2005 indicates that price of wheat bran, pulse bran, rice bran and broken rice increased by 37.5%,40.0%,88.0% and 75% respectively in 2005 from their level in 2003. These may be seen in Table 27 below:

Table 27 : Comparative price of different feed ingredients during 2003 -2005

Feed Ingredients	Price (Tk/Kg)		
	2003	2004	2005
Wheat bran	6.43	7.5	8.84
Pulse bran	6.72	7.5	9.38
Rice bran	2.41	3.21	4.55
Broken rice	16	17.4	28.15

Source: Adapted from *Livestock Policy and Action Plan, OpCit*

Incentive Programs

In order to encourage the development of smallholder dairy farm, government has launched a couple of programs. Prominent among these are the cash incentive support for dairy development and DOLS credit schemes. Under the cash incentive program, farmers have to buy a minimum of 3 good quality cows and register with the Thana Livestock Office. When the farmer reaches a level of milk production

¹⁹ *Livestock Policy and Action Plan, Op Cit*

of 5 liters/day per cow, he is eligible to get a cash incentive @ taka 3000 per cow to a maximum of taka 15,000. The credit program is operated by the DLS staff themselves and the credit is advanced to the farmers without any collateral. 36 farms were registered with the local thana livestock offices and 33 of them qualified and received the incentive money. However, of the 120 farmers surveyed only 16 had received the DLS-operated credit.

Marketing of Milk

The farmers have to pay high prices for various veterinary services and high price for feed but his selling price of milk is not commensurate with his cost of production. The average price ranges between taka 22.8/liter to taka 16.5 during the rainy season and taka 16.7 to taka 14.4/liter during the dry season as may be seen from the following Table:

Table 28 : Highest and lowest average sales price of milk in different markets (Taka/liter)

Season	Local Market		Upazila Market		Farm gate	
	Highest	Lowest	Highest	Lowest	Highest	Lowest
Rainy season	22.8	15.6	21.6	16.6	16.5	NA
Dry season	16.7	16.5	16.1	14.4	14.9	NA

1.12 Smallholder Poultry

Smallholder poultry farm is defined as smallholder broiler, layer or pullet farms having 1000 or less birds. The survey sought to find out the status of these smallholder poultry farms on these following dimensions:

Sources of Fund

Like smallholder dairy farms, smallholder poultry farms also need sufficient cash to start up the enterprise and subsequently operate and maintain it. Our survey findings show that 83.8% of the farmers had initially set up the farms with their own money while the other established channels like the banks and NGOs shied away as may be seen from the Table below:

Table 29 : Initial source of funding of poultry farms by category of financing institutions

Source	Number of farms	Percent of farms
Own	100	83.3
Money lender	7	5.8
Relatives/Friends	5	4.2
NGO	4	3.3
Bank	4	3.3
Other	1	0.8

Availability of Chicks

Poultry farmers get their chicks from two sources: hatchery and agents. Majority of the farmers buy their chicks from the agents including some of those farmers who want to use hatchery chicks exclusively. The following Table gives a rough picture about the two sources of supply.

Table 30 : Sources of supply of chicks

Types of chick	Hatchery		Agent		Total	
	n	%	n	%	n	%
Broiler	23	27.4	62	72.6	85	100
Layer	6	23.0	20	77.0	26	100
Pullet			5	100	5	100

Note: n = Number of responses, % = percent of responses

On the questions as to whether they got the chicks at the time when needed and in the quantity and grade desired, the response showed that availability of broiler chicks were better compared to the availability of layer chicks. However, about a quarter of the respondents did not get the chicks of the desired grade as may be seen in the following Table.

Table 31 : Availability of chicks in terms of time, number and grade

Types of chicks	Got chicks when needed		Got chicks in number needed		Got chicks of desired grade	
	n	%	n	%	n	%
Broiler (n=78)	64	82.0	78	100	62	79.5
Layer (n=27)	21	77.7	21	77.7	20	74.0
Pullet (n=4)	3	75.0				

Veterinary Services

Unlike the commercially organized large scale poultry farms or small/medium farms located at the fringes of district and thana headquarters, the smallholder poultry farms face multiple problems in operating their small enterprises. One such problem is the high rate of mortality and the lack of proper veterinary services to mitigate this problem. The Table below shows that the rate of mortality in layer and pullet categories is rather high for which disease has uniformly been rated by all respondents as the number one cause.

Table 32 : Average rate and reasons for mortality of chicks

Types of chicks	Average rate of Mortality	Disease	Electricity Interruption	Mechanical Problem
Broiler	5.29	1	2	3
Layer	14.35	1	2	3
Pullet	10.32	1		2

Note: 1 = Primary cause, 2 = Secondary cause, 3 = Ter tiary cause

Current government policy stipulates that most veterinary treatment and clinical support services, including some provision of veterinary pharmaceuticals will be delivered to the clients by the DLS free of charge. However, veterinary officers and some animal husbandry officers may also provide clinical veterinary services outside office hours for cash payment, although there is no uniform rate for this service. The coverage of veterinary service is inadequate and apparently the DLS staff is charging the farmers on visit to their farms irrespective of whether such visits take place during office hours or not²⁰. The DLS service in terms of visits to farms is very insignificant compared to similar visits by NGO/ private services. Cooperatives like the Milk Vita and big NGOs like BRAC have very strong dairy development programs and they run these on commercial lines. Their services are not comparable with the government provisions. Of the 120 farms surveyed, DLS visits covered only 35 percent of its clients whereas NGOs and the private companies covered all their clients. Frequency of visits between the two categories also differed widely. Moreover, there was no charge for NGO/ private service whereas the DLS charge per visit varied between taka 121 to taka 300. Details may be seen in Table 33.

Table 33 : Comparison of frequency of visits and rate of fees paid to DLS and NGO/private agencies (n=120)

Farm type	Number of respondents		Number of visits		Number of respondents		Average fees charged per visit	
	DLS	NGO/Pvt.	DLS	NGO/Pvt.	DLS	NGO/Pvt.	DLS	NGO/Pvt.
Broiler	28	30	4.3	6.7	7	----	192	*
Layer	13	11	3.6	18.8	6	----	121	*
Pullet	2	2	2.0	24	1	----	300	*

Note: NGO/Pvt. = NGO or private agencies * = No fees charged by NGO or private agents

On the quality of various services also, the respondents were most critical about the quality of veterinary services. About half the respondents expressed their dissatisfaction about the quality of this service, 16% complained about the vaccine and 9% about medicines. For details the Table below may be seen.

²⁰ The DLS is understaffed and seeks to cover the shortage by engaging trained volunteers. These volunteers are not paid any remuneration by the government and they maintain themselves by charging moderate fees from the farmers on provision of specific services. It has to be noted that farmers are not always able to distinguish between the regular staff of the DLS and the volunteers. It is possible that the allegation of charging fees by DLS may sometimes be wrongly imputed on them when the volunteers were genuinely charging them for a service.

Table 34 : Quality of vaccine and other veterinary services

Vaccination and veterinary services	Good		Not good		Total	
	n	%	n	%	n	%
Vaccine	102	86.5	16	13.5	118	100
Poultry medicines	109	92.4	9	7.6	118	100
Vitamin	117	99.1	1	.9	118	100
Veterinary service	57	55.8	45	44.2	102	100

Note: n = Number of responses, % = percent of responses

Poultry Feed

Poultry feed has been identified as a major constraint towards small holder poultry development. Price and quality of feed are the two important issues. Our survey revealed that the farmers had no complaint about availability. There are different mixes of the feed and whoever had wanted any of these individually or in combination were available to them in desired quantity.

Table 35 : Availability of different types of poultry feed

Feed	Availability of poultry feed					
	Available		Not available		Total	
	n	%	n	%	n	%
Pellets	94	96.9	3	3.1	97	100
Maize	12	100			12	100
Wheat bran	6	100			6	100
Paddy	13	100			13	100
Crushed snail shell	4	100			4	100
Rice bran	8	100			8	100
Crushed soybean	8	100			8	100
Protein	5	100			5	100
Dry fish	1	100			1	100
Wheat	1	100			1	100

Contrary to conventional wisdom, the poultry farmers also did not have any complaint about the quality of the feed as may be seen from the following Table:

Table 36 : Quality of poultry feed by source of feed

Feed	Quality of feed					
	Good		Not good		Total	
	n	%	n	%	n	%
Pellets	87	90.6	9	9.4	96	100
Maize	12	100		100	12	100
Wheat bran	5	83.3	1	16.7	6	100
Paddy	13	100		100	13	100
Snail shell crush	4	100		100	4	100
Rice bran	8	100		100	8	100
Soybean crushed	8	100		100	8	100
Protein	5	100		100	5	100
Dry fish	1	100		100	1	100
Wheat	1	100		100	1	100

However, they have lot of grievances about the price of feed. The price remained high irrespective of whether these were purchased from the local or thana market as may be seen from the Table below:

Table 37 : Average, highest and lowest price of poultry feed by source of procurement (Tk/Kg)

Feed	Average price				Local Market				Thana market			
	Local Market		Thana Market		Highest price		Lowest price		Highest price		Lowest price	
	Tk.	n	Tk.	n	Tk.	n	Tk.	n	Tk.	n	Tk.	n
Pellets	16.0	23	16.1	78	16.7	24	14.8	24	16.6	75	15.4	73
Maize	9.0	3	9.9	9	10.0	3	8.0	3	11.3	9	8.4	9
Wheat bran	10.5	3	10.3	4	11.7	3	9.7	3	11.5	4	9.0	4
Paddy	8.7	13			10.0	13	7.3	13				
Broken rice	9.3	2	8.4	4	11.0	2	7.5	2	9.1	4	7.7	4
Snail shell crush	7.0	1	4.8	6	7.0	1	7.0	1	6.1	6	3.5	6
Rice bran	2.5	1	7.5	1	3.0	1	2.0	1	8.0	1	7.0	1
Soybean crushed			16.2	8					17.4	8	15.0	8
Protein			34.8	5					35.0	5	34.6	5
Dry fish	26.5	2	38.0	1	25.0	2	18.0	1				
Wheat	11.0	1			12.0	1	10.0	1				

1.13 Pond Fishery

Like the smallholder diary and poultry, the scope of the survey on pond fishery was also confined to ponds having an area of one acre only. The survey sought to know about the legal status of the ponds, availability of the fingerlings and their quality, extension service and marketing issues.

Ownership of Pond

Due to complications arising out of joint ownership of ponds, these cannot be used for productive purposes. Concerned government agencies and a number of NGOs are encouraging people to distribute the properties among co-sharers and obtain clear legal titles. The survey wanted to see the reflections of these initiatives. Discussion during the survey revealed that co-sharers are more aware these days of the benefit of registering partition deeds of joint property so that such properties can be used as collaterals and other productive purposes. Survey data shows that more than 87.5% of the ponds are owned individually by the farmers themselves while 7.5% are jointly owned.

Table 38 : Ownership status of fishery ponds

Type of Ownership	Number of respondents	Percent of respondents
Own	105	87.5
Joint	9	7.5
Rented / contractual	6	5.0
Other	0	0.0
Total	120	100

Source of Fund

Similar to smallholder diary and poultry, 94% of the farmers depended on their own fund to start the fishery farm. There was no help either from the banks or the NGOs. The jointly owned farms were the most disadvantaged as they did not get any help from any of the listed sources of funding.

Table 39 : Sources of fund for the start-up of pond fishery

Type of ownership	Source									
	Own		Relatives/ Friends		Money lenders		Bank		NGO	
	n	%	n	%	n	%	n	%	n	%
Individually owned	63	94.0	2	3.0	1	1.5	1	1.5	3	4.5
Jointly owned	7	100								
Contractual	3	75							1	25
Other										

Note: Some individually owned farms got fund from more than one source

n = Number of responses, % = percent (based on the number of farmers in the particular type of pond ownership)

Availability, Quality and Price of Fingerling

Hatchery fingerlings are the best compared to other sources of supply. But small entrepreneurs living far away from the hatcheries do not have access to this source. Our data shows that procurement of fingerlings by these farms is shared equally by the patilwalas and other farmers. Only a negligible few get their supply from the hatcheries.

Table 40 : Sources of supply of fingerling

Fish	Source (Number of cases)					
	Hatchery		Patilwala		Farmer	
	<3"	>3"	<3"	>3"	<3"	>3"
Rui	1	1	27	17	27	45
Katla	1	1	26	19	19	37
Silver carp/ Grass carp	1	1	24	18	30	45
Pangas	1	2	6	2	4	13
Tilapia			6	6	7	4
Sharpunti	2		23	9	16	15

Note: < 3" = size of fingerling less than three inches, > 3 = size of fingerlings bigger than three inches

In terms of price, >3" fingerlings of all fish species are the cheapest at the hatcheries while some species of <3" fingerlings are cheaper with the patilwalas. However, cheaper price compromises the quality of fingerlings leading to lesser output.

Table 41 : Price of fingerlings

Fish	Price (Taka per thousand)					
	Hatchery		Patilwala		Farmer	
	<3"	>3"	<3"	>3"	<3"	>3"
Rui	800	1500	563	1767	734	2407
Katla	800	1500	724	2526	1357	2854
Silver carp/ Grass carp	600	1000	394	1597	712	2117
Pangas	400	1450	1037	3000	1120	3393
Tilapia			658	3316	1178	1375
Sharpunti	500		399	1277	834	1254

There is a mixed review about the quality of fingerlings procured from different sources. Rui, katla, silver carp/grass carp, tilapia and sharpunti procured from farmers were rated better than pangas procured from them and all species procured from the patilwalas. Except for pangas fingerlings of < 3" size, all other species of this size procured from the patilwalas were rated quite low. Details may be seen from the Table below.

Table 42 : Quality of fingerlings by source and size

Fish	Sources											
	Hatchery				Patilwala				Farmer			
Local Name	<3"		>3"		<3"		>3"		<3"		>3"	
	n	%	n	%	n	%	n	%	n	%	n	%
Rui					10	37.0	10	59	18	67	31	69
Katla					11		9	47	14	74	20	54
Silver carp/ Grass carp					9	38.0	11	61	16	53	31	69
Pangas			2	100	3	50.0	1	50	1	25	6	46
Tilapia					2	33.3	3	50	6	86	2	50
Sharpunti					14	48	7	78	11	69	7	47

Note n = number of respondents that indicated to have had good quality fingerlings, % = percent of respondents (total number of respondents that procured fingerlings of the particular source and size)

Fish farmers generally complained about the availability of good quality fingerlings. Of the 62 respondents, 31.4% complained about quality while 8.3% and 4.2% complained respectively about non-availability of fingerlings in due time and in desired size. The Table below gives further details:

Table 43 : Problems relating to fingerlings

Problems	Number of respondents	Percent of respondents
Do not get good quality fingerling	38	31.4
Do not get fingerling in due time	10	8.3
Do not get desired (large) size of fingerling	5	4.2
Poor growth of fingerling	3	2.5
Can not differentiate fingerling by quality	2	1.7
Not well skilled in technology application	2	1.7
No proper suggestion from DoF staff	1	.8
Unstable price of fingerling	1	.8

Fish Feed

Farmers use two types of fish feed. They can use packet feed produced by various feed mills across the country or can buy the ingredients and get these processed by nearby miller. In the absence of any quality control mechanism, quality of packet feed has been highly variable. Couple of good brands that have gained acceptance are indiscriminately adulterated and sold in the market. Farmers these days now prefer to make their own feed. The other problem with feed is its high cost and variability of price between seasons and markets. There is noticeable difference between the highest and lowest price of all the major ingredients of fish feed during 2004-2005. The responses of the fish farmers relating to price of feed are presented in Table 44 below:

Table 44 : Average, highest and lowest price of fish feed

Feed	n	Average Price	Highest price	Lowest price
		Tk. per kg.	Tk. per kg.	Tk. per kg.
Rice bran	29	5.51	6.74	4.77
Wheat bran	13	11.42	13.03	11.37
Oil cake	45	13.09	14.02	12.07
Soya cake	1	13.00	14.00	12.00

When asked about the problems faced by them with regard to fish feed, the farmers complained about its availability and quality. Table 45 samples the responses received from them.

Table 45 : Problems relating to fish feed

Problems	Number of respondents	Percent of respondents
Adulterated fish feed	12	9.9
High price of fish feed	9	7.4
Fish feed market is far away	5	4.1
Fish feed is not available	4	3.3
Financial problem	3	2.5
Not clear about fish feed management	3	2.5
Do not get good quality fish feed	2	1.7

Extension Service

Of the three extension services—crop, livestock and fisheries, the fisheries extension is structurally the weakest among all. Both livestock and fisheries lack any official deployment beyond the thana level. The DLS try to cover this deficiency by engaging trained volunteers who provide some service to the farmers. The DOF does not even have any such supplemental staff. The pronouncements made in the Fisheries Policy, 1998 relating to development of pond fisheries thus largely remain unmet. Table 46 samples some of the problems faced by the fish farmers with regard to fisheries extension.

Table 46 : Problems faced by the fish farmers with regard to fisheries extension

Problems	Number of respondents	Percent of respondents
Do not get treatment support	29	24.0
Not well skilled in treatment	14	11.6
Extension service is not adequate	4	3.3
No body comes from DOF	3	2.5
Difficult to communicate with fisheries staff	2	1.7
No water testing facilities	2	1.7
Do not get fishery officer at the office	1	.8
High mortality for being unable to identify disease	1	.8
Medicine is not adequate in the market	1	.8
No facility from government for pond fish farmers	1	.8

CONCLUSION

The principal aim of the survey is to identify the bottlenecks related to agriculture governance at the local level and propose practical remedial measures to address the problems. The survey has identified a number of problems in each sub-sector studied. None of them is a new invention: they have been there for long. What is interesting to note is that they are persisting in full force despite several remedial measures that have already been taken or are still on-going. It is clear that governance problems are complex and sometimes intractable and do not go away easily. It needs a long term commitment and dedication by all concerned to bring about the desired changes. There is also a need to take a flexible approach to remedial measures so that suitable changes can be effected quickly to meet contingencies as they may appear.

The recommendations to be made in this Chapter are primarily based on the survey findings and the views expressed by the farmers themselves. These are also not novel ideas and many of these have already been focused in various documents. It is not the intention here to repeat all these material. The recommendations will highlight a few key issues and will refer to similar recommendations made in other studies/reports to reinforce them. The recommendations will follow the order in which the survey findings have been presented in the previous Chapter: we begin with crop agriculture and then follow through smallholder dairy, poultry and pond fishing.

1.14 Crop Agriculture

During the survey, the farmers were asked to give their opinion freely as to how government can improve upon various service deliveries intended to benefit them. They have many suggestions covering all areas of the survey. We present and analyze those responses by desegregating those according to different components of crop agriculture.

1.14.1 Extension

On agricultural extension, farmer's responses were obtained on the issues of policy and good governance. We present in tabular form top 10 responses on governance and 5 top responses on policy.

Table 47 : Top 10 responses of farmer's on good governance

Item	Number of Responses	Percentage of Responses
1 There should be more interaction between the AO and the farmers	101	6.1
2 Ensure field visits by agriculture staff of all levels	83	5.1
3 Increase number of field visits by the AO	47	2.9
4 Enhance DAE assistance to the farmer	41	2.5
5 SAAO should interact with the farmer	32	1.9
6 SAAO should visit field regularly	30	1.8
7 SAAO should respond to farmer's needs promptly	28	1.7
8 SAAO should work with the farmers regularly	22	1.3
9 Agriculture office should disseminate all information to the farmers	7	0.4
10 SAAO should be available at his station	7	0.4

Top 5 responses of the farmers on policy are shown in the following Table:

Table 48 : Top 5 responses by farmers on agriculture policy

Item	Number of Responses	Percentage of Responses
1 Formulate policy to form strong farmer's groups/society/ CBO	235	14.9
2 Ensure an effective flow of information	45	2.9
3 SAAO should be proactive in matters of transfer of technology	29	1.8
4 Ensure a guideline for field visits by the SAAO and other high officials	27	1.7
5 Establish agriculture service center at the union level	25	1.6

The remaining responses of farmers in respect of good governance and policy may be seen at Annexure V and VI respectively.

From the survey details and farmer's response on good governance and policy, it is evident that farmers are not happy at the present level of extension service and they expect much more. From their comments on contact/ visits by the agriculture staff in general and SAAO in particular, it is clear that they want more contact and such contacts to be made in a systematic manner to achieve meaningful results. Farmers also expressed their unhappiness about the effectiveness of contact and wanted the agriculture officials to be more proactive in the matter of transfer of technology.

The *DAE Extension Manual* prescribes two kinds of farmer contact: individual contact and group contact. Among group contact, the notable methodologies preferred by the farmers are: farmer's field day, farmer's rally, demonstration of techniques on farmer's field and farmer's field school.

The issue of whether individual farmer contact actually takes place is highly probabilistic in nature. The DAE staff invariably disputes the results of farmer's opinion surveys insisting that higher proportion of contact does indeed take place that the farmers are too oblivious to mention. However, the very low frequency of farmer contact is a continuing theme in all incisive surveys. Of course, the SAAOs maintain their diary of extension activities and do regularly send copies of their tour program to their supervisors and the Chairmen of the concerned Union Parishads. However, it is impossible for them to verify as to how many of those planned tours actually take place and with what result. So far as individual contact is concerned, the SAAO is in full control and this part of his activity is hardly supervised by his superiors. On the other hand, the group contact is an open thing accessible by many farmers and most of the times participated by thana level agriculture officers and on special occasions by district level officers also.

In view of tremendous improvement in rural communication and tremendous increase in the cost of delivery of extension service, the time has come to rethink about cost-effective extension methodologies. In other extension activities in the country, particularly in the delivery of micro credit, group approach has been found to be most effective in terms of coverage, cost of delivery, accountability and transparency. All these are fundamental elements of good governance. The farmers, along with demanding more individual contact by agricultural extension, have also called for formation of farmers group/society/CBO and setting up agriculture service center at the union level.

For improving agricultural extension service, the following recommendations are made:

16. The SAAOs are the front line officials of the DAE but currently they operate in a fluid manner. They must have a base of operations that will be known to all of their clients. Government has already taken a decision to allot two rooms in the union complexes for use by the SAAOs. In some places where such complexes have already been built, these offices have started functioning. Each union has an average of 3 SAAOs: by rotation, one of them may stay at the

office while the other two may engage in field extension activities. In order to turn them into resource centers, the DAE will need capacity building in terms of both logistic and training.

17. In order to maintain accountability and transparency of its operations, the DAE should focus on a well planned and well executed group contact system. Individual contact may be reduced to the barest minimum to attend to problems that needs the personal physical attendance of the extension agent. Such attendance should be on call and on first come first serve basis. A call register will be maintained at the union office for record. There are more than 7000 water management groups now operating in different surface water irrigation projects under the control of the LGED and the BWDB. The DAE may execute suitable Memoranda of Understanding with these agencies to carry on extension activities, if they are not already doing so. It is easier to work with existing groups rather than try to establish new ones that may run parallel to them. In forming new groups also, the DAE may consult with LGED, BWDB and the BADC who are also expanding their group network.
18. Government may also consider diversifying the source of extension by training the dealers of different agricultural inputs. These people in any case proffer their advice while selling their merchandise to the farmers. This may be institutionalized by giving them proper and regular training.
19. There is a very urgent need to allocate adequate fund under the revenue budget for carrying out normal development activities of the DAE. The present level of allocation is entirely spent on staff salaries and other establishment costs leaving very little fund to conduct essential extension activities. One example is the virtual demise of the soil testing program. Lack of fund and trained manpower has virtually crippled such an important national program.
20. As far as quality of extension service is concerned, there is a need for better research and extension linkages. Agricultural research institutes may consider including extension officials and farmers as their research partners. For achieving the results in technology transfer, there is no alternative to participatory research. The APB has given a number of recommendations on improving agricultural extension service. These survey findings reinforce the validity of those recommendations.

1.14.2 Seed

Farmers have a strong preference for BADC seed and they are quite knowledgeable about the benefits of certified seed. Our survey shows that majority of the farmers use their own seed. Of the 1800 farmers surveyed, 445 reported their failure to get certified seed. 433 of them obtained seed from alternative source while 10 others switched to other varieties of crop and another 2 changed their cropping pattern. This is not a happy situation and there is an urgent need to develop the seed sector as quickly as possible.

Asked about the mechanisms to improve this situation, the farmers had the following responses:

Table 49 : Farmers' responses to improving seed distribution

Comment	Number of responses	Percent of responses
Form farmers group and sell seed through them	204	12.5
Appoint dealer at village level for seed distribution	201	12.4
Distribute seed through army	108	6.6
BADC should sell seed in open market at a fair price	106	6.5
BADC should produce more seed and sell in open market	92	5.7

For seed development, the major governance issues do not lie at the field level. The issues are pending at the policy level and await suitable government action. These may be recapitulated as under:

1. Implement the NSP for the full development of the private sector and streamlining the operations of the BADC according to the role envisioned for it.
2. Carry out the institutional reforms of the SCA as outlined in the *MOA Agency Management Framework*.²¹
3. Implementing 1 and 2 may take considerable time. In order to give interim relief to the farmers, government should expand seed production at farmer's level by expanding the scope of the project titled "Production, Storage and Distribution of Quality Seeds at Farmer's Level."

1.14.3 Fertilizer

On fertilizer, the farmers generally did not have much complaint about availability during 2003 and 2004. However, they are concerned about the sharp rise in the price of all fertilizers except urea. The farmers had the following comments on policy and good governance relating to fertilizer distribution:

Table 50 : Top 6 responses by farmers on policy relating to fertilizer distribution

Item	Number of Responses	Percent of Responses
1 Ensure proper application of input pricing policy	235	14.9
2 Amend policy on distribution of inputs	50	3.2
3 Ensure fair price of agricultural inputs	8	0.8
4 Distribute agricultural inputs through the CBOs	7	0.4
5 Distribute agricultural inputs through card system	4	0.3
6 Increase the number of BCIC dealers	4	0.3

Table 51 : Top 6 responses of farmers on good governance for distribution of agricultural inputs

Item	Number of Responses	Percent of Responses
1 Ensure corruption-free agricultural input supply	107	6.5
2 Ensure fair price of agricultural inputs	56	3.4
3 Ensure sufficient amount of agricultural inputs in due time	25	1.5
4 Reduce price of agricultural inputs	16	1.0
5 Distribute agricultural inputs without political bias	14	0.9
6 Stop harassment while receiving agricultural inputs	12	0.7

In the above responses, farmers are calling into question the impartiality and fairness of the input distribution system as a whole and they sense lot of corruption in the process. Some of them even

²¹ PPSU, Ministry of Agriculture, Government of the People's Republic of Bangladesh. 2003. *MOA Agency Management Framework*, Dhaka : MOA and Danida

expressed their lack of confidence in the existing system and have suggested distribution of inputs through the army as an extreme measure.

Within the current administrative milieu, we consider that fertilizer distribution system has made the commodity available in good quantity and on time to the farmers during the survey years. However, the farmers generally had to pay higher price to local dealers compared to the price at which they should have got the commodity. This was more so in the case of imported fertilizers. We make the following recommendations to make the system more transparent and responsive to the farmer's needs:

1. There are complaints that genuine fertilizer dealers having proper business records and godowns are bypassed in the selection process in favor of newcomers. Some of these newcomers do not even fulfill the required conditions of eligibility, like possessing a 100-Ton capacity godown in his designated place of business. Without any logistic, they have no other alternative but to pass it on to others after cashing in the profits. The BCIC dealers do not mostly sell directly to the farmers: rather they sell their quota to local dealers, thereby necessitating another level in the trade.

The selection process of dealers needs to be more transparent and fair. To overcome the problem of retail sale to the furthest corners of the country, the number of BCIC dealers may be increased. The retailers who are already operating in the market are performing a valuable service to the society. We do not see any harm in giving them recognition by formally appointing them as BCIC dealers.

2. Smuggling of fertilizers through the porous borders is a major problem. Annual fertilizer requirements are assessed by the District Seed and Fertilizer Monitoring Committees. There is always a tendency on the part of these Committees to inflate such requirements to meet any unforeseen contingencies. If the supply is authorized on that basis, there is a possibility that unscrupulous traders will take advantage of this and send fertilizer consignments across the borders rather than to the designated thanas. A dependable countrywide database on trends of fertilizer use already exists and it is possible to determine thanawise requirements of fertilizer on that basis. Government may consider discontinuing district level assessment of fertilizer requirements and get this job done professionally at the national level.

1.14.4 Subsidy

Subsidy to agricultural inputs has become a subject of intense debate, though very few farmers are aware of recent government dispensation about it. There is no dispute as to the need of giving subsidy to the agriculture sector: however, the debate is on the modality of its administration. During the year 2004-05, subsidy has been given to imported fertilizers and on electricity charges for running irrigation equipment. Our survey indicates that the farmers did not get the benefit of subsidy given to imported fertilizer or to irrigation equipment, with the exception of sole owners of STWs who did not have anybody else to share the benefits. On this issue, the small number of farmers who are aware of it had the following comments:

Table 52 : Responses of farmers on the subsidy issue

Item	No of Responses	Percent of Responses
1 Initiate subsidy for all farmers	16	1.0
2 Ensure proper distribution of subsidy on fertilizer	13	0.8
3 Initiate subsidy on diesel	10	0.6
4 Ensure subsidy to farmers through card system	4	0.3

Admittedly, administration of subsidy is very difficult in complex operations. The aim of the subsidy is to give some relief to the farmers to overcome the high cost of modern agricultural inputs. In this regard, the following recommendations are made for consideration of authority:

The subsidy allocated for crop agriculture may be given as cash to all farmers on the basis of farmers lists maintained by the DAE. The list is somewhat dated and may be updated at village level in open forums. Entitlement criteria may be fixed on the basis of ownership of cultivable land. In recent times, government has successfully delivered cash allowances to elderly people and widows without any leakage through the local administration. Subsidy may also be disbursed following the same mechanism.

1.15 Smallholder Dairy

Smallholder dairy farms are plagued with many problems. Important among these are lack of veterinary services, high cost of medicine and vaccines, high cost of fodder and feed and lack of access to institutional credit. Unlike the agricultural extension service, the livestock extension hierarchy stops at the thana level with very limited support to serve the clients at their farms. The DLS operates a few development programs but their scope is limited to defined project areas. The funds available under the Cash Incentive Support for Small Dairies also do not support a large program. Non-availability of institutional credit is a major hindrance to the development of this sub-sector. The farmers themselves have expressed their views about the problems of smallholder dairy development as follows:

Table 53 : Farmers' views on the problems of smallholder dairy development

Problem	Percent of responses
High price of fodder	37.9
Financial problem	36.2
No good veterinary medical services	18.1
Shortage of fodder	16.4
Need training	14.7
High price of cross-bred germ	13.8
Need government doctors and supply of medicine	12.9
High price of medicine	12.9
No grazing field	11.2
Labor crisis	6.9

The draft *Livestock Policy and Action Plan*²² prepared recently has made elaborate recommendations covering all areas of livestock policy and development. It is expected that the report would be accepted by the government and appropriate action would be taken. However, the following recommendations are made here to reinforce some of the highlights of the above policy document:

1. Since government has agreed in principle to provide subsidy to broad agriculture sector, the present cash incentive support may be further expanded to cover more smallholder dairy farms.

²² Department of Livestock Services, *Op Cit*

2. The Thana Livestock Office need to be strengthened with more Voluntary Field Assistants (VFA) by imparting them necessary training at the Veterinary Training Institutes (VTI). For this purpose, the moribund VTIs may be rehabilitated and made fully operational with necessary budget, logistic and training specialists.
3. The cost of medicine and vaccines may be reduced by making them free of all duties and taxes. Government of India has extended this facility to the livestock sector to boost their production and overall development of the economy.

1.16 Smallholder Poultry

The problems of smallholder poultry are similar to those of smallholder dairy. Lack of veterinary services, high cost of medicine and vaccines, high cost of feed and lack of access to institutional credit are hampering the development of the sub-sector to its full potential. The farmers had the following comments about the problems faced by them:

Table 54 : Farmers views on the problems of smallholder poultry development

Problems	Number of respondents	Percent of respondents
Financial problem	36	13.0
High price of poultry feed	36	13.0
Irregular supply of electricity	34	12.3
High price of chicks	27	9.8
Poor veterinary service	25	9.1
Do not get proper support from DLS staff	16	5.8
Poor knowledge on disease and medical care	10	3.6
Lack of technical knowledge	6	2.2
Poor quality of medicine	6	2.2
High price of medicine	5	1.8

The draft *Livestock Policy and Action Plan* has already made comprehensive recommendations. We also recommend similar action in respect of extension support and vaccination and medicines as we have done for the smallholder dairy farms.

1.17 Pond Fishery

In their overall rating of problems faced by them in operating pond fishery, shortage of good quality fingerlings was rated as the topmost problem closely followed by lack of proper extension support. Security emerges as another big problem towards the development of this activity. Other responses further support these three basic problems. The details may be seen in Table 46.

Table 55 : Top rated problems faced by the fish farmers

Comments	Number of Respondents	Percentage of Respondents
Do not get good quality fingerlings	38	31.6%
Do not get treatment support	29	24.1%
Stealing of fish from pond	18	15%
Vets not well-skilled in treatment	14	11.6%
Adulterated fish feed	12	10%
Non-availability of fingerlings in due time	10	9.9%
High price of fish feed	9	7.5%
Do not get any service from the fisheries extension	4	3.3%

Note: Some farmers have given multiple responses

With regard to pond fisheries development, the following recommendations are made:

1. The problem of inadequate supply and low quality of fingerlings can largely be explained in terms of improper production management in most of the private hatcheries. Their failure to change the brood stock at regular intervals leads to inbreeding and premature development of fingerlings. To partly overcome this problem, government has undertaken a program of developing brood banks in every thana. In a number of thanas, sufficient land has also been acquired. However, progress so far has been very slow. Government should expedite implementation of the program and make them fully operational without any further delay.
2. Lack of extension service is a genuine problem but it cannot be mitigated by expanding public sector extension bureaucracy. The cost of extension service is escalating and is becoming more and more difficult for the government to sustain even its present level of deployment. Moreover, the motivation and commitment of public extension workers to provide service to the people at times of their need has always remained suspect. The most cost-effective method of technology transfer is through farmer to farmer contact. This can be achieved by imparting practical training to groups of farmers as part of regular fisheries extension program.
3. Feed production and distribution is now fully under the control of the private sector. Government cannot do much about its pricing. However, government is responsible for their quality control. Government needs to set up adequate quality control mechanism for ensuring good quality feed to the customers.

Annexure I :Questionnaire for Farmers

Set A

Questionnaire for Farmers

1 a. **Name of the Village:** _____ **Upazilla:** _____ **Zilla:** _____

b. **Location of the Village** Developed 1, Less Developed 2

2 **Name of the household/respondent:** _____

3 **Father's or husband's name:** _____

4 (a) **Are you a member of any community organization/Association ?** Yes/No

(b) If yes, what is its name? _____

(c) How are you benefited from the organization? _____

(d) If you are not benefited, what should be done?

5. Land Owned (Decimals) and its use :

- 5.1 Homestead
- 5.2 Orchard and Bushes
- 5.3 Crop land
- 5.4 Pond and Ditches.
- 5.5 Others (Specify)
- 5.6 Total Land

6 Cultivated holding (decimal) (2004/05)

- 6.1 Own land
- 6.2 Rented / mortgaged-in land
- 6.3 Rented / mortgaged-out
- 6.4 Total cultivated land

7 Availability of fertilizer by season in the last two years

Season	Levels of availability in the peak period *							
	Urea		TSP		M.P		DAP	
	2004/05	2003/04	2004/05	2003/04	2004/05	2003/04	2004/05	2003/04
Aus (April – June)								
Aman (July – September)								
Rabi (October – December)								
Boro (January – April)								

*1= Adequate, 2 = Inadequate

8 Which months of the year (2004/05), availability was not adequate?

Fertilizers	Name of the months	Highest sale price (TK/KG)
Urea		
TSP		
MP		
DAP		

9. Prices of fertilizer in the last two years

Season	Price of fertilizer (Tk. / Kg)							
	Urea		TSP		M.P		DAP	
	2004/05	2003/04	2004/05	2003/04	2004/05	2003/04	2004/05	2003/04
Aus (April – June)								
Aman (July – September)								
Rabi (October – December)								
Boro (January – April)								

10 Quality of fertilizer used in the last two years

Type of Fertilizer	Quality *		Comment by Farmer If not good, comments of the farmer about the losses
	2004/05	2003/04	
1. Urea			
2. TSP			
3. MP			
4. DAP			

* 1= Good, 2 = Not good

11. Source of actual procurement of fertilizer and purchase prices

Type of Fertilizer	Source and amount bought (Kg)			Average prices paid (Tk. / Kg)			Price paid for credit purchase (Tk/Kg)
	Local retailer	BCIC fertilizer dealer	Other sources	Local retailer	BCIC fertilizer dealer	Other sources (specify)	
1. Urea							
2. TSP							
3. MP							
4. DAP							

12 (a) Did you experience any shortage of fertilizer supplies? Yes/No

(b) In case of shortage of supplies, what adjustment measures were adopted?

Type of Fertilizer	Measures adopted *	Comment by Farmer If dose reduced, please explain
1. Urea		
2. TSP		
3. MP		
4. DAP		

* 1 = Reduction of number of application, 2 = Reduction of quantity of fertilizer

13 (a) Was fertilizer dose recommended after soil test of land?

(b) In case of inadequate supplies, which crops were more affected?

Crops	Percentage of damage
(i)	
(ii)	
(iii)	

14 Measures suggested for improvement in fertilizer distribution and price stabilization:

Type of Fertilizer	Suggestion for Improvement
1. Urea	
2. TSP	
3. MP	
4. DAP	

15. Does the farmer own irrigation equipment? If yes, how many? If not, what are your sources of irrigation? Other farmer/samity/ others (specify)

16. Is the equipment diesel or electricity operated? If electricity operated ,

- (i) was electricity supply continuously available during crop season or not? Yes?No
- (ii) did you receive any subsidy against electricity bills?

17. (a) If electricity is not available, how are you affected?

(b) Is irrigation water available in time? Yes/No. If not, why?

18. Areas irrigated and costs by crop

Crop	Area Irrigated (decimal)		Cost of Irrigation (Tk/Dec)		System of Payment of Water Charges
	2003/4	2004/5	2003/4	2004/5	

19. (a) Are you aware of subsidy in agriculture? Yes/No

(b) Did you receive any subsidy on electricity bill? Yes/No

(c) If received, the amount received Tk_____

(d) Amount of total bill_Tk_____

(e) If no subsidy is received, give the reasons_____

20. Were mechanical service and spare parts available in time in case of need? Yes/No

21. Do you consider government policy on subsidy on electricity and diesel to be successful? If not, what needs to be done to improve the situation?

22. Farmer's sources of seeds and quantity (Kg)

Crops Grown	Own seed	Purchased from				
		DAE Supplied	Other farmer	BADC dealers	NGO dealers	Private firm
Aus						
Aman						
Boro						
Wheat						

23 (a) Are you aware of certified seeds? Yes/No

If not, why not?_____

(b) Do you buy open or packet seed? Open 1, Packet 2_____

If purchased open seeds, what are their sources and what are their germination rates? _____

(c) If purchased packet seed, what is the price of certified seeds (Tk. / Kg)

Crops Grown	2004 – 2005			2003 – 2004			What are the prices for credit purchase?
	BADC Dealers	NGO Dealers	Private firm	BADC Dealers	NGO Dealers	Private Firm	
Aus							
Aman							
Boro							
Wheat							

24 Availability and quality of certified seeds purchased

Crop Grown	Levels of availability in the peak season *			Quality of Seeds **			
	Private firm	BADC	NGOs	Market	BADC	NGOs	Private Firm
1.							
2.							
3.							
4.							

* 1 = Sufficient, 2 = Insufficient ** 1 = Good, 2 = Bad

25 In case of short supplies of certified seeds, how did the farmer meet his seed requirements?

Type of crop	Measures adopted *	Comment by Farmer
Aus		What were the overall consequences of short supply
Aman		
Boro		
Wheat		

* 1 = Procure from other sources, 2 = Shifted from one variety to another, 3 = Shifted from one crop to another

26 What are the farmer's suggestions for improving the seeds distributions system?

27 Extension supports available

Agencies	Contacted the farmer at least once in every crop season*			
	Aus	Aman	Rabi	Boro
1 SAAO				
2. Agricultural Extension Officer				
3. Private Farm				
4. Others (Specify)				

*1 = Yes, 2 = No

28 If there was any contact, what did they do and was their activities/ advice useful?

Agencies	Comments by farmer on advice* and usefulness**							
	Aus		Aman		Rabi		Boro	
	Adv	Use	Adv	Use	Adv	Use	Adv	Use
1. Block Supervisor								
2. Agricultural Extension Officer								
3. Private Farm								
4. Others (Specify)								

*1 = Advice on cultural practices, 2 = Diffusion of new technology, 3 = Advice on pest management

**4 = Useful, 5 = Not useful

29 (a) Did you receive any institutional credit? Yes/No

(b) If yes, report the sources and the principal uses

Sources	Uses

30 Sales price of major crops (Tk/Kg)

Crop	Price at harvest time	Price at other time

31 (a) Has there been any “field day” here? Yes/No

(b) If yes, did you participate? Yes/No

(c) If yes, was it beneficial to you?

32 Comments by the farmer not covered above:

a) Governance issues : _____

b) Implementation of agricultural policies : _____

Signature
of the Farmer

Signature
of the Field Investigator

Signature
of the Supervisor

Annexure II : Questionnaire for Poultry Farms

Set – B

Questionnaire for Poultry Farms (3 years in operation)*

1 (a) **Name of the Village:** _____ (b) **Union** _____ (c) **Upazilla:** _____

(d) **Location of farm:** Developed village 1, Less Developed 2

2 **Type of poultry farm:** Broiler / Layer / Pullets/Ducks/Cockerel

3 (a) **Name of the Owner:** _____ (b) **Age** _____

(c) **Years of schooling completed** _____ (d) **Training received (if any)** _____

(e) **Principal occupation** _____ (f) **Secondary occupation** _____

4. (a) **Are you member of any community organization ?** Yes/No

(b) **If yes, name the organization**-----

(c) **How are you benefited from the organization ?**

(d) **If not benefited, what should be done ?**

5. Costs of establishment and sources of funding

Amount of initial capital	Total amount (Tk.)	Sources (%) funding				Ban k	5. Others	
		Self-finance	Moneylen ders	Relatives and friends	NGOs			
							6	

6. Year when farming was started and the stock of birds

Type of farm	Year of start-up	Area of the farm (Sft)	Stock of birds at start-up (No.)	Stock at present (No.)	No. of broiler / batches raised last year
Broiler					
Layer					
Pullet					

7. Purchase of chicks, their sources and prices per piece (Last batch)

Type of Farm	Sources (No)		Price paid (Tk.)		Price range experienced				Price when credit purchased (%)	
	Hatchery	Agents	Hatchery	Agents	Hatchery		Agents		Hatchery	Agents
					Highest	Lowest	Highest	Lowest		
Broiler										
Layer										
Pullets										

*Poultry firms having 1000 or less birds should be selected for survey.

8. Sources of purchase of chicks and prices paid during 2004/5

Type of Farm	Sources (No)		Price of Chicks of the last batch		Price paid last year				If purchased on credit, give the price
	Hatchery	Agents	Hatchery	Agents	Hatchery		Agents		
					Highest	Lowest	Highest	Lowest	

9. Grades of chicks purchased during (2004/05)

Type of Farm	Hatchery supplied chicks (%)			Agents supplied chicks (%)		
	Grade – A	Grade – B	Grade – C	Grade – A	Grade – B	Grade – C
Broiler						
Layer						
Pullets						

10. Levels of availability of day old chicks (2004-05)

Type of farm	Availability in right time			Availability in adequate number			Availability of desired quality		
	Yes	No	If not, no. of batches affected	Yes	No	If not, percent received	Yes	No	Percentage of poor grade

						(%)			chicks (%)
Broiler									
Layer									
Pullets									

11. Rates of Mortality during (2004/05)

Type of Farm	Average mortality (%)	Major causes of mortality*			
		Electricity failure	Diseases	Improper care	Others
Broiler					
Layer					
Pullets					

* First =1, Second=2 Third =3

12. Quality of vaccines and veterinary services

Items	Quality*	Comments if any
i) Vaccines used/ purchased		
ii) V. medicine purchased		
iii) Vitamins		
iv) Treatment offered		

*1= Good, 2 = Not good

13. Services rendered by DLS and NGOs/private firms in (2004-05)

Farm	Service by DLS		NGOs/Private Firm		Level of Satisfaction*	
	No. of Visit	Fees Paid (Tk.)	No. of Visit	Fees Paid (Tk.)	DLS	Private
Broiler						
Layer						

* 1 = Satisfied, 2 = Not satisfied

14. Availability and Quality of Feeds in (2004-05)

Feeds	Levels of availability*	Quality of feed**	Source of Purchase	
			1 st	2 nd
Pellets				
Maize				

Wheat Bran			
Others			

* 1 = Adequate, 2 = Inadequate **1 = Good, 2 = Not Good

15. Average Feed price paid

Feeds	Average Price (Tk/Kg)		Highest and Lowest Price paid at			
	Local market	Upazilla Market	Local Market		Upzaila Market	
			Highest	Lowest	Highest	Lowest
i) Pellets						
ii) Maize						
iii) Wheat Bran						
iv) Others						

16. Sales prices of Eggs and Broilers

a) Price of eggs (per 100) Average ----- Highest----- Lowest

b) Broiler (Tk/Kg) Average----- Highest -----Lowest

18. Problems faced in setting up and operating the poultry farm

Items	Problems faced
Broiler Farms	
Layer Farms	
Pullets	

19. Suggestions for Improvement:

- i) Broiler farms
- ii) Layer farms
- iii) Pullets farm

Signature of the Farm Owner

Signature of the Field

Signature of the

Investigator

Supervisor

Annexure III: Questionnaire for Small Dairy Farms

Set C

Questionnaire for Small Dairy Farms *

1 (a) Name of the Village: _____ (b) Union _____ (c) Upazilla:

(d) Location of farm: Developed village 1, Less Developed 2

2 (a) Name of the Owner: _____ (b) Age _____

(c) Years of schooling completed _____ (d) Training received (if any) _____

(e) Principal occupation _____ (f) Secondary occupation _____

4. (a) Are you member of any community organization? Yes/No

(b) If yes, name the organization-----

(c) How are you benefited from the organization?

(d) If not benefited, what should be done?

5 Costs of establishment and sources of funding

Amount of Initial Investment	Total amount (Tk.)	Year of Establishment	Sources (%) funding					
			Self-finance	Moneylenders*	Relatives and friends	NGOs	Bank	Others

*Applicable when money is taken on interest or profit

6. Number of cattle owned and production of milk

Type of Cattle	Stock at start-up		Stock at present		Production of milk per day (Litre)	Milk sold per day (Litre)
	Total no. of cattle head	Milch cows	Total no. of cattle head	Milch cows		
i) Local						
ii) Cross-Bred						

7. Sale of milk and prices received (Tk. / Litre) by season

Season	Daily Sales (Litre)	Places where sold (Percentage)				Price (Tk/ Litre)			
		Farm gate	Local Market	Upazilla Market	Co-ops	Local Market	Upazilla Market	Farm gate	Co-ops
Rainy season (June – September)									
Dry Season (Oct – May)									

- Number of total cattle in a farm should be less than 10.

8. Lowest Price recorded by season

Season	Average Cost of Production(Tk/Litre)	Lowest Price at		Comments, if any
		Farm Gate	Local Market	

9. Availability and quality of feeds and their price

Feeds	Availability level *	Quality of feed**	Average price (Tk. / kg)	Highest price paid (Tk /Kg.)	Price when purchased on credit
i) Rice bran					
ii) Wheat bran					
iii) Rice broken					
iv) Pulses bran					
v) Straw					
vi) Green Grass					

* 1=Adequate, 2=Inadequate **1=Good, 2=Not Good

10. Availability and quality of veterinary services

Support & services	Level of availability*	Quality **		Comment if any
		Effective	Ineffective	
i. Vaccines				
ii. V. Medicines				
iii. V. Doctor Services (No. of visit in three months)				
iv. Diagnostic Facilities				

*1= Adequate, 2=Inadequate **1 = Effective, 2 = Ineffective

11. Are you registered with the DLS? Yes/No

(a) If yes, have you received any subsidy? Yes/No

(b) If yes, how much (Tk)_____ for how many
cattle?_____

12. Have you received any micro-credit? Yes/No

(a) If yes, how much (Tk)_____ (b) How much of the loan has been repaid by you
(Tk)?_____

13. Problems faced in the development of the dairy farm

(a) During Production

(b) During Sales

14. Measures to be taken for improvement of dairy farming (according to priority)

A. Production

- i. First
- ii. Second
- iii. Third

B. Sale of Milk

- i. First
- ii. Second
- iii. Third

Signature of the Farm Owner

Signature of the Supervisor

Annexure II : Questionnaire for Pond Fishing

Set D

Questionnaire for Pond Fishing

1 Location of the Farm: _____ **a) Village** _____

(b) Union _____ **(c) Upzilla** _____

2 Status of Village: Developed 1 less Developed 2

3 (a) Name of the Owner: _____ **(b) Age** _____

(c) Years of schooling completed _____ **(d) Training received (if any)**

_____ **(e) Principal occupation** _____ **(f) Secondary occupation** _____

4 Cost of establishment and sources of financing:

5 Are you a member of any community organization or association? Yes/No

A. If yes, name the

organization _____

B. How are you benefited from the organization?

C. If not, what should be done?

6 Cost of establishment and sources of financing

Ownership of pond	No. of ponds	Total area cultured (Decimals)	Re-excavation cost (Tk.)	Sources of financing (Tk.)			
				Own	Relative and friends	NGOs	Banks
i) Self-Owned							
ii) Jointly owned*							
ii) Leased-in**							
iii) Others							

*Number of Partners ** Mention the terms and conditions

7 Sources of collection of fish fingerlings and price (Tk per 1000)

Type of Fish	Number of fingerlings by sources						Price		
	Hatcheries		Farias/ Patilwala		Spawn Raisers		Hatcheries	Farias/ Patilwala	Spawn Raisers
	Below 3"	3" and above	Below 3"	3" and above	Below 3"	3" and above			
i) Ruhi									
ii) Katla									
iii) Silver/Grass carps									
iv) Pangun									
v) Telapia									
vi) Shorputi									
vii) Othes									

* Total area under fish cultivation should not exceed one acre.

8 Quality of fish fingerlings

Type of Fish	Quality*						Price when purchased on credit	
	Hatcheries		Farias/ Patilwala		Spawn Raisers		Below 3"	3" and above
	Below 3"	3" and above	Below 3"	3" and above	Below 3"	3" and above		

*1 = Good, 2 = Not Good

9 Feeds purchased and their quality

Types of Feeds	Total Quantity Purchased (Kgs))	Purchased from (%)		Price of Feed at Upazilla market			Quality of Feeds *	
		Local Market	Upazilla/Zila Market	Average	Price Range		Local Market	Upazilla/Zila Market
					Highest Price	Lowest Price		
i) Rice Bran								

ii) Wheat Bran							
iii)							
iv)							
v)							
vi)							

* 1=Good, 2 = Not Good

10 Change of water in fish pond

Type of Equipment Used	Availability in time		Comments if any
	Yes	No	

11 Production of fishes and access to market

Type of fish	Age of fish at the time of harvest (Weeks)	Total production (Kgs)	Place of sale (%)		
			Farm Gate	Local Market	Upazilla Market

12 Have you received any loan under micro-credit program? Yes/No

- (a) **If yes, how much(Tk)**_____
- (b) **Comments if any on the program**_____

13 Problems faced in production and marketing of fish

- A. Availability of inputs
- i. Fingerlings
 - ii. Feeds
- B. Access to services
- i. Extension Service
 - ii. Treatments
- C. Marketing
- i. Transportation of fish to markets
 - ii. Extra charges paid in Upazilla market
 - iii. Restricted entry
 - iv. Others.
- D. Security during
- i. Production
 - ii. Marketing

14 What are the suggestions of the pond fishers for improving the production and marketing of fish by the small family farms?

Signature of the Farm Owner

Signature of the Supervisor

Annexure II :Benefits received by the farmers from the farmers field day

Benefits	Number of responses
Benefited from FFD in many ways	73
New technique of cultivation	20
New technology	16
Proper use of fertilizer, seed, pesticide	14
Production increased	8
Production increased 10%	8
Not benefited because don't follow	5
Pest management	4
Production increased 15%	4
New crop	2
Production increased 5%	2
Know about quality of seed	1
Learnt better application of pesticide	1
Organic fertilizer	1
Production increased 2%	1

Note: Number of responses

Annexure III : Comments on good governance by farmers

Comment	Number of respondents	Percent of respondents
Ensure corruption free agriculture input supply	107	6.5
Ensure field visit by agriculture staff of all level	83	5.1
Ensure uninterrupted electricity supply in rural areas	75	4.6
AO should facilitate discussion with farmers	66	4.0
Initiate simple procedure for agriculture credit distribution	64	3.9
Ensure fair price of agriculture inputs	56	3.4
Increase number of field visits by AO	47	2.9
Enhance DAE assistance to farmer	41	2.5
Deliver government agriculture facility pr operly	40	2.4
Ensure proper price of pesticide	36	2.2
AO should consult with farmers	35	2.1
SAAO should consult with farmers	32	1.9
Ensure proper price of farmers produce	31	1.9
Ensure quality of fertilizer	31	1.9
SAAO should visit field regularly	30	1.8
Deliver government agriculture facility through card system	28	1.7
SAAO should respond to farmers needs promptly	28	1.7
Ensure sufficient amount of agriculture inputs in due time	25	1.5
Ensure agriculture rehabilitation support after flood	23	1.4
SAAO should come to work with farmer regularly	22	1.3
Reduce price of agriculture inputs	16	1.0
Initiate agriculture credit without interest	15	0.9
Organize need based training for farmers	15	0.9
Distribute agriculture inputs without political bias	14	0.9
Ensure proper supply of fuel and power for irrigation	14	0.9
Ensure sufficient supply of quality seed	14	0.9
Ensure proper distribution of subsidy on fertilizer	13	0.8
Ensure accountability of government agencies	12	0.7
Stop harassment in receivi ng agricultural inputs	12	0.7
Control agriculture agency's visit to political leaders	11	0.7
Ensure appropriate price of farmers produce	11	0.7
Initiate subsidy for all farmer	11	0.7
Ensure corruption free credit distribution	9	0.5

Comment	Number of respondents	Percent of respondents
Ensure availability of agriculture inputs in due time	8	0.5
Ensure corruption free agriculture input supply	8	0.5
Ensure monitoring of work of government agencies	8	0.5
Reduce price of fertilizer	8	0.5
Stop hoarding of fertilizer by dealers	8	0.5
Disseminate all information from agriculture office	7	0.4
Distribute agriculture inputs through army	7	0.4
Ensure seed, fertilizer, pesticide at starting of season at fair price	7	0.4
Form group and take initiatives for good governance	7	0.4
Never supply agriculture inputs through political leaders	7	0.4
Reduce price of diesel	7	0.4
SAAO should be available at the station	7	0.4
Stop harassment in receiving seed	7	0.4
Eliminate corruption to ensure good governance	6	0.4
Ensure a fixed price of fertilizer	6	0.4
Ensure proper distribution of BADC seed	6	0.4
Ensure proper implementation for good governance	6	0.4
Ensure proper implementation of agriculture policy	6	0.4
Form group and distribute agriculture input through them	6	0.4
Governance now is good	6	0.4
Agriculture officer should visit field	5	0.3
Appoint skillful staff for agriculture agencies	5	0.3
Ensure adequate subsidy on diesel & electricity	5	0.3
Ensure needful advices by agriculture high officials	5	0.3
Ensure proper monitoring of SAAO by higher officials	5	0.3
Ensure proper price of fertilizer	5	0.3
Ensure transparency in agriculture agencies	5	0.3
Facilitate soil testing by government agencies	5	0.3
Reduce price of fertilizer, seed and irrigation	5	0.3
Strengthen supervision on SAAO	5	0.3
Appoint honest man in all agencies	4	0.2
Bs should come to work with farmer at least twice a week	4	0.2
Committee should be formed to monitor policy implications	4	0.2
Ensure appropriate quantity of fertilizer in all bags	4	0.2
Ensure better service by government agencies	4	0.2

Comment	Number of respondents	Percent of respondents
Ensure fixed price of agriculture inputs	4	0.2
Ensure irrigation facilities powered by electricity	4	0.2
Facilitate building of cold storage	4	0.2
Facilitate deep tube well for irrigation	4	0.2
Form committee against terrorist	4	0.2
Government should reform the agriculture sector	4	0.2
Increase number of dealers	4	0.2
Initiate card system for distribution of quality seed	4	0.2
Initiate interest free credit for real farmers	4	0.2
Initiate simple procedure for agriculture input distribution	4	0.2
Reduce price of irrigation	4	0.2
Stop crop stealing from field	4	0.2
Take appropriate development measures for farmers	4	0.2
Appoint honest man for distribution of agriculture inputs	3	0.2
Arrange for police box in locality	3	0.2
Aware farmers on subsidy in electricity and fertilizer	3	0.2
Aware people about good governance	3	0.2
Distribute seed in proper time	3	0.2
Eliminate terrorism to ensure good governance	3	0.2
Encourage quality seed production with help of DAE	3	0.2
Ensure establishment of consultation centre in all Union	3	0.2
Ensure fair price of agriculture machinery	3	0.2
Ensure government agriculture inputs to real farmers	3	0.2
Ensure implementation of agriculture policy	3	0.2
Ensure monitoring of SAAO activity	3	0.2
Ensure proper cost of leasing land	3	0.2
Ensure proper inspection of agriculture inputs in the market	3	0.2
Ensure proper monitoring of SAAO by higher officials	3	0.2
Ensure proper punishment of the terrorists	3	0.2
Ensure regular inspection of agriculture inputs in the market	3	0.2
Ensure sufficient amount of quality seed in due time	3	0.2
Extend full support to farmers	3	0.2
Facilitate supportive crop marketing system	3	0.2
Government must follow rules strictly	3	0.2
Initiate card system for distribution of agriculture inputs	3	0.2

Comment	Number of respondents	Percent of respondents
SAAO and AO should do their duty properly	3	0.2
Solve problems of farmers to ensure good governance	3	0.2
Take measures against bribe taking by BADC Officers	3	0.2
Appoint skilled SAAO	2	0.1
Arrange for more visit to farmers by SAAO	2	0.1
Aware farmers on agriculture policy	2	0.1
Control population growth to ensure good governance	2	0.1
Did not get subsidy on agriculture inputs	2	0.1
Distribute agriculture inputs without bias	2	0.1
Distribute khash land to landless farmers	2	0.1
Ensure better service by DAE	2	0.1
Ensure corruption free administration	2	0.1
Ensure effective communication among farmer and agents	2	0.1
Ensure irrigation facilities	2	0.1
Ensure proper attention of agencies to small farmers	2	0.1
Ensure proper distribution of subsidy	2	0.1
Ensure proper monitoring of dealers	2	0.1
Ensure proper price of BADC seed	2	0.1
Ensure quality of seed supplied by BADC	2	0.1
Ensure sufficient amount of agriculture inputs from UzAOff	2	0.1
Ensure sufficient amount of seed and fertilizer in due time	2	0.1
Ensure uninterrupted electricity supply	2	0.1
Establish agriculture office in all Union	2	0.1
Establish centre for complaint	2	0.1
Give advice from agriculture office	2	0.1
Give allowance to poor farmer	2	0.1
Give training on new crop production	2	0.1
Good advice could ensure good governance	2	0.1
Govern country as a family to ensure good governance	2	0.1
Governance now is not good	2	0.1
Government has to take initiative for quality seed p roduction	2	0.1
Government should purchase crop directly from farmers	2	0.1
Gram Sarker is not at all effective	2	0.1
Increase field visits by AO during pest infestation	2	0.1
Initiate appropriate measure to stop inputs adulteration	2	0.1

Comment	Number of respondents	Percent of respondents
Initiate insurance for farmers to ensure good governance	2	0.1
Involve army in implementation of policy	2	0.1
Make appropriate changes in irrigation policy	2	0.1
Need better coordination among farmer, SAAO, AO etc.	2	0.1
Need good communication for crop marketing	2	0.1
Need monitoring committee at the Upazila level	2	0.1
Need strict policy to stop agriculture input adulteration	2	0.1
Punish corrupt people to ensure good governance	2	0.1
Reduce cost of irrigation by reducing price of diesel	2	0.1
Reduce poverty to ensure good governance	2	0.1
Reduce price of good quality seed	2	0.1
SAAO should respond to the needs of poor farmer promptly	2	0.1
Stop bribe taking by bank in processing and giving loan	2	0.1
Administration people should be open minded to help	1	0.1
Agriculture staff should always be with farmers	1	0.1
AO should extend full support to farmers	1	0.1
Appoint government agencies for giving agriculture item	1	0.1
Appoint honest man to ensure good governance	1	0.1
Appoint man for distribution of agriculture inputs	1	0.1
Arrange for monitoring of administrative activities	1	0.1
Arrange meeting between farmers and agriculture agents	1	0.1
Arrange training on effective communication system	1	0.1
Avoid involvement of businessman in BADC seed supply	1	0.1
Avoid politicians in the distribution of agriculture input	1	0.1
Aware all farmers about agriculture subsidy	1	0.1
BADC have to produce vegetable seed	1	0.1
BADC should increase it's production of seed	1	0.1
Cancel license of agriculture input s adulterators	1	0.1
Chairman and members should distribute inputs properly	1	0.1
Chairman, Member have to do their duty properly	1	0.1
Control terrorist to ensure good governance	1	0.1
Distribute agriculture inputs through donor agencies	1	0.1
Distribute agriculture facilities by UNO	1	0.1
Distribute agriculture input at a fair price	1	0.1
Distribute agriculture inputs according to farmers need	1	0.1

Comment	Number of respondents	Percent of respondents
Distribute agriculture inputs at the village level	1	0.1
Distribute agriculture inputs at village level	1	0.1
Distribute agriculture inputs through CBO	1	0.1
Distribute agriculture inputs through dealers	1	0.1
Distribute agriculture inputs through School Teachers	1	0.1
Distribute agriculture inputs through UNO	1	0.1
Distribute agriculture loan in due time	1	0.1
Distribute fertilizers and seeds free of cost to real farmer	1	0.1
Distribute pesticide, seed and fertilizer at reasonable price	1	0.1
Distribute seed at a reasonable price through UzAO	1	0.1
Distribute seed through Donor Agencies	1	0.1
DoF staff should visit farmers	1	0.1
Enhance farmers capacity to ensure good governance	1	0.1
Enhance government agriculture support to farmers	1	0.1
Ensure proper policy implementation for good governance	1	0.1
Ensure adequate subsidy on diesel and electricity	1	0.1
Ensure a fixed price of agriculture inputs	1	0.1
Ensure a meeting once a year on problems of farmers	1	0.1
Ensure adequate subsidy on all inputs	1	0.1
Ensure better coordination among farmer, SAAO & other	1	0.1
Ensure better incentives for government agency staff	1	0.1
Ensure cold storage in the village	1	0.1
Ensure compliance to rules by agriculture staff	1	0.1
Ensure corruption agriculture credit money distribution	1	0.1
Ensure corruption free distribution of subsidy	1	0.1
Ensure distribution of power tiller and spray machine	1	0.1
Ensure effective extension, service and advice	1	0.1
Ensure fertilizer quality test by higher officials	1	0.1
Ensure infrastructural development for agriculture	1	0.1
Ensure irrigation facilities in draught	1	0.1
Ensure peace to establish good governance	1	0.1
Ensure prompt advice to farmers by agriculture agencies	1	0.1
Ensure prompt and regular functioning of SAAO	1	0.1
Ensure proper amount of fertilizer in each of the bags	1	0.1
Ensure proper distribution of quality seed	1	0.1

Comment	Number of respondents	Percent of respondents
Ensure proper distribution of subsidy on agriculture inputs	1	0.1
Ensure proper implementation of all project of government	1	0.1
Ensure proper price of paddy purchase by government	1	0.1
Ensure purchase of paddy for cash by government	1	0.1
Ensure regular monitoring of agriculture agencies	1	0.1
Ensure regular visit to farms by agriculture officers	1	0.1
Ensure sufficient amount of quality seed in due time	1	0.1
Ensure sufficient among of quality seed in due time	1	0.1
Ensure sufficient amount of fertilizer	1	0.1
Ensure sufficient amount of pesticide	1	0.1
Ensure testing of agriculture inputs by specialist	1	0.1
Ensure the visit of SAAO regularly	1	0.1
Ensure timely supply of agricultural input by AO	1	0.1
Ensure timely supply of sprayer, power pump of DAE	1	0.1
Ensure uninterrupted electricity supply in Boro season	1	0.1
Ensure uninterrupted electricity supply	1	0.1
Eradicating terrorism can bring in good governance	1	0.1
Facilitate building cold storage for preservation of flower	1	0.1
Facilitate concrete canal for irrigation	1	0.1
Facilitate good communication among framer, SAAO & AO	1	0.1
Facilitate good working relation among farmer, AO and SAAO	1	0.1
Facilitate improvement of cultivation system	1	0.1
Give information to farmers' leader from agriculture office	1	0.1
Give more subsidy in agriculture	1	0.1
Give responsibility of curbing corruption to RAB	1	0.1
Give subsidy on diesel	1	0.1
Giving advice before crop is affected is beneficial	1	0.1
Good character of officers influence good governance	1	0.1
Government agriculture agencies is virtually inactive	1	0.1
Government has help village level agriculture activity	1	0.1
Government has to help village level agriculture activity	1	0.1
Government has to take initiative that UP functions properly	1	0.1
Government officers should do their duty properly	1	0.1
Government should give more attention to agriculture	1	0.1
Government should give more attention to farmer	1	0.1

Comment	Number of respondents	Percent of respondents
Government should purchase crop at fair price from farmer	1	0.1
Government should take care of tribal people	1	0.1
Grant exemption on agriculture loan	1	0.1
If SAAO /AO are not in field should be found in office at least	1	0.1
Increase amount of machine and tools supply	1	0.1
Increase amount of subsidy on agriculture inputs	1	0.1
Increase DAE assistance to the farmers	1	0.1
Increase government agricultural inputs	1	0.1
Increase manpower in agriculture sector and execute properly	1	0.1
Increase number of SAAO	1	0.1
Increase supply of agriculture inputs	1	0.1
Increase supply of DAP	1	0.1
Increase supply of quality seed	1	0.1
Increase the government agricultural facilities	1	0.1
Initiate effective information system to aware about price	1	0.1
Initiate giving agriculture insurance for natural calamities	1	0.1
Initiate inter-agency active and prompt action	1	0.1
Initiate measures to stop bribe taking by bank officials	1	0.1
Involve army in agriculture input distribution	1	0.1
Involvement of middleman increases seed price	1	0.1
Keep Upazila, Village police, Chairman alert about corruption	1	0.1
Leader have to be patriotic	1	0.1
Local agriculture office have to be more active	1	0.1
Monitor and give punishment for corruption	1	0.1
Need consultation support from SAAO throughout the season	1	0.1
Need financial support for buying quality seed	1	0.1
Need to consult SAAO on pesticide dose	1	0.1
One SAAO for a maximum of 200 farmers	1	0.1
Open agriculture consultation centre in all Union	1	0.1
Organize training on aquaculture	1	0.1
Organize training on organic fertilizer	1	0.1
Organize training on quality seed identification	1	0.1
Organize farmers and unite them for good governance	1	0.1
Re-excavate river Shutki for irrigation	2	0.1
Reduce cost of irrigation	1	0.1

Comment	Number of respondents	Percent of respondents
Reduce price of fertilizer in Boro season	1	0.1
Reduce the price of fertilizer	1	0.1
Reduce unemployment rate to establish good governance	1	0.1
Re-excavate river Kapotaksha for irrigation	1	0.1
SAAO and AO should always communicate with farmer	1	0.1
SAAO and fertilizer dealer should always be at station	1	0.1
SAAO selects their relatives' land for demonstration	1	0.1
SAAO should be stationed at the village	1	0.1
SAAO should maintain a good communication link with farmer	1	0.1
SAAO, AO, Member, Chairman, BADC staff should help farmer	1	0.1
Stop black-marketing	1	0.1
Stop distribution of seed/fertilizer among relative	1	0.1
Stop sell of seed and fertilizer in open market	1	0.1
Subsidy should also be given on diesel as in electricity	1	0.1
Supply all kinds of inputs through CBO	1	0.1
Supply seed, fertilizer, diesel at fair price	1	0.1
Survey field situation and discuss with farmer for action	1	0.1
Take appropriate measure to stop exploitation of farmers	1	0.1
Take measures to protect crop from flood-damage	1	0.1
The fisheries officer should come to village for training the villagers	1	0.1
There is practically no need for SAAO	1	0.1
Training should be given to farmer without any political bias	1	0.1
UzAO do not disseminate information properly	1	0.1

Annexure IV : Comments on agricultural policy by farmers

Comment	Number of respondents	Percent of respondents
Ensure proper application of pricing policy (for inputs and produce)	235	14.9
Not aware of agriculture policy	198	12.6
Formulate appropriate irrigation policy to address present situation	158	10.0
Formulate policy to form strong farmer group / society / CBO	116	7.4
Provide marketing facilities to ensure proper price of produce	113	7.2
Ensure need based training for farmers	102	6.5
Aware farmers on subsidy	81	5.1
Amend policy on distribution of agriculture inputs	50	3.2
Formulate policy on electricity supply	49	3.1
Ensure an effective flow of information	45	2.9
Ensure simple procedure for financial support to farmers	42	2.7
Organize demonstration on improved variety	30	1.9
SAAO should be proactive in transfer of technology	29	1.8
Ensure a guideline for field visit by SAAO, AO and high officials	27	1.7
Establish agriculture advice centre at Union level	18	1.1
Ensure availability of quality seed	17	1.1
Initiate subsidy for all farmer	16	1.0
Aware farmers on agriculture policy	15	1.0
Formulate policy to combat adulteration of agriculture inputs	10	0.6
Increase the activities of DAE	10	0.6
Initiate subsidy on diesel	10	0.6
Amend policy on appointing dealer (at Union level)	9	0.6
Ensure accountability among government staff	9	0.6
Ensure application of agriculture policy	9	0.6
Ensure fair price of agricultural inputs	8	0.5
Distribute agriculture inputs through the CBO	7	0.4
Ensure guideline for post flood agricultural rehabilitation	7	0.4
Ensure punishment of dishonest dealers	7	0.4
Distribute fertilizer through army	6	0.4
Distribute pesticide free of cost	6	0.4
Formulate policy on cold storage establishment	6	0.4
Ensure interest free agriculture credit	5	0.3
Ensure punishment of bank and other staff taking bribe	5	0.3
Initiate agriculture insurance	5	0.3

Comment	Number of respondents	Percent of respondents
Reduce price of inputs	5	0.3
Distribute agricultural inputs locally by card s ystem	4	0.3
Ensure subsidy to farmers through card system	4	0.3
Establish agriculture office in all the Unions	4	0.3
Increase the numbers of BCIC dealers	4	0.3
Initiate open market sale of agriculture inputs	4	0.3
Initiate open market sale of fertiliz er	4	0.3
Dealers should make retail sale	3	0.2
Distribute agricultural inputs to real farmer	3	0.2
Ensure a stable price of agriculture products	3	0.2
Ensure an effective feedback system	3	0.2
Ensure appropriate price for agriculture produce	3	0.2
Ensure flood protection guideline for agriculture sector	3	0.2
Ensure proper distribution of diesel	3	0.2
Establish agriculture advice center at village level	3	0.2
Distribute fertilizers at free of cost	2	0.1
Ensure appropriate recruitment policy	2	0.1
Ensure guideline for subsidy distribution	2	0.1
Ensure proper distribution of agriculture subsidy	2	0.1
Ensure protection of crop from wild elephant	2	0.1
Ensure soil testing facilities	2	0.1
Ensure subsidy on electricity	2	0.1
Formulate favorable policy to create international flower market	2	0.1
Monitor agriculture policy implementation	2	0.1
Need better policy for utilization of khash land	2	0.1
One SAAO for one village	2	0.1
Organize training on livestock	2	0.1
Recruit honest and qualified persons	2	0.1
Reduce price of seed	2	0.1
Subsidy should be given according to farmers' cultivable land holding	2	0.1
Arrange complaint centre at village level	1	0.1
Dealers should not make unauthorized sell	1	0.1
Distribute inputs through respective BS	1	0.1
Distribute irrigation machine in proper system locally	1	0.1
Distribute quality seed free of cost	1	0.1

Comment	Number of respondents	Percent of respondents
Distribute seeds and fertilizers free of cost	1	0.1
Distribute sprayer for pesticide use	1	0.1
Ensure a fixed price of seed	1	0.1
Ensure a guideline for exhibition	1	0.1
Ensure credit for share croppers	1	0.1
Ensure distribution of agriculture inputs free of cost	1	0.1
Ensure inspection agriculture inputs	1	0.1
Ensure monitoring of agriculture policy	1	0.1
Ensure monitoring of agriculture staff activity	1	0.1
Ensure monitoring of dealers	1	0.1
Ensure proper distribution of seed	1	0.1
Ensure proper supply of agriculture machineries	1	0.1
Ensure soil testing guideline	1	0.1
Ensure sufficient supply of agriculture machinery	1	0.1
Expand activity of SAAO	1	0.1
Formulate policy for interest free agricultural loan for poor	1	0.1
Formulate policy to distribute agriculture inputs through farmer group/society/CBO	1	0.1
Give allowance to poor farmer	1	0.1
Increase number of dealers	1	0.1
Initiate distribution of agriculture inputs through Id. Card	2	0.1
Make displaying price list at the shop mandatory	1	0.1
Monitor activity of dealers	1	0.1
Monitor distribution of subsidy	1	0.1
Reduce price of tractor	1	0.1
Reduce the complexity in the agriculture sector	1	0.1
SAAO should be deployed as per numbers of farmers	1	0.1
Subsidy should not just be enjoyed by elite persons	1	0.1
Subsidy should be given by UP Chairman	1	0.1
Total	1577	100.0

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