# Business Service Assessment

## Provision for good quality fertilizers, pesticides and micronutrients available in the market

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*This DRAFT report, prepared by IDE and KATALYST with a view to feeding into the design of BDS market development interventions in the vegetable and pond fishery sectors, provides an overview of the sector and points to interesting avenues for further investigation (service channels, business case for delivery, links to competitiveness, etc.) and intervention design. This assessment report does not reflect KATALYST's current methodology and final conclusions on the sub-sector.*

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## 1. The Process

IDE and KATALYST's Rural Market Development analysis particularly on Vegetables Sub-sector conducted between June and September 2003 pinned down the major constraints besetting the sub-sector. For this analysis, 105 Vegetables and related SMEs were visited and interviewed. A total of 25 (See Box 1.) constraints have been identified, described and catalogued. With these constraints, the team sketched out three broad yet possible business services that can address or strengthen the sub-sector.

**Box 1: Number of Constraints**

| *Type of Constraints* | *Number* |
|---|---|
| Input Supply | 6 |
| Product Dev. & Process Tech | 9 |
| Policy | 2 |
| Market Access | 7 |
| *Operation* Environment | 0 |
| Organization/Management | 0 |
| Finance | 1 |

The team then filtered the services via a set of four criteria (potential impact that will take place, potential number of beneficiaries of the service, Seasonality and appropriateness for IDE and KATALYST). The objective of this filtering was to identify three initial services to focus on. The selected services were: (a) Provision for good quality vegetables seed available in the rural market (b) Provision for good quality fertilizers, pesticides and micronutrients available in the market (c) Provision for improved knowledge of the farmers about the soil nutrient contents for deciding the proper doze and application method of fertilizers and pesticides.

After a series of deliberations, the team planned to do the three-service assessment exercise one by one. This report will incorporate all the information gathered regarding the second service assessment.

The team began by developing tools for assessing the demand (Farmers) and supply (fertilizers, pesticides and micronutrients suppliers) of better quality fertilizers, pesticides and micronutrients. To gain deeper understanding of the constraints facing suppliers and users of these inputs, the team preferred qualitative over quantitative data capture questions. A sampling frame consisting of twenty-two service providers and nineteen service users was planned. The actual business service assessment was carried out from 14 to 18 September 2003.

The team consolidated its findings and formulated eight underlying constraints, which hinder the smooth run of the service provision. Then it identified several interventions on which IDE and KATALYST can facilitate. The team also has a plan to arrange an FGD to validate the constraints related to the supply and demand of better quality fertilizers, pesticides and micronutrients, b) propose initiatives to address these constraints and develop the markets.

After the FGD, the team will take a closer look at each proposed intervention in greater detail and select some intervention areas that IDE and KATALYST may seriously consider. To do this, the team will apply the following criteria: (a) extent of its impact (income, employment, etc.) on SMEs, (b) number of SMEs (both directly and indirectly) that will benefit, (c) cost-effectiveness of the intervention, (d) chances of the intervention yielding in sustainable results, (e) IDE and KATALYST's capacity (including availability of human and financial

resources) to implement or manage the intervention, and (f) time needed to complete the intervention.

## 2. Description of the Service (Provision for good quality fertilizers, pesticides and micronutrients available in the market)

Fertilizers and Pesticides play an important role in crop production. Balanced use of fertilizer ensures higher yield and profit. Quality fertilizer and Pesticide are considered to be the basic input for increasing agricultural output and thereby achieving self-sufficiency in food production. BCIC produces fertilizer through its seven urea and one TSP/SSP fertilizer factories. District/Upazila level fertilizer committee distributes fertilizer through BCIC dealer. District/Upazila level fertilizer committee is responsible for monitoring of fertilizer quality and distribution. The private companies also import fertilizer and Pesticides. DAE DAE-Plant Protection wing regulates pesticides quality. Adulterated, admixture, date expired, below standard, band fertilizer and pesticides are sold in the market.
Since registration is not mandatory for production and marketing of PGR, Organic matter (OM) and mocro-nutrient, some producers produce and marketed poor quality PGR, OM, micro-nutrient.
Farmers are buying poor quality fertilizer, pesticide, PGR, OM etc. and don't getting the expected output. To improve the situation it is needed to ensure the availability of quality fertilizer and pesticides.

This service assessment report deals with quality fertilizers, pesticides and micronutrients (named as inputs in this report), which are very important for the production of quality vegetables.

**Box 2: The Objectives of the Focus Group Discussion**

- ✓ Validate constraints related to the supply and demand of quality fertilizers, pesticides and micronutrients
- ✓ Propose initiatives to address these constraints and develop the markets for better quality fertilizers, pesticides and micronutrients

## 3. Related Sub-sector Constraints

Unavailability of quality fertilizers, pesticides and micronutrients forces the farmers to go for poor quality, using adulterated /expired ones which leads to less production and high investment at farmers' level.

### 4. Market Information (Supply and Demand of the Service)

#### 4.1. The Inputs Supplier

Two types of fertilizer and Pesticide suppliers have been identified in the market; they are the Government Suppliers (BCIC: for fertilizer only), Private Companies (Both foreign and local).

#### 4.2. Market Size and Penetration

It has been found that the total demand of fertilizer in greater Rangpur is about 2 million metric ton per year and in terms of taka it is100 million. And the market size of pesticides and micronutrients in terms of taka is about 300 million per year. Most input sellers sell pesticides

and micronutrients along with fertilizers. The total number of this type of sellers is about 2000. There are about 1000 sellers who sell only fertilizers. In an average about 60-75 such sellers are there in each Upazilla. Table 1 shows the number of inputs sellers in different district of greater Rangpur.

**Table: 1**

| District | Rangpur | Lalmonirhat | Nilfamari | Gaibandha | Kurigram | Total |
|---|---|---|---|---|---|---|
| No of Dealer/seller Operating | 800 | 500 | 500 | 600 | 600 | 3000 |

### 4.3 The Demand-Side: The Farmers

About 60% of total population of greater Rangpur is producing vegetables commercially and they demand for quality inputs. Almost all of them have a better acceptance over local fertilizers and the reputed companies' pesticides and micronutrients.

#### 4.3.1. Satisfaction

**Fertilizer:** Farmers are not at all satisfied about the fertilizers they are using. TSP and MoP are the major two fertilizers they use, buy the farmers claim that those are adulterated and don't work well. Since Mop's color is very close to the color of brick dust, the sellers used to mix those and sell in the market. Again Single Super Phosphate (SSP) is sold as Triple Super Phosphate (TSP) in the market. Urea is another major fertilizer and local fertilizer has a good demand and acceptance in the farmers' level. But what is happening during the peak demand period the dealers increases its price though Government has a fixed rate to sell at farmers level. Again it is found that imported Urea (China) is less costly and so the sellers mix it with the local one and sell it claiming local Urea. For all the fertilizers the farmers claim that those don't carry the detail information (expire date, manufacturing date, batch no, lot no etc.). Again since small packets according to the farmers demand are not available, farmers are bound to buy from loose packet and thus the quality deteriorate. Weight is another point where farmers have their dissatisfaction; proper weight is not maintained in the packets. Even Government supplied fertilizers are opened and repacked outside and thus the weight manipulation takes place.

**Pesticide and Micronutrient:** Few pesticides have been banned by the Government, which had well acceptance among the farmers. Alternatives of similar efficacy have not marketed yet. Though some imported items are there, but those are highly expensive and not available everywhere. Again there are so many medicines of different companies and of course of different qualities for the same disease and pest attack. The consequence is, farmers cannot identify which to choose and therefore they depend mainly on the dealers/sellers advice. Sellers sell the product, which bring them highest profit. Again except the reputed companies ones, tagged price is not the actual selling price, in all cases farmers buy those by less. So the farmers never know what should be its real price. The specifications like price, ingredients, application method, expiry date, quantity, preservation techniques etc are not labeled properly in all pesticides and micronutrients. Only the reputed companies maintain those.

Table 2 shows the market share of non-quality and quality fertilizer, pesticide and micronutrient in greater Rangpur.

**Table: 2**

| **Input** | **Non-quality** | **Quality** |
|---|---|---|
| Fertilizer | Urea-15%, TSP-25%, MoP-30%, Gypsum-10% | Urea-85%, TSP-75% MoP-70%, Gypsum- 90% |
| Pesticide | 35-40% | 60%-65% |
| Micronutrient | 10% | 90% |

### 4.3.2. Awareness

Since there are different quality fertilizers, pesticides and micronutrients available in the market and all have been sold a rating of 1-5 could delineate a better awareness level at farmers level. In case of fertilizer it is 4, for pesticide it is 3 and for micronutrient it is 2. This is due to the reason that farmers are using fertilizers for a long day and they believe better fertilizers will increase the yield. For pesticides about 40% farmers try to buy the better quality (reputed company) ones and in case of micronutrients the percentage is about 30%. There are so many farmers (about 60%) by the non-quality pesticides due to unawareness and also due to unavailability of quality ones.

Farmers consider the following factors for determining better product.

**Fertilizer:**

- Correct Weight of the bag
- Non-mixed or non-adulterated
- Dryness
- Company name
- Bags are properly sewed
- Well structure of the TSP pellet
- MoP is fine pellet

**Pesticide and Micronutrient:**

- Production date, expiry date, quantity, ingredients, application method, company name have to be mentioned on the packet
- Maintain everything labeled on the packet
- Grains of micronutrients are well structured

### 4.3.3 Usage and Transactions:

For fertilizer there are some specific fertilizers that farmers use and the brand are also very few. But in case of pesticides and micronutrients numerous types of different companies for a specific purpose are there. Table 3 shows the use of fertilizers, micronutrients and pesticides of farmers per decimal land for tomato cultivation. It delineates the average use and standard for a particular farmer.

**Table: 3**

| | **Present Practice Per Decimal** | | | | **Standard Practice Per Decimal** | | | |
|---|---|---|---|---|---|---|---|---|
| **Fertilizer** | **Urea** | **TSP** | **MOP** | **Sulpher** | **Urea** | **TSP** | **MOP** | **Sulpher** |
| | 800 gm-1 kg, 1-twice | 1 kg-1.5 kg, once | 500gm – 800gm, once | 250gm-300gm, once | 2kg 200 gm 3 times | 1kg 800gm, once | 1 kg, once | 600gm once |
| **Micro-Nutrient** | Boron | Zink | Vitamin | | Boron | Zink | | |
| | 10gm, 2-3 times | 5-10gm, once | 10 ml, 3 times | | 5gm, once | | | |
| **Pesticide** | Dustban | Magic | | | | | | |
| | 10 ml, twice | 10-12 ml, 1-2 times | | | | | | |

**Mode of sales/ Transaction:**

- Cash
- Cash + Credit

| | | |
|---|---|---|
| **Fertilizer:** | Cash | 50% |
| | Cash + Credit | 30% |
| | Credit | 20% |
| **Pesticide:** | Cash | 80% |
| | Cash + Credit | 15% |
| | Credit | 5% |
| **Micro Nutrient:** | Cash | 80% |
| | Cash + Credit | 15% |
| | Credit | 5% |

The above figures show that pesticides and micronutrients are mostly sold in cash mode. Even there is some credit facility but it has to be paid within one week to one month.

### 4.4 The Supply-Side: The Inputs Suppliers

As mentioned earlier there are basically two types of fertilizer suppliers, one is the Government body and the other is the private sector. But in case of pesticides and micronutrients the entire supply is provided by the private sector.

#### 4.4.1 Seasonality

The peak season for fertilizer starts from September and continues up to March. The demand rises due to the production of vegetables produced in this season. Except this round the year

there is a steady demand for fertilizer. For pesticides and micronutrients the season is more or less same.

### 4.4.2 Relationships and Transaction

The farmers are used to go to the sellers for fertilizers, pesticides and micronutrients. It is found that in an average a farmer needs to go to such a dealer/seller for four times during a season for a particular vegetable. Generally during the purchase the sellers tell the farmers about the pesticides and micronutrients' features. For fertilizer the farmers usually don't ask the seller anything about its doze and application method. Distributors don't get any credit from the Government supply but get from the importers. Distributors provide 20% credit facility to the dealers' level.

### 4.4.3 Users, Trends and Marketing

The vegetables farmers are not the only users of fertilizers, pesticides and micronutrients, but other crop producers also use this inputs. Recently granular Urea has created a good demand among the farmers. BCIC plays promotional and marketing activities for their fertilizers. The private companies also have their marketing officers in the field level.

### 4.4.4 Capacity

The fertilizers that we are talking about are entirely produced by the Government except the imported portion. The imported fertilizers are marketed by the private sectors. Table 4 shows the market share of local and imported fertilizers in case of different fertilizers.

**Table: 4**

| **Fertilizer** | **Local** | **Imported** |
|---|---|---|
| Urea | 80% | 20% |
| TSP | 70% | 30% |
| MoP | 0% | 100% |

In case of pesticides and micronutrients the entire market is controlled by the private sectors (both multinational and local). Some leading companies in this sector are:

- Syngenta
- Mcdonalds
- Bayer Crop Science
- ACI
- Aventis

These companies capture about 50%-60% market share of total demand of pesticides and micronutrients.

### 4.4.5: Future Improvement

A major portion of the farmers is still below the minimum awareness level for using the proper pesticides and micronutrients. Still they go for the cheaper ones and don't count their total cost for using the low quality product for several times for a specific purpose. An awareness campaign could improve the scenario. Awareness is also required to identify the better product. In case of local fertilizers, Government monitoring in the dealers level could

ensure the exact price of urea in peak season. Small sized pack of different fertilizers could solve few problems regarding non-efficacy.

## 5. Constraints and Opportunities

With the Business Service Assessment survey, the IDE and KATALYST team identified eight main constraints, which have to be presented, discussed and validated by the FGD participants. The validation process will be consisted of four steps: (a) validation of business service constraint, (b) validation of constraints to the provision of the business service, (c) parameters for the formulation of interventions, and (d) formulation of interventions (e.g., what the participants and the IDE and KATALYST can do to resolve the constraint). The eight constraints are:

**Fertilizer:**

1. High price of urea during peak season results in less/ improper usage by the farmers, which causes less production.
2. Less weight compared to labeled weight (50 kg) makes the sellers sell in higher price to adjust his loss, which ultimately increase the farmers buying price and result is less use.
3. Lack of proper knowledge and application of storing and handling procedures of the sellers leads low affectivity of the fertilizers.
4. Lack of knowledge of the farmers for identifying the imported and local TSP causes them get cheated by buying the imported one with higher price told as local.
5. Lack of knowledge of the farmers for recognizing the original and the adulterated MoP causes them get cheated.

**Micro Nutrient:**

6. Since registration is not mandatory for production and marketing of Plant Growth Regulator (PGR), Organic Matter (OM), Boron etc low quality products have been existed in the market, which affects the farmers resulting in productivity.

**Pesticides:**

7. Duplicate and low quality pesticides have been marketed by some companies which causes the farmers get cheated and leads to higher uses rate and thus production cost.
8. Absence of any specific selling price in the packet leads the farmers get confused for identifying the better quality product which ultimately increases the usage rate and thus production cost.

## 6. Providers of Seed to Target by IDE and KATALYST

## 7. Potential Impact on the rural market

By improving the quality of fertilizers, pesticides and micronutrients the vegetable sub-sector is expected to (a) achieve higher quality vegetables, (b) increase yield and income, and (c) expand the market (d) overall growth.

## 8. Illustrative Interventions

After the service assessment still we are on process for arranging a FGD to validate what we have found in the field. But from our field experience and our team meeting we have summed up the following potential interventions where IDE and KATALYST facilitation may be needed:

**Box 3: *IDE and* KATALYST's Interventions Selection Criteria**

- ✓ Extent of its impact (income, employment, etc.) on SMEs,
- ✓ Number of SMEs (both directly and indirectly) that will benefit
- ✓ Cost-effectiveness of the intervention
- ✓ Chances of the intervention yielding in sustainable results
- ✓ *IDE and* KATALYST's capacity (including availability of human and financial resources to implement or manage the intervention
- ✓ Time needed to complete the intervention.

**Constraint 1: High price of urea during peak season results in less/ improper usage by the farmers, which causes less production.**

**Proposed Facilitation Activities:**

- Meeting with Bangladesh Fertilizer Association (BFA), Ministry of Agriculture (MOA), Department of Agriculture Extension (DAE) to regulate price.
- Promotion of organic fertilizer through awareness campaign
- Training on preparing organic fertilizer

**Constraint 2: Less weight compared to labeled weight (50 kg) makes the sellers sell in higher price to adjust his loss, which ultimately increase the farmers buying price and result is less use.**

**Proposed Facilitation Activities:**

- Meeting with Bangladesh Fertilizer Association (BFA), Ministry of Agriculture (MOA), Department of Agriculture Extension (DAE) to ensure the weight labeled on the packet.

**Constraint 3: Lack of proper knowledge and implementation on storing and handling of fertilizers at sellers' level leads to low efficacy of the fertilizers.**

**Proposed Facilitation Activities:**

- Awareness campaign in buyers and sellers' level in association with BFA, DAE

**Constraint 4: Lack of knowledge of the farmers for identifying the imported and local TSP causes them get cheated by buying the imported one with higher price told as local.**

**Proposed Facilitation Activities:**

- Awareness campaign at farmers' level
- Impose rules and regulations for not selling imported fertilizer as local in association with BFA
- Meeting with dealers for their motivation

**Constraint 5: Lack of knowledge of the farmers for recognizing the original and the adulterated MoP causes them get cheated.**

**Proposed Facilitation Activities:**

- Awareness campaign at farmers' level
- Meeting with dealers for their motivation

**MICRO NUTRIENTS**

**Constraint 6: Since registration is not mandatory for production and marketing of Plant Growth Regulator (PGR), Organic Matter (OM), Boron etc, low quality products have been existed in the market, which affects the farmers resulting in less productivity.**

**Proposed Facilitation Activities:**

- Meeting with Plant Protection Wing of DAE and Ministry of Agriculture to make registration mandatory for production and marketing of PGR, OM, Boron etc.
- Promotion of organic fertilizer through awareness campaign
- Training on preparing organic fertilizer

**PESTICIDES**

**Constraint 7: Duplicate and low quality pesticides have been marketed by some companies which causes the farmers get cheated and leads to higher uses rate and thus production cost.**

**Proposed Facilitation Activities:**

- Awareness campaign at farmers' level
- Advocacy and lobbing with the Department of Agriculture for preventing the copycat of products.
- Motivation meeting with the sellers

**Constraint 8: Absence of any specific selling price in the packet leads the farmers get confused for identifying the better quality product which ultimately increases the usage rate and thus production cost.**

**Proposed Facilitation Activities:**

- Create pressure on the sellers by the companies and association for not selling product below MRP as mentioned onto the label.

## 9. Conclusions

The team has identified possible interventions that could be verified in the validation workshop. These are: awareness campaign on selecting and using quality inputs (demonstration, using mass media) for the farmers, motivate the sellers for selling the good quality product, capacity building of pesticides sellers/lead farmers by the pesticides companies and Govt. institutions and establish linkages with farmers.