



# Inclusive value chain development: experience of participatory market system development approach in Bangladesh

Mozharul Islam

**Abstract:** *The aim of this article is to reflect lessons learned in developing an inclusive value chain through participatory market system development (PMSD) by Practical Action in Bangladesh. PMSD contains 10 structured sequences of steps (called a roadmap). This article captures eight steps of PMSD, which are Market system selection, Preliminary mapping and analysis, Strategic design and planning, Empowering marginalized actors, Engaging key actors, Participatory market mapping (PMM), Participatory planning, and Facilitating changes. Through PMSD we are selecting viable market systems for small-scale farmers; developing preliminary market maps, interventions, and sales and service centres for their empowerment; engaging value chain actors; organizing PMM workshops with market actors; and facilitating farmers' groups to develop production plans. The challenges we face are: analysis and preparation of reports on all subsectors; the short time duration for intervention design; unskilled staff members of partner NGOs and, at the beginning, less cooperation from public and private sectors; ensuring participation of local government representatives and government officers; organizing follow-up PMM workshops at Upazila and district level; and involving traders to aggregate input demand and supply of product.*

**Keywords:** participatory market system development (PMSD), small-scale farmer, under-developed and semi-developed value chain, temporary subsidy and cost sharing, rural sales and service centre (RSSC)

## Introduction

In context, rural markets in Bangladesh markets, market players and market access issues small-scale farmers are characterized by the following features:

- Markets (and the nature of exchange in them) are wide and diverse; there are diversities in the forms of various relationships among market players, types of produce, different systems of production and marketing, seasonality and regional variations.
- The market players are not only buyers and sellers, rather they have various social and political (power) relations among them that influence the process and outcomes of market interactions (Enam, 2007).

Against the backdrop of different components of the market – in both rural and urban settings – there exists non-functionality among different groups in the market as the needs and constraints are mostly not analysed from a solution-oriented perspective. Rather, exploitation of information and services by traders makes poor producers vulnerable, which makes the non-functional market system one of the root causes of their poverty. This is the point where Practical Action, in terms of fighting poverty with technology justice, introduced the human solution of greasing the uneven gaps in the gear of existing market systems to make it roll smoothly, which is known as the participatory market system development (PMSD) approach. The aim of this article is to accumulate the learning from experience of implementing PMSD in Bangladesh from a critical point of view in order to analyse the implications of different steps and to bring out the best possible solution for mitigating the key challenges of PMSD on the ground. This article points out the loose ends of the existing PMSD intervention and aims to tighten the same loose ends with realistic recommendations to make the wheel of PMSD more functional, dynamic, and rolling smoothly towards the path of economic sovereignty of producers.

Market access problems can affect areas (due to remoteness or lack of infrastructure) and groups, such as the illiterate or poorly educated, minority ethnic groups, or those not speaking the official national language, and women. The common problem of disadvantaged areas and groups is personal immobility, which frequently impairs responses to changing incentives. People from disadvantaged areas find access to markets restricted by high physical costs and by their lack of knowledge of market mechanisms, a consequence of lack of information and organization. This is compounded by the structure of the markets themselves, the limited market intermediaries, and asymmetrical market power (IFAD, 2001).

Offering a solution to the backdrop of non-functional agro market systems, the participatory market system development (PMSD) approach is considered to be one of the important for inclusive value chain development. PMSD is a systemic market development approach which allows representatives of all market actors including small-scale farmers (landless (0–0.50 acres), marginal farmers (0.50–1.50 acres), and smallholders (1.50–2.47 acres or  $\leq 1$  ha of land) in a selected subsector to work together and find out the problems and opportunities of the subsector; to take initiatives for solving problems so that all market actors benefit and mutual trust improves; and to develop sustainable business relationships among the market actors. It is based on three main principles: facilitation, participation, and systems thinking. The PMSD roadmap contains 10 structured sequences of steps designed to inspire, guide, and train practitioners in how to facilitate PMSD on the ground. This article captures steps 1 to 8 (for more details, see Practical Action, n.d.).

Practical Action in Bangladesh has practised almost all of the steps of PMSD and also promotes gender equality through improving and safeguarding women's access to income, assets, and jobs. For example, its project 'Making Markets Work for Small-holder Farmers and Rural Producers' worked with 4,331 poor livestock producers, 90 per cent of whom were women. The final evaluation of this project showed that women increased their decision-making, control over, and access to resources, through groups and learning sessions, savings, and credit.

This article describes how we involved poor, small-scale farmers at different steps of PMSD and our experiences, challenges, and learning at each stage.

## Market system selection

### *Experience*

The first stage in PMSD is market system selection. Practical Action in Bangladesh conducts workshops to select viable subsectors or market systems. Participants of the workshops develop and review criteria according to local reality and the needs of farmers. Candidate subsectors are ranked and shortlisted according to total scores against criteria. For example, a subsector selection workshop was held in Sirajganj on 14 June 2010, and was attended by 38 value chain actors who are mainly farmers, traders, and service providers. Participants were divided into three groups according to *Upazila* (districts are divided into subdistricts called *Upazila*). Each group was asked to select potential subsectors. The criteria for selecting a subsector are: demand in the market for particular products, potential for increased enterprise profit, potential for employment generation, opportunity to increase cultivation among poor producers, opportunity to apply improved technology, and representation of women in the subsector. On the basis of their recommendations, the products shown in Table 1 were selected.

At first, participants of the workshop shortlisted 46 subsectors and then selected 23 according to highest scores given. For example, three groups worked on field crops subsectors. Out of seven product subsectors, they gave the highest score for three products (high yielding variety rice (HYV) scored 63, maize 50, mustard 55), which we selected. Out of the shortlist, four subsectors (wheat scored 47, *mug* 49, chilli 48, onion 45) scored less and were dropped (Practical Action Bangladesh, 2010).

**Table 1** Results from a subsector selection workshop

<i>Subsector</i>	<i>No. of product subsectors shortlisted</i>	<i>No. of product subsectors selected</i>	<i>Name of selected product subsectors</i>
Field crops	7	3	Rice (HYV), maize, mustard
Winter vegetables	9	3	Potato, bitter gourd, cucumber ( <i>Khira</i> )
Summer vegetables	6	3	Red pumpkin, ash gourd, ridge gourd
Fisheries	8	8	<b>Monoculture:</b> mono sex tilapia; <b>Cage culture:</b> tilapia <b>Carp poly culture:</b> silver, <i>Rui</i> , <i>Mrigel</i> , <i>Sor Punt</i> i, common carp, bata
Livestock	2	2	Beef production, milk cow rearing
Agro-processing	14	4	Seed storage, potato storage, milk processing, dry fish
<b>Total</b>	<b>46</b>	<b>23</b>	

It is recommended to analyse all shortlisted subsectors rigorously. In the earlier example, out of a list of 46 subsectors, we selected 23 as having potential and finally decided to work on all 23. We usually assess the markets of these top 23 and omit the other 23. Ideally, we should prepare brief market assessment reports on all 46 product subsectors and explain why we decided not to work on the other 23 subsectors. These reports would be useful for others to understand why we chose or dropped candidate subsectors.

### **Challenges**

Preparing brief market assessment reports on all potential subsectors may be ideal, but the analysis and preparation takes time and energy of personnel.

In addition, secondary data on all subsectors may not always be available. For example, when we analysed the pork subsector in Bangladesh, we found only a limited amount of research and study, and that was focused on whether pigs are responsible for swine flu. As national demand and supply data for pork was not available, we have estimated this data by discussing with large pork traders and other value chain actors.

### **Learning**

Inclusive value chain development projects might consider an inception phase and should allocate enough time as well as skilled personnel to analyse all candidate subsectors rigorously. The time span of this inception phase might be from four to six months, depending on the size of a project.

## **Preliminary mapping and analysis**

### **Experience**

This step helps us to analyse the market position of small-scale farmers. Market maps in each project location for the selected subsector have both similarities and differences, depending on whether the subsector in that location is *under-developed* (for example, there is existing market demand, but farmers are unorganized and the potential of farmers for high-value agriculture production and processing is unrealized) or *semi-developed* (farmers have progressed from subsistence farming, and farmers' organizations or cooperatives exist, but they are ineffective and they don't have access to profitable markets). On the basis of the differences between these market maps, specific strategies must be developed for different project areas.

### **Challenges**

The main challenge encountered at the preliminary market mapping stage is the availability of reliable data/information from both primary and secondary sources. Some of the traders hesitate to provide volume, price, and value of the products they buy and sell. Identifying the leading channel and obtaining information from this source can help to triangulate findings from different sources. Poor skill of partner staff is another challenge.

### Learning

To develop cost-effective interventions that do not require a long lead time, interventions can be designed on the basis of rapid assessment, or based on previous experience in other locations for similar groups of small-scale farmers. Scaling up across similar groups is an advantage for developing cost-effective interventions, but this approach may not work if the farmers are from different groups such as *Adibashi* and *Dalit* farmers or tribal people. In this case, there should be scope to review interventions and strategy after the participatory market mapping (PMM) workshops (see below). It is advantageous if the project has the scope to review interventions, budget, and the activity plan each year.

## Strategic design and planning

### Experience

A specific intervention is developed at this stage. Market assessment reports are background documents for developing sector strategy and interventions. Since the PMM is not always very rigorous, we need to collect data information again to make the market assessment report and sector strategy more accurate.

Table 2 presents an example of an intervention designed for a food facility project.

### Challenges

The main challenge of strategic design is the lack of market assessment skills among staff members of partner NGOs, combined with the lack of cooperation from public and private sector actors, and the short amount of time allocated to analyse problems for completing an adequate market assessment. But within about two months of a project, at least basic PMSD skills of NGO staff have been developed (sufficient to deliver outputs) and rapport with public and private sectors has been built.

### Learning

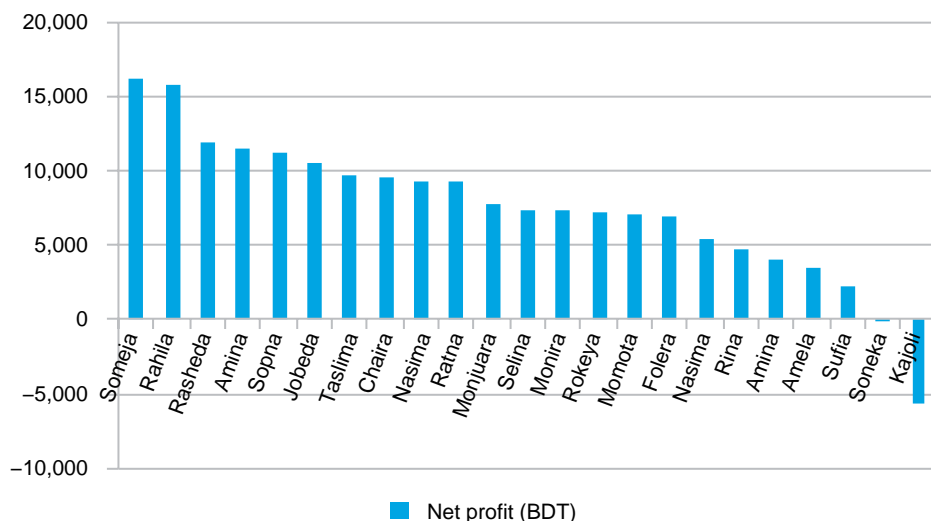
Temporary subsidy and cost sharing is an important tool for developing an inclusive value chain. To develop the supply chain of quality inputs, we analysed input markets during implementation of the EC supported Food Facility Project in 2010. We found

**Table 2** Example intervention for beef value chain

<i>Major constraint</i>	<i>Impact of the constraint</i>	<i>Possible solution</i>	<i>Solution provider</i>	<i>Intervention details</i>
<i>Adivasi</i> beef producer buys local breed yearling (a bull aged 18 months) and rears bull for 18–24 months. Less awareness of cost benefit	Reduced profitability	Reduce length of production cycle from 18–24 months to at least 6 months	Beef producer will attend learning session with facilitator – mainly Paravet/traders – supported by project staff. More clients are the incentive of Paravet and regular supply is the incentive of traders	Learning session on improved rearing practice and shorter production cycle

that the quality inputs at big assembly markets at district or sub-district levels are not available at village- or union-level *bazaars*. As landless people have almost nothing to sell and most of the marginal farmers have only very small quantities of vegetables and milk, we decided to provide subsidies of yearlings to landless women and quality vegetable seed and manufactured feed to marginal farmers through local traders, and by sharing costs with the farmer. From this intervention, farmers learned about appropriate doses of inputs and began to build relationships with input suppliers. Annual impact assessment of the project showed that the majority of the landless and marginal who had previously been bypassed by microfinance institutions (MFIs) had received credit from those MFIs and were now expanding their farming business. Mick Howes, an independent evaluator, reported that farmers reinvest in production (livestock, cowshed, net) and livelihood protection (de-mortgaging, house building) (Howes, 2011). Practical Action has withdrawn input support gradually. The final evaluation team reported that in general, farmers remain engaged and have reinvested in buying new cattle (Coady International, 2012); however, only very few were able to increase the number of cows from one to two.

After phase-out of this food facility project, Practical Action and Business Innovation Facilities (BIF), a consultancy firm, worked together and linked a group of 25 landless women to Pabna Meat, a local beef processing company, and a local MFI. Pabna Meat trained these women to prepare cattle feed based on a cost-effective recipe; they supplied bulls to the women and the MFI provided credit. Out of the 25 bulls, Pabna Meat purchased 18 from the women directly, five of them were sold in the local market and two were excluded at the beginning due to a lack of interest from the women. Figure 1 shows the profit and loss made by the women in Bangladeshi taka (BDT).



**Figure 1** Net profit/loss made by women on selling their bulls

Note: US\$1 = BDT80

Average purchase cost of a bull was BDT27,970 (US\$350) and average rearing cost was BDT8,819 (\$110), which includes feed, fodder, and interest. Average sales price was BDT43,013 (\$538) and average total cost was BDT36,789 (\$460). Therefore, average net profit within 50 days was BDT6,224 (\$78; 17 per cent).

## Empowering marginalized actors

### *Experience*

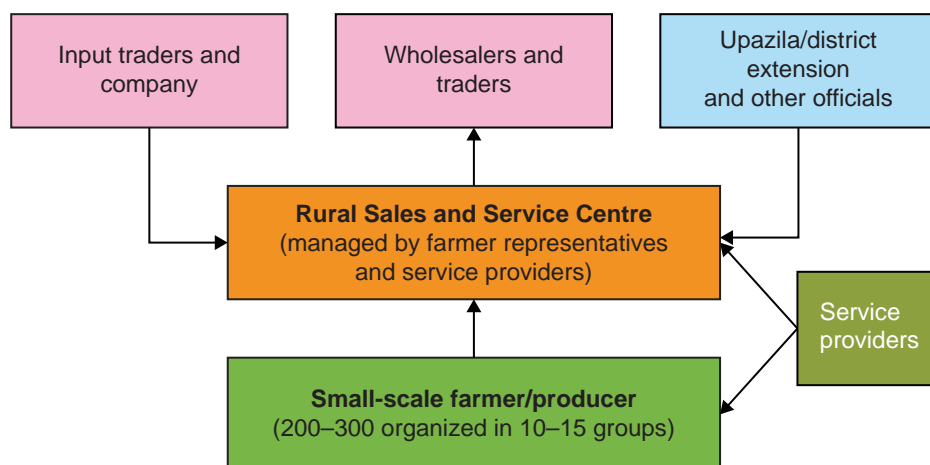
Most small-scale farmers are subsistence farmers who are facing the impact of rising food and input prices. The main constraints faced by small-scale farmers are: a) lack of farming knowledge and skills, b) lack of access to improved technology and quality inputs, c) lack of access to credit, and d) lack of power to influence markets or develop networks with key market actors. They have also limited access to government and private services, technologies, and information, which restricts chances of improved production, processing, and marketing.

Though small-scale farmers are collectively big consumers of agricultural inputs and big suppliers of products, individually their demand and supply is limited, which makes them marginalized in the system. To transform this system, Practical Action facilitates development of subsector-based farmers' groups. The size of these groups depends on the availability of farmers in a selected subsector of a particular production cluster (village, sub-village, or *para*). There are approximately 20–25 members, with a structure of 3–5 informal leadership positions selected by group members by consensus. The leadership positions have the responsibility of conducting meetings, group planning for production and marketing, negotiating with traders and service providers, networking and establishing linkages with relevant government extension departments.

The Rural sales and service centre (RSSC) is one of the innovations of the EC-funded Food Facility project. RSSCs act essentially as informal venues providing farmers with access to inputs/services and as a coordination point for bulking up produce and negotiating sales with larger buyers. Figure 2 shows how a RSSC works for rural small-scale farmers as an alternative marketing system.

About 200–300 small-scale farmers or 10–15 groups and two to three service providers are organized and develop a RSSC, which is managed by group representatives and service providers. Service providers offer assistance through RSSCs or to individual farmers. Input supply companies or input traders deal with farmers through RSSCs according to aggregated demand. RSSCs contract with traders or wholesalers and supply produce for the farmers. Government extension officials provide extension services to farmers through the RSSCs.

The RSSC emerged from a need to fill the gap for an organization through which small-scale farmers would become collectively more efficient, competitive, and capture a greater share of the value of the market system. Farmers in particular benefit from better access to buyers, better prices, and from avoiding taxes/bribes necessary at local marketplaces (*hats*). Service providers benefit from access to customers, sales of inputs, and a modest agreed sales commission. The ability to



**Figure 2** Rural sales and service centre diagram

bulk up and coordinate purchase of inputs and delivery of produce to buyers (often direct from Dhaka) is key to the value addition.

Currently, ACI, Pabna Meat, and 12 similar large companies are promoting their seeds, fertilizers, pesticide, feeds, technology, and agricultural equipment through direct investment in training, demonstration, research, and contract farming agreements with RSSCs. For example, Practical Action has signed an agreement with ACI for tomato contract farming through a RSSC that reaches 200 farmers.

### **Challenges**

Small-scale farmers always need immediate cash upon sale of their product, whereas companies and big traders require a considerable time (one to four weeks) to pay. At the same time, input supply companies require the RSSC to have a certain amount in its bank balance before it will supply inputs in bulk, and RSSCs usually do not have such a balance. To tackle these challenges, RSSC developed a local input trader from the group who invests money and sells quality inputs to producers. The RSSC also developed one or two local output traders. These local traders contract with large outside buyers/traders and provide a selling service to farmers, either buying directly from the farmer or by connecting the farmer with the buyers; for this service, he or she earns profit or commission from the buyer. Farmers benefit by receiving a good price (2 to 5 per cent more) compared with the local market price.

### **Learning**

However, if we engage the public and private sector from the beginning for interactive dialogue and negotiation with farmers, we would then have better scope to develop better business relationships. Our prime role might be to develop the capacity of the group leader on group management, leadership, bookkeeping, and negotiation. Our facilitation strategy should have a clear exit plan from the



beginning. We should find alternative facilitators from value chain actors and should have provision of incentives for those facilitators. We should develop win-win relationships with those facilitators so that facilitation will be continued beyond the project. For example, we are targeting service providers for facilitation of group formation and learning sessions. We should expand this good practice for facilitating knowledge and skill on quality inputs by targeting input companies, and for developing skill on improved technologies by targeting government's extension departments. We also have scope to involve output traders during formation and facilitation of groups.

## Engaging key actors

### *Experience*

Practical Action facilitated local NGOs, groups, and RSSCs to invite market actors from both private and public sectors to a meeting to develop a local economic development forum (LEDf) at *Upazila* or district level. (The district is the local administrative unit; in all, there are 64 districts in Bangladesh.) The intention is to engage a wider range of market actors for working together to improve the market environment. LEDf members usually sit quarterly to review progress of the current quarter and develop a business plan for the next quarter. Practical Action facilitates the formation meeting and then supports NGOs and RSSCs to organize and facilitate quarterly meetings. Over time, the president of the LEDf (government officer or chief of local government) shoulders the responsibility of organizing the meetings.

The following is an example of an EU-funded project that developed dairy and beef value chains. This project has four district-level LEDfs in four working districts, with representatives from district livestock departments, government's schedule bank, journalists, ministry of youth development, cooperative department, Bangladesh Small and Cottage Industries Corporation (BSCIC), and other related extension departments, service providers, producers, traders, etc. The issue of loans was discussed in the LEDf meeting by the dairy value chain actors and a number of meetings were held with listed financial institutions and LEDf members. As repayment schedules and the size of loans do not suit the production cycle of beef and the price of cows, LEDf worked to influence financial institutions to customize their credit policy, increase the loan ceiling and duration of repayment, and ease the requirement for collateral security, among others. As part of that, LEDf members along with senior personnel of financial institutions visited different value chain actors of the milk value chain, identified their problems and requirements, and assessed their capacity for loan repayment.

Now these institutions have a higher average loan amount (\$641, compared with \$256 previously), monthly repayment (previously weekly), one month grace period (previously no grace period), and a loan duration two years (previously one year). As a result, 921 dairy value chain actors (producers, Paravets, collectors, feed and medicine sellers, grass producers) have received a credit amount of \$210,014 since 2009 (\$1 = BDT80).

### ***Challenges***

Since local government representatives and government officers are busy for different purposes, it is difficult to schedule LEDF meetings. Again, as collective purchase and collective selling are almost new ideas, the facilitator needs considerable time to explain the incentives for the private sector to motivate them to work together. An exposure visit at the beginning of a project to another project area could be useful to explain incentives.

### ***Learning***

The LEDF can better influence in the following government and private sector organizations:

- Bank and microfinance institutions: directly connected and established relationship with the small-scale farmers, traders, and service providers. As a result, farmers, service providers, and traders involved in a value chain could receive loans from MFIs and banks.
- Research and extension departments of government (BARI, BSCIC, youth development) and NGOs: farmers and service providers could receive training and technical cooperation from them.

## **Participatory market mapping**

### ***Experience***

Initially, Practical Action organized PMM workshops at *Upazila* (Sub-district) or district level to validate or review the preliminary market map discussed above.

### ***Challenges***

It is difficult to organize follow-up workshops at *Upazila* and district level for a wider range of actors. Even if we organize workshops with those stakeholders, they have been found to be less useful because farmers' groups have a diversified set of village-level constraints that cannot be influenced by *Upazila* or district-level stakeholders. To consider reality, we might organize follow-up PMM workshops at Union or even at village level. RSSCs at village level can work together with project staff to organize these workshops.

### ***Learning***

Development of key questions after PMM workshops does not always work well as we need more in-depth information during preparation of the value chain analysis report. Therefore, we should organize a series of consultative meetings with different value chain actors including government departments before and even during preparation of the value chain analysis report.

## Participatory planning

### *Experience*

We have been facilitating farmers' groups and RSSCs to develop their vision and business plan (both activity and financial plan). Farmers' groups developed a participatory production and marketing plan two months before cultivation and aggregated all action plans at RSSC level. RSSC leaders share aggregated demand for inputs to the input traders or input supply companies in order to get inputs at wholesale price/dealer rate (10–15 per cent less than retail price).

Farmers are more interested in having inputs at reduced price but show less interest in selling products collectively. One of the reasons behind this attitude might be that they need immediate cash for paying loans and purchasing daily necessities.

### *Challenges*

To involve traders in aggregating input demand and supply of products is a challenge because traders are usually busy and they follow their own business model. Considering this reality, we have developed/involved marketing service providers for both inputs and outputs from group members with provision of commission.

### *Learning*

We should have an exit plan for our facilitation and always seek market-based solutions for ensuring sustainability. For example, if we involve input and output traders from the beginning of formation of the group and RSSC, they will understand their incentives and will definitely agree to work as a marketing service provider.

## Facilitating changes

### *Experience*

The main role of the facilitator is to facilitate farmers, market actors, and institutions, i.e. farmers' groups, RSSCs, LEDE, and service providers' associations. The following is an example of facilitation of farmers and service providers of a project:

The EC-funded Food Facility project facilitated 15,000 small-scale farmers, federated into 610 groups, to adopt and improve agricultural technology, establish a sustainable supply system of quality inputs, increase incomes, and achieve greater food security. Practical Action recognized producers' critical lack of good-quality inputs and services and decided to develop the enterprises of local service providers. Through the project, 365 service providers (Paravets, agro-machine rental and input traders) developed greater knowledge and linkages with the established private sector and government agencies that allowed them to source high-quality inputs and knowledge. Service providers were enabled to develop a credible track record and greater trust between them and the farmers.

### **Challenges**

The facilitator requires enough energy and time at the beginning to make groups and RSSCs functional. Exposure visit to similar institutions could be useful for building confidence of representatives of those institutions.

### **Learning**

The project should transfer responsibilities for the facilitation of the RSSC to the private sector. For example, as RSSCs are a trade body, it is the responsibility of traders and companies to facilitate its improvement. The main role of Practical Action should be to build capacity of RSSCs to work with the public and private sectors.

### **Conclusion**

Since the beginning of the PMSD intervention in Bangladesh, Practical Action, through the process of bringing in systemic change in the existing markets, has proven to be a reliable facilitator in the sector. With the evolution of the PMSD approach, the organization has also graduated from a pilot, to tester, to a knowledgeable and experienced facilitator. Such evolution over time seeks graduation of the approach to a demand-driven solution profile, where continuous consultation and validation with learning are required. From this point of view, while walking through the path of implementing PMSD, experts, implementers, and relevant stakeholders have gathered a firm set of learning, which has been captured in this article. Coming to the aim envisioned – realistic and humanly possible solutions for making PMSD more functional – a great deal of learning has contributed to these solutions. The four best solutions are mentioned below in no preferential order:

- The project should have an adequate time span at the beginning as an inception phase to analyse all candidate subsectors. We should exercise a series of consultative meetings with value chain actors and relevant government departments during preparation of value chain analysis reports.
- The governance structure of the RSSC should be made inclusive of both producers and traders so as to maintain a balance of power in the equation of PMSD.
- Traders, agriculture input supply companies, and processors should be involved at the time of formation and facilitation of groups and RSSCs. The project should plan from day one to transfer responsibility of facilitation of groups and RSSCs to the private sector. The main role of Practical Action should be to build capacity for groups and RSSCs to work with private and public sectors.
- The engagement of the private sector is a crucial factor for making the PMSD interventions sustainable, which can play a catalytic role in the system to help the wheel of PMSD roll smoothly.

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