

Institutional Innovations and Markets Linkages for Poverty Alleviation and Sustainable Development of Small Scale Farmers

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Abstract

Poverty alleviation and rural development can not be understood without understanding the agricultural institutions and markets on which many rural households depend. Virtually all households are, by preference, both producers and consumers, buyers and sellers; and many sell agricultural produce and buy their food at different times of the year. However, rural households, for one reason or another, are unable to interact with the institutions and markets and indeed, in many parts of the developing world rural poor often cannot improve their living standards since they face difficulties in accessing these institutions and markets. Countries like India, China and Thailand are no exception to this. Assisting rural poor people in improving their access to institutions and markets must be a critical element of any strategy to enable them to increase their incomes and improve their livelihoods on sustainable basis.

If it is true that access to institutions and markets is of critical and immediate importance to the rural farm households, it is also evident that they are a prerequisite for enhancing agriculture-based economic growth and increasing rural incomes in the medium term. Rural incomes will not be substantially increased by exclusive emphasis on subsistence food crop production; rather, more market-

oriented production systems are needed. These require the intensification of agricultural production systems, increased commercialization and specialization of production. Commercialization must be built upon the establishment of efficient and well-functioning institutions, marketing channels and trade systems – that keep transaction costs low, minimize risk and extend information to all players and that do not either exclude, or work contrary to the interests of the poor particularly those living in areas of marginal productivity and weak infrastructure.

The CFC-FAO-ICRISAT project on Enhanced utilization of sorghum and pearl millet grains in poultry feed industry to improve the livelihoods of small scale farmers in Asia is working with the farmers in the dry land areas in Andhra Pradesh, Maharashtra and Karnataka states of India. Efforts are made to link farmers to research institutions and through appropriate market linkages the end users. This enabled the project farmers to get access to improved technologies for production and higher prices for their farm produce. The project adopted innovative institutional linkages (backward and forward). Prior to the initiation of the project farmers were typically constrained by lack of market information, small surpluses, and lack of bulk marketing practices, an overly restrictive legal framework for farmer group / association formation and its registration, the lack of an effective legal framework for contract enforcement, high market charges, lack of competitive pricing etc. The project addressed some of the important constraints to help the farmers to fetch better price for their produce and improve over all income levels for better development on a sustainable basis.

1. Background and Rationale

Sorghum and pearl millet represent virtually the only crop options for small scale farmers in the dry semi-arid tropics. During the last several years, these crops have been pushed to more and more marginal areas where other crop options are limited. Also, the decline in area under these crops has reached the lowest ceiling level since it meets both food and fodder needs of small and marginal scale farmers with integrated crop and livestock systems. In many sorghum and pearl millet production regions, stover from these crops is the only source of feed in the dry months. Producers in these areas are often

confronted with limited effective market demand for their small surplus grains after meeting home consumption. As such, they remain amongst some of the poorest in rural areas.

At the same time new alternative markets are emerging for rainy season sorghum and pearl millet grain uses. Sorghum is in the initial stages of entering the commercial chain in both livestock and poultry feed, food industry, production of alcohol, starch and other products. To help farmers ride the wave of the changing demand patterns for sorghum and pearl millet a project was envisaged to mobilize groups of small-scale sorghum and pearl millet farmers to improve crop productivity, enhance harvesting, bulking, storage and handling practices of sorghum and pearl millet grains. It has also adopted an innovative institutional arrangement in partnership with Universities, private seed companies, input suppliers and farmer groups for effective input delivery mechanisms, and poultry feed manufacturing companies, poultry producers and other alternative users of sorghum and pearl millet to strengthen market systems for the sale of the produce. The partners associated with the project are contributing to implement and sustain the project activities. ICRISAT, the Project-Executing Agency (PEA) is liaising, facilitating and coordinating the activities of the coalition partners in the project.

The main objectives of the project are,

- Develop a coalition involving all partners to plan and implement the project
- Assess the nature of constraints associated with production and supply chain
- Enhance the production and productivity of target crops
- Strengthen farmers' group capacity especially with respect to commercial capabilities e.g., in channeling of inputs, bulking up of outputs, storage and handling, grain sales negotiation and monitoring of credit.
- Improve supply chains through economies in bulking of grain, facilitation in its storage and transportation, and enhanced networks of purchasing agencies
- Training of partners on processes of coalition building and bulking, grading, storage and bulk marketing of grains

2. Problems, Issues and Opportunities

The stagnation of sorghum and pearl millet production in India as well as in other Asian countries is mainly due to a combination of factors on both the supply and demand side. Market demand for food uses of sorghum and pearl millet have declined with growth in incomes and subsequent changes in consumer preferences and taste towards alternative grain staples such as wheat and rice (often more convenient in food preparation). In India, demand for sorghum and pearl millet for food uses has diminished to a large extent since the Public Distribution System (PDS) provides subsidized wheat and rice to poorer sections of the society.

The failure of market forces to generate more effective market chains linking sorghum and pearl millet growers with expanding feed demand apart from other alternative uses is mainly due to the low productivity, uncertain levels of production achieved by small-scale producers, and hence the surplus produced over subsistence needs can be highly variable. The dispersed pattern of production also means that marketing costs can be high when left to individual producers. The transaction costs of collection from individual farmers are high and, hence, non-remunerative to traders. Formal marketing channels do not provide an effective means for private sector access, and informal channels may be constrained.

The net returns from sorghum production were found to be positive in the project villages in Andhra Pradesh, particularly in normal rainfall years when mold fungi do not affect the grain. By cultivating improved sorghum varieties, farmers realized higher yields and consequently higher profits, while at the same time reducing or maintaining per unit cost of production.

Maximizing revenues through increase in production and reduction in per unit cost of production is an important aspect attempted under the project. The sorghum and pearl millet growers' need a stable price above a certain minimum ceiling level and minimization of the large year-to-year fluctuation in price by way of assured market for the produce. In this context, the enhanced market opportunities for sale of sorghum and pearl millet for feed use represent a major opportunity for poor producers of these crops to considerably improve the stability of their incomes and hence livelihood security.

Documentation of Constraints

Agricultural input retailers are able to exercise a great deal of influence over the farmers as they provide inputs on credit, and exploit the low level of awareness among farmers about new technologies, brands, etc. On the output side, marketing costs are high due to proliferation of middlemen. In recent years, to overcome these constraints, a number of innovations in supply-chain management are being tried for crops like sugarcane, cotton, maize, oilseeds etc. The supply-chain management is being increasingly stressed as holistic solution to create a win-win situation for the team as a whole rather than trying to exploit individual members within the supply chain. This project has done an extensive study of these innovations and are documented and used in identifying appropriate input supply and marketing systems suitable to the current project are identified.

The context of market linkages for small scale farmers

Within countries, markets have grown more rapidly in areas close to urban centers, with relatively dense populations, and in higher-potential areas where levels of agricultural production and surpluses are greater. By contrast, in areas that are remote, have weak infrastructure, are scarcely populated and have low agricultural potential, the process of market development has been far slower. Furthermore, different types of market relations have developed for different types of crops: food crop markets being typically characterized by informal arrangements between producers and small-scale intermediaries, and export crop markets by 'formal' relations between producers and agro-processing firms who also supply inputs and provide production support services. In some of the countries, export crop markets have emerged faster and more smoothly than food crop markets. In this rapidly evolving context, the policy and institutional frameworks established by the governments of developing countries have not been consistently supportive of private-sector-led market development. At the national level, improved farmer to market linkages have been typically constrained by, for example, an overly restrictive legal framework for farmer group registration, the lack of an effective legal framework for contract enforcement, or by excessive licensing requirements for traders.

Market Constraints for the small scale farmers

The small scale farmers are facing several constraints with regard to the access and operation in the markets. As a result of these national and international trends, small scale farm producers find themselves in a world entirely unlike the one they faced two decades ago. Instead, new commercial relations must be struck with a myriad of suppliers and buyers, and prices, whether for selling produce or purchasing inputs. Most of the small scale farmers especially those trying to produce and market staples in remote areas, are the most vulnerable to these changes. The issue of market access may usefully be considered according to three dimensions: physical access to markets; structure of the markets; and producers' lack of skills, information and organization.

Over all market access

The rural households for one reason or another, are unable to interact with the markets and are prevented from adopting diverse livelihood strategies; and indeed, in many parts of Asia, rural poor people often constrained by difficulties in accessing markets and countries like India, China and Thailand are not exception to this. For this reason, improved market access is of importance to all rural households, and assisting rural poor people in improving their access to markets must be a critical element of any strategy to enable them to increase their incomes and improve their livelihoods.

If it is true that markets, and improved market access, are of critical and immediate importance to the rural farm households, it is also evident that they are a prerequisite for enhancing agriculture-based economic growth and increasing rural incomes in the medium term. Rural incomes will not be substantially increased by exclusive emphasis on subsistence food / feed crop production; rather, more market-oriented production systems are needed.

The economic environment within which the farm households operate is not only characterized by unpredictability, uncertainty and risk of production but in recent years for markets (input supplies and output markets) for their produce. To the extent that rural poor households are able to participate in the markets at all, they do so on terms that are generally inequitable, the poor are often obliged to sell at a low price and buy at a high, price with little choice regarding

the conduct of transactions and other terms and conditions. . Among the main factors behind the change that is occurring in the post harvest scenario are the various processes of liberalization at both national and international levels. These are discussed in the following sections.

Constraints of physical access to markets

Distance to markets and lack of roads to get to them (or roads that are impassable at certain times of the year) is a central concern for rural communities. It undermines the ability of small scale producers to buy their inputs and sell their crops; it results in high transportation costs and high transaction costs, both to buyers and sellers; and it leads to uncompetitive, monopolistic markets. In many countries, the closure of the former parastatal market chain has exacerbated this problem, leaving large numbers of farmers far from any markets. Transport costs combined with storage constraints are particularly important. Remoteness increases uncertainty and reduces choice and it results in more-limited marketing opportunities, reduced farm-gate prices and increased input costs. It also exacerbates the problem of post-harvest losses, which can reach as high as 50 percent in some areas. In doing so, it weakens incentives to participate in the monetized economy, and results in subsistence rather than market-oriented production systems.

Constraints with market structure

The markets in the rural areas are characterized by (1) large numbers of small scale producers/consumers and a few market intermediaries and thus resulting in extreme asymmetry of relations between these two groups. (2) The market relations are characteristically uncompetitive, highly unpredictable and inequitable. (3) Small scale producers who face difficulties in reaching markets often become dependent on traders or their agents coming to the village to buy their agricultural produce and to sell them inputs and consumer goods. (4) In case of remote areas, traders or their local agents may not arrive reliably or at all, and the farmers are often faced with little choice but to accept the first offer of the first trader who shows up, however unfavorable it might be. Such a situation is exacerbated when the trader is also the only source of information on prices and other relevant market information. In some of the countries, there

has been rapid growth in smallholder-based contract farming; and through this, many poor producers have established a more assured commercial relationship. However, in the context of monopolization of processing, credit, marketing and technical capabilities by agribusiness companies, smallholders have been entering a commercial relationship that has been fundamentally inequitable. Although experiences have varied, and there are clear examples of companies acting with enlightened self-interest, smallholder producers have in some cases found themselves effectively operating as employees rather than as partners; and ultimately, they have derived very low net returns as the large-scale private sector exercises its economic power to take the lion's share of value added. This offers a scenario of growth of smallholder production without smallholder development.

Constraints in input market

Availability of various agricultural inputs in the rural areas is an important and major constraint. Small scale farmers have more problems of input markets with regard to quality of inputs available, timely availability of required inputs and choice of inputs. Also in the three countries under the project inputs are distributed by a limited commercial firms that have only a limited retail network in the interior locations. However, in all three countries a limited quantity of seed inputs are produced by government firms and research institutes such as Universities (in India) regional farm research centers (in Thailand) and Agricultural Academies (in China) and are distributed to the farmers. As a result of reduction of subsidies on chemical fertilizers and other agricultural inputs the use of required quantum of inputs by these small scale farmers has come down. The other important reasons of increased costs of the inputs include high transport costs, lack of competition among the local distributors, and lack of farmer's ability to negotiate favorable terms.

Constraints of skills, organization and information

Small scale farmers lack the access to critical information related to the markets and in their participation in agricultural markets they find themselves at a disadvantage because of the following reasons. (1) Most of the farmers have a very poor understanding of the market situation (2) They do not know how it works (3) They lack the

understanding of the prices fluctuation (4) They have little or no information on market conditions, prices and the quality of goods (5) They lack the collective organization that can give them the power they require to interact on equal terms with other, generally larger and stronger, market intermediaries (6) They have no experience of market negotiation and little appreciation of their own capacity to influence the terms and conditions upon which they trade (7) With little experience, no information and no organization, they have no basis upon which either to plan a market-oriented production system or to negotiate market prices and conditions.

The above reasons and ultimately their lack of knowledge means that they are passive, rather than active, players in the market; that they can be exploited by those with whom they have market relations; and that they fail to realize the full value of their production.

Project interventions

After a careful study and analysis of market constraints the project formulated various strategies to build their associations and their capacity for undertaking all production and marketing functions. The following are some of the actions implemented in support of linking farmers to market thus making markets work for the poor. Every effort has been made to provide market information to the farmers helping them in taking marketing related decisions. They are also trained to interpret and act upon that information, and to organize collectively to understand marketing processes more fully and to develop strategies to achieve better and more stable prices for their agricultural produce. The information provided under the project has been location and commodity specific and relevant to the farmers. The information is provided timely and accurately in their local language.

Improving market based knowledge and skills

To help the rural poor access efficient and more equitable market opportunities under the project support was extended through different types of interventions including field support for the farm families for enhancing and sharing of market related knowledge, reducing the transaction costs supporting the constitution of commodity oriented farmers associations, helping and training

farmers. Proper grading, bulking and storing of the grain were helpful in enhancing collective bargaining power of farmer groups. In this activity, produce from the farmers was graded and bulked and stored in the storage structures with appropriate pest control measures. Appropriate mechanisms for management of the storage structures and safe storage of grain were followed. The systems of bulking and grading were introduced to the farmers and the importance, advantages and the requirements of grading bulking and storing were explained through training programs with support from Save Grain Campaign of Government of India. These trainings were helpful in changing the mindset of the farmers positively towards bulking practices.

Developing agreements between farmers associations and feed manufacturers

Formal/informal agreements were developed with the feed mill owners and the farmers associations. The meetings with different feed manufacturers were helpful finalizing the process of entering into formal and informal agreements. Besides feed manufacturing companies alcohol, and food sorghum processing industries were the other potential buyers.

Socio economic consequences of market changes:

The combined effects of liberalization of agricultural markets and globalization have generally increased economic differentiation among communities and households. By virtue of their location, asset base and levels of organization, some communities – and some households within communities – have succeeded in responding to new market opportunities, and have been able to increase their incomes, in some cases substantially. These communities have often seen an increase in employment opportunities (on- and off-farm), directly related to the development of new markets. By contrast, remote communities in low-potential areas, or households lacking adequate levels of assets and organization, have been unable to cope in the new environment,

And many have found themselves decreasingly able to meet their food and income requirements from agriculture. The process of market liberalization has led to the better-off whether overall communities or individual households becoming richer, and the

worse-off poorer. In areas where new commercial market opportunities have emerged, agricultural land has gained greater value. This has had various consequences. First, it has led to new systems of land management – in some circumstances short-term in nature, exploitative and environmentally degrading; in others, based on sustainable intensification of the production system.

Impact

1. Impact of coalition of institutions in effective implementation of the project activities

The project adopted the approach of coalition of different institutions based on the principle of mutual synergistic support. The coalition included about ten partner institutions involving agricultural and veterinary universities, NGOs, Farm Knowledge Centers (KVKs), Private companies, farmers associations and National agriculture Research Centers in all project countries. The participation of these partners in the project activities has given significantly good results in extending the support to the farmers in increasing the farm productivity and ultimately improving the income and the livelihoods. These partners will continue to extend handholding support in addressing the farmers needs even after completion of the project period because of mutual benefits which is seen as one of the element in addressing the sustainable issues.

2. Impact of adoption of improved production technologies for enhancing productivity of the target crops

More than six thousand farm households have adopted improved, high yielding and resistant cultivars of sorghum and pearl millet in place of local cultivars. As result the productivity has improved significantly in all project villages. Another important aspect of the improved production was adoption of integrated nutrient management practices by the farmers in the project. Demonstrations were laid in the farmer's fields to show the impact of nutrient management based on the soil test results. The impact of adoption of these practices was clearly visible in terms of reduced cost on the fertilizers due to utilization of appropriate nutrients and dosage has enhanced yields. The farmers adopted other improved production practices focusing on integrating pest and disease management with

a minimum /or no use of chemicals for the management of pests and diseases. Integration of all above practices together resulted in significant improvement in the sorghum yields in China and Thailand where the productivity increased by 18 and 23 per cent respectively. Where as the productivity increase in India was around 56 per cent in Andhra Pradesh clusters where as it was 22 per cent in Maharashtra state as the farmers were using the improved cultivars even prior to the project interventions. Similar were the trends for Pearl millet crop where the productivity increase was 80 and 20 per cent in Andhra Pradesh and Maharashtra clusters respectively.

3. Impact of developing and strengthening input supply and marketing chain

The farmers associations formed in the project clusters were further strengthened through a series of need based trainings, exposures, discussions etc. The farmers associations were linked to different input agencies through direct interaction meetings. The linkages were institutionalized over a period of three years. Now the farmers associations are directly dealing with these companies for the supply of quality inputs at discounted prices. The bulk purchase of the inputs have brought down the individual expenses over that of individual purchases, quality of the inputs is assured, farmers are getting the discount on the bulk purchase, and the inputs are delivered at the farmers place well in advance of the sowing season..

The farmer's association management committee members were also trained in bulking and bulk marketing and the advantages associated with these practices. Awareness about market trends in prices, reasons for price variation, relative pricing of sorghum grain, international export influence on local markets, quality of grain(mold effected grain) and pricing. The linkages with various alternative end users increased the basket of options for the farmers associations for a better negotiation and better price. This has also brought down the all transactional costs associated with the sale of the farm produce without any intermediaries. The farmers association leasing out the godown to store other crop produce in the off season by the cluster farmers for generating some revenue to maintain the godown.

4. Impact of institutional linkages for farm credit

The project also facilitated the farmer's linkages for farm credit

which was found to be the major hitch in planning all farm activities by the farmers. The linkages developed between farmers and the credit agencies for timely advance of farm credit at low interest for procuring inputs and other agricultural operations have been beneficial in several ways. The farmer's dependency on private money lenders has been brought down, a considerable decrease in the interest rates is seen and there is no obligation for the farmers to sell the produce to the private money lenders after the harvest. The credit institutions have also helped them easy processing of their loan applications, insurance coverage for the crop failure, and issue of credit cards.

Experiences and lessons learned

The project directly assisted smallholder producers in understanding better how markets work, how to gear their production to the demands of potential buyers and how to access markets... Key to achieving this is the provision of support to help them to form commercially oriented organizations (farmers associations) and training them so as to enable them to develop the understanding and skills required to interact effectively with markets. Support for improved techniques for production and storage has been an essential element in enabling producers to respond to market requirements. The small scale farmers are served better by and will ultimately benefit more from a competitive and vibrant private-sector market than by one that is monopolistic and uncompetitive. For this reason, a number of interventions support the development of a private sector to provide more competitive and efficient services to these farmers, particularly for input supplies and produce marketing: the sort of support extended includes input, credit and market links. The project assisted small scale farm producers and the end users in coming together. The sort of support required varies considerably: it includes building infrastructure, enabling buyers and sellers to develop the mutual trust necessary to enter into contracts with each other. It also includes market/price information and communications.

Addressing sustainability

The project has addressed the issues of sustainability since its inception. The capacities of the farmers associations have been built to address and carry on the activities initiated under the project.

Apart from this, the linkages with various input supply and market actors are institutionalized to ensure their sustainability. The farmers associations are being registered under cooperative act so as to have a legal status. The infrastructure developed in the villages is under the ownership of the farmers associations and they have developed and adopted the guidelines for the operation and maintenance of these structures.

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