

A CASE STUDY

Role and importance of public private partnerships in agricultural value chain and infrastructure

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ABSTRACT

Changing consumer demand preferences, increasing concern for food safety, traceability and assured year-round availability of quality agri produce at reasonable prices at the top of the supply chain has changed agricultural landscape. Agri infrastructure at different levels of agri value chain is key to a vibrant and competitive agriculture and agro industrial sector. Public Private Partnerships could be a useful tool to accelerate development in various areas of agribusiness and infrastructure. The paper discusses the examples of such PPP initiatives in India at various levels of agri value chain such as crop diversification, farmer group formation, marketing Infrastructure, contract farming and provision of agricultural services etc. With government's commitment to investment in agricultural infrastructure and an emerging market for global trade as well as experimentation with new forms of infrastructure-financing and contracting, there are many opportunities to broaden the role of the private sector in infrastructure for agricultural development through PPP models.

KEY WORDS : Public private partnerships, Agriculture value chain, Infrastructure

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The agriculture produce landscape is undergoing a significant and rapid change led by changing consumer demand preferences on account of rising incomes and changing food basket in both urban and rural India. There is an increasing concern for food safety, traceability and assured year-round availability of quality agri produce at reasonable prices at the top of

the supply chain. Organized retail though presently only about 4 per cent but increasing at a fast pace is likely to play an increasingly important role in influencing the agricultural markets in the coming decade. Another important development is the Food security legislation which will require the sourcing of huge volumes of food from domestic producers. Traditional production and supply arrangements are unlikely to prove adequate in meeting the challenges posed by these two major developments.

Agriculture GDP is heavily weighted in favour of high value produce (horticulture, animal husbandry, dairy, poultry and fish products); as much as 75 per cent of Agriculture GDP value today is contributed by these products. Moreover, the growth rate of horticulture and

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allied sectors is significantly higher than the growth rate in the crops sector. It can be said that only way India can achieve a 4 per cent growth rate in agriculture is by laying greater emphasis on the allied sectors.

A public-private partnership is a contractual agreement between a public agency (Government at central or local level) and a private sector entity to share the skills and assets of each sector in delivering a service or facility for the use of the general public and also share the risks and rewards inherent in it. The nature of partnership can be sectoral in terms of public sector agencies partnering with the private sector, civil society, non-governmental organizations (NGOs) or a combination of these. Further, it can be relational, ranging from a loose network to collaborative ,power-sharing, consultative or contractual arrangements. In terms of the economic aspect it can be supply-side oriented, demand-side oriented, or mixed. The scope of partnership could be vertical, horizontal, or a combination of both. The objective of the PPP is to encourage and enable private sector to undertake such services and facility which it will not undertake simply based on ‘market forces and mechanism’ due to varied reasons: low returns on investment or the levels of financial or non-financial risk involved. This paper attempts to study the need of infrastructure agri value chain and scope of Public Private partnerships in Agricultural value chain through an exploratory study with the objectives as mentioned below.

Objectives of study :

- To study the need for infrastructure in agri- value chain and benefits of PPP.
- To discuss the various models for implementation of public private partnership.
- To illustrate the use of PPP concept at various levels of agri value chain.

The research methodology applied is exploratory research by reviewing the relevant literature on the

subject. All the relevant data and information required for the study has been taken from the secondary sources. Reliance has been placed on books, journals, newspapers and online databases for the purpose of study.

Need for strong agricultural infrastructure :

The experience world over has demonstrated that impeccable agri infrastructure is key to a vibrant and competitive agriculture and agro industrial sector. Poor access to infrastructure or availability of costly infrastructure for handling agricultural produce is one of the biggest impediments to growth of agriculture sector. A major source of competitiveness in agricultural value chains is access to affordable physical infrastructure. This includes infrastructure that: supports on-farm production (e.g. irrigation, energy, transportation, pre- and post-harvest storage), ensures efficient trading and exchange (e.g. tele-communications, covered markets), adds value to the domestic economy (e.g. agro-processing and packaging facilities), and enables produce to move rapidly and efficiently from farm-gate to processing facilities and on to wholesalers (e.g. transportation and bulk storage). In simple words we can say, pre-harvest infrastructure, post-harvest infrastructure, marketing infrastructure and soft infrastructure (Research and development, HRD, Education and health related infrastructure). Table 1 below shows important elements of required infrastructure at the different levels of Agri-value chain.

A large amount of investment in agricultural marketing infrastructure is required. Any Government, cannot afford such a huge investment because of constraints on account of public budget and risks involved in such infrastructure project. In addition to this, certain inherent weakness of public sector and strengths of private sectors force them to work in partnership. PPP allows the government to pass operational roles to efficient private sector operators while retaining and improving focus on core public sector responsibilities,

Table 1 : Infrastructural requirements at the different levels of agri value chain			
Pre-harvest infrastructure	Harvest and post harvest infrastructure	Marketing infrastructure	Soft infrastructure
Agri inputs and their distribution	Harvesting	Marketing intelligence	Research and development
Soil and water management	Packaging and processing	/marketing information	Human resource development
Crop selection	Logistics and storage		Support infrastructure such as
Crop diversification	Basic infrastructure-power, water and roads	Marketing supply chain	education and health
Irrigation			

such as regulation and supervision.

Benefits of public private participation :

Some of the benefits of public and private sector coming together are discussed below:

Respective strengths :

PPP combines the best features of the public and private sector together. The private sector can leverage its advantages in creative financing, greater operational efficiency, lower costs of distribution, more complex delivery systems, faster decision-making, management flexibility and innovation. The public sector can provide strategic direction – the choice, location and pricing of infrastructure; ensure transparency in procurement and above all, through capital or user fee subsidies, or commitments to purchasing agreements, enable private firms to enter large markets with guaranteed consumers.

Reduced up-front public capital investment and mobilization of private capital :

Instead of the public sector making a large up-front capital funding commitment, followed by funding of operating expenditure over time, the private sector provides the capital and makes investments within the framework of a concession or long-term lease arrangement.

"Bundling" design, construction and operations :

Rather than there being separate design, construction, financing, operations and maintenance arrangements, as with traditional public sector procurement of infrastructure, involvement of the private sector encourages these functions to be combined under one contractor.

Cost savings :

Efficiency can be higher in the private sector, with greater opportunities for economies of scale, strong project management skills, response risk management, more attuned skills, innovative technologies and lower overheads.

More efficient implementation :

Flexible subcontracting and procurement, quicker approvals for new capital financing, more efficient decision-making and stronger project management are

some of the direct benefits of private sector participation in PPP models.

Expanding reach to unaffordable projects :

PPP arrangements also allow the public sector to consider otherwise unaffordable projects. PPPs thus allow the public sector to leverage more financial resources by using the private sector as an intermediary. (Anonymous, 2011).

Models of public private partnership :

PPP models describe the partnerships agreement between public and private sector. Some of the PPP Models relevant for agricultural infrastructure are discussed below:

Build-operate-transfer (BOT) :

This is a scheme where governments contract turn-key projects are given to private companies to build infrastructure. Under a BOT, the private sector finances, builds and operates a facility according to performance standards set by government. The operations period is long enough to allow the private company to pay off the construction costs and realize a profit. At the end of the agreed period the public sector buys back or leases the completed facilities from the private investors. BOT model is by far the most extensively used technique in roads and highway sectors (Sinha, 2011).

Build-operate-own (BOO) :

Under BOO, control and ownership of the project remains in private hands. The private sector entity finances, builds, owns and operates an infrastructure facility effectively in perpetuity. An example comes from water treatment plants serving parts of South Australia. The facilities were financed, designed, built and operated by a private sector firm. Yet they process raw water, provided by the public sector, into filtered water, which is then returned to the public sector utility for delivery to consumers.

Leasing :

Lease contracts cover design and building or operation but not financing. Part of the risk is transferred to the private sector. An advantage of leasing over sale is that this allows the lessee to finance only working capital requirements rather than having to find finance

to purchase fixed assets. In Sri Lanka, for example, local governments rent municipal markets to private merchants.

Concessions :

Under a concession, the government awards the private contractor full responsibility for the delivery of services in a specified area, including all management activities. The private contractor is responsible for any capital investments required to build expand or extend the business. The public sector's role shifts from being the provider of the service to being the regulator of its price and service quality.

Joint ventures :

These take place when the private and public sectors jointly finance, own and operate a facility. Joint projects have been designed as ventures between private sector businesses and in some cases, development organizations.

Operational/service management contracts :

These contracts allow the private sector to provide infrastructure-related services or to manage the operations of an infrastructure facility for a specified period of time. In the agribusiness sector, management contracts are often used for running plantations and agro-processing facilities for products such as tea, rubber and sugar. Some international agribusiness companies provide packages of both managerial and technical assistance. There are a number of schemes run by government where extension services are contracted out to the private sector (Sinha, 2011).

Informal public-private co-operation :

In developing countries, there is increasing voluntary co-operation among donors, international technical assistance agencies, national and local government, private companies (multinational or national), civil society and NGOs, in addressing social issues, providing infrastructure and providing public services. Co-ordination includes strategic alliances, which are agreements mutually entered into by any two or more bodies to serve a strategic objective (Anonymous, 2011).

Factors driving public private partnerships in agriculture :

There are a number of factors which are driving

this paradigm of agricultural development through public private partnerships which are as follows:

Management expertise and efficiency in the private sector. The private sector offers 'value added' contributions, such as technological development and dissemination, farming system innovations (e.g. intensification, diversification) and marketing expertise.

In agricultural economy like ours, especially where smallholders dominate, farmer organizations may also drive the formation of PPPs for their mutual benefit. Partnerships between farmers' groups and market players also opens up better links with input suppliers, financial institutions and research bodies.

Sustainability and safety issues in soil, water and food, can bring public and private partners together to minimize loss of resources or to conserve or regenerate them for better productivity and quality produce.

Food quality improvement for export and domestic markets has become a prerequisite for participation in global and national markets post-WTO. It is another important impulse for such partnerships. These require not only large financial resources, but also scientific and managerial expertise to fully understand the markets they wish to succeed in.

Growth of supermarket value chains as a result of Foreign Direct Investment (FDI) in the retail sectors both for domestic consumption and for export is also driving such partnerships.

The emergence of biotechnology as a means of pro-poor growth has also driven many PPPs, especially in agriculture and food processing.

Linking up smallholders with modern markets requires competitive marketing skills and effective extension. Private players can play an important role in market led extension and market intelligence using information and communication technology (Singh, 2011).

More importantly, innovations in value chains are the most significant logical reason for the adoption of PPPs by many development projects, because these innovations require diverse resources and capabilities to transform themselves into successful enterprises.

The push for rural penetration from the banking and agricultural input industries, as seen in rural retail chains and contract farming (CF) projects is also bringing various players in the banking and agri-input sectors together to their mutual benefit as these markets require bundles of services and products which individual firms cannot deliver.

The partners in such arrangements, besides public agencies such as state ministries and government agencies, can be:

- Agribusiness enterprises including agri-input companies;
- Extension agencies such as agriclincs and input dealers;
- Individuals such as contract farmers, master farmers, contact farmers, link farmers
- Farmer co-operatives, associations, and groups, self-help groups (SHGs), farmer interest groups (FIGs), producer companies;
- NGOs; Panchayati Raj Institutions (PRIs) under Public–Private–Panchayat partnerships.

Some examples of PPP's in agri value chain :

PPP for crop diversification and contract farming :

The Punjab state government promoted Punjab agro foodgrains corporation (PAFC) had an aggressive target of bringing a fourth of its acreage under non-grains. The Government has taken the support of private players through the contract farming route to achieve its target. One of the first ventures in the state was led by PepsiCo tomato contract farming in the early 1990s; subsequent initiatives have also seen crops like barley, potato, maize, corn and cotton come under contract farming. The government of the Punjab through PAFC reimbursed extension cost to the CF agencies/facilitators at the rate of 150 rupees (Rs.) per acre for three years, in order to facilitate contract farming with the aim of achieving crop diversification (Anonymous, 2009).

Creating producer bodies through PPP :

Another outstanding case of PPPs is the creation of Mahagrapes by the Maharashtra State Agricultural Marketing Board (MSAMB), the Department of Co-operation, Government of Maharashtra, the National Horticulture Board (NHB), the National Co-operative Development Corporation (NCDC), the Agricultural Products Export Development Authority (APEDA) and the grape growers themselves for the benefit of grape growers. The objective was to promote the marketing of grapes globally and to attend to the problems of quality and rejection in the global market faced by the growers' produce.

PPPs for agricultural extension :

In Madhya Pradesh (MP), there was a PPP in

agricultural extension involving the national institute of agricultural extension management (MANAGE) based in Hyderabad, the Department of Agriculture (DoA), the Government of MP and the Dhanuka Agritech Group, which markets plant protection chemicals including eco-friendly products. The partnership was intended to foster increased productivity on farms and improve the standards of living, of farmers, providing services like soil testing, training programmes, farmers' visits for exposure to new technology, demonstrations, promotion of organic farming, cyber dhabas (countryside/highway eateries in India serving local ethnic food), exhibitions and market linkages for agricultural produce (Singh, 2011).

Similarly another example is that of Tribal Development Department of Gujarat had entered into a partnership with Monsanto Company with the aim of providing hybrid seed to marginal and small farmers in isolated agricultural production environments. The name of this project is Project Sunshine which states one of the examples of public private partnership. This project was implemented in the rainfed areas of Dahod and Panchmahal regions of Gujarat, where the government procures seeds from the private seed companies and distributes the same to farmers. Dairy Co-operative and NGOs helped department in distributing identifying beneficiaries, agricultural inputs and so on (Anonymous, 2012).

PPP for organic production :

In Uttarakhand, Kohinoor Food Ltd (KFL), one of India's leading companies in the organized marketing of rice including Basmati rice attempted a PPP in organic basmati rice. To increase its supplies, KFL tried to identify farmers for the organic programme and to this end with the help of Uttarakhand Organic Commodity Board (UOCB), a state government agency, KFL made contact with a Basmati farmers' federation in Dehradun district.

PPP for marketing infrastructure :

Terminal markets is a public-private partnership model that links production centre to the consumption centre. The Government of India is looking to promote terminal market in cities Mumbai, Nashik, Nagpur, Chandigarh, Rai Patna, Bhopal and Kolkata as well as Ahmedabad and Surat in Gujarat. These markets will operate on a hub-spoke format, wherein the market (hub) would be linked to a number of collection centres (spokes), which in turn would be located at key production

centres for convenience of farmers. The market will be a one-stop transparent selling facility for producers. The market, aimed at facilitating trade in perishable agricultural products, would be set up on built, operate and transfer (BOT) basis to provide services such as electronic auction, cold storage, ripening chambers and banking services.

PPP for agricultural services :

For improving the condition and benefiting the tribal farmers, the government of Gujarat and Deere and Company (Global Leader in the field of agricultural equipment) are working together towards a Public Private Partnership model, which is first of its kind. Deere and Company opened small agricultural implement resource centers across Gujarat, making more than 500 tractors available for use by local farmers and providing the farmers access to use a set of 13 different implements for various operations. Farmer groups that use the equipment for crop cultivation pay only for operating and maintenance costs and not for the actual tractor or implements. Four local NGO's have been asked to create self-help groups to help ensure early adoption of the programme. It is an example of policy initiatives in recent years in Gujarat to facilitate farm mechanization in the state.

Conclusion :

PPPs could be a useful tool to accelerate development in various areas of agribusiness and infrastructure. Currently there are PPPs in the areas of contract farming, drip irrigation projects and terminal markets among others. However the scope of these projects is still limited and they serve as examples or models rather than be the norm. With a renewed commitment of government to investment in rural infrastructure and an emerging market for global trade as well as experimentation with new forms of infrastructure-financing and contracting, there are real opportunities to broaden the role of the private sector in infrastructure for agricultural development through PPP models. A sound policy environment for agricultural development is basic to any effective partnership. Furthermore, for the partnership to result in tangible

benefits right up to the farmer level, it is important to address the entire value chain of a product and not just specific bottle necks. The state needs to set the framework within which public agencies and private entities work together with other players, performing their respective roles. The state should set the policy agenda and governance mechanisms to ensure that the interests of the primary producer are not compromised.

REFERENCES

- Anonymous (2009). Research report on Infrastructure Development in Agriculture Route to Rural Transformation, KPMG in India, NEW DELHI, INDIA.
- Anonymous (2011). Public Private Partnership in Agricultural marketing-A case of Pune District, Maharashtra National Institute of Agricultural Marketing (NIAM) Jaipur (RAJASTHAN) INDIA.
- Anonymous (2012). Project Sunshine and Hybrid Maize Promotion In Gujarat, Report of a Rapid Appraisal, ASHA (Alliance for Sustainable and Holistic Agriculture) NEW DELHI, INDIA.
- Ayyappan, S., Pitam, Chandra and Tandon, S. K. (2007). ICAR-Industry Meet Agricultural Transformation through Public-Private Partnership: An Interface, Directorate of Information and Publications of Agriculture, Indian Council of Agricultural Research, NEW DELHI, INDIA.
- Hartwich, F., Jaime, T., Alejandra, E., Carolina, G., Graciela, G., Jorge, M.P., Vázquez-Alvarado, José, A.S., José de Jesús, E. and María, V.G. (2007). Building Public-Private Partnerships for Agricultural Innovation. Food Security in Practice technical guide series. International Food Policy Research Institute, WASHINGTON, D.C.
- Singh, Sukhpal (2011). Public-private partnerships for agribusiness development in Thailand and India: experiences, issues, and strategies. Published in Innovative policies and institutions to support agro-industries development, Food and Agriculture Organization of The United Nations, ROME, ITALY.
- Sinha, A.B. (2011). Public Private Partnership In Building Rural Infrastructure In India. *JM Internat.J. Mgmt. Res.*, 1(2) : 152-161.

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