

Review Article

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Public Private Partnership in Agriculture: A Stern Review

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ABSTRACT

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The critical review of various study revealed that Public Private Partnerships offer potentially important opportunities for growth and development of developing countries (Spielman and Grebmer, 2004). Low public sector funding for agricultural sector and lack of incentives for the private sector to operate in areas where there is no market largely explain the yield gap in many food-importing developing countries. Yet, there are effective ways in which the public and the private sector could work together and jointly improve agricultural sustainability in poor countries i.e. PPP. It is risk sharing, cooperative, collaborative, contractual relationships with flexible ownership between two or more public and private sectors, typically of a long-term nature contributing for one or more functions like planning, resources and activities as required to accomplish a shared goal set out by the partners. It provides opportunities for information management, technological management, community mobilization, economic empowerment of farmers and women, reducing risk and uncertainty and fastens the implementation, reduces life cycle cost and optimizes risk of agricultural project. It allows the public sector to derive benefits from the efficiency and effectiveness of the private sector. It also have some limitations as agriculture suffers due to problems linked with supply of raw materials, mode of procurement and rate fixing and thereby affecting cooperation and coordination between the partners. This paper presented a stern review of all the aspect of Public Private Partnership in agriculture, its concept and meaning, different models, dimensions, impact and limitations.

Introduction

Agriculture is the main source of livelihood in developing countries. Two third populations of developing countries are dependent on agriculture for their bread directly or indirectly. For improving the condition of these people there is a need to develop the agriculture of these regions. Now a days Public Private Partnerships (PPP) in agricultural provide opportunities for conducting advanced research, developing new technologies, and deploying new

products for the benefit of small-scale, resource-poor farmers and other marginalized social groups in developing countries (Anonymous, 2014). A public private partnership is a cooperative and collaborative arrangement between two or more public and private sectors, typically of a long-term nature (Hodge and Greve, 2007). The latest buzz word in the present situation is Public Private Partnership (PPP). This PPP has revolutionized the public sector for effective

delivery of the goods. Complete privatization may act as a barrier to free flow of public goods. This encourages adopting PPP model.

Public private partnership: meaning and concept

In India PPP is defined as "a partnership between a public sector entity and a private sector entity (51% or more of equity is with the private partner/s) for the creation and/or management of infrastructure for public purpose for a specified period of time (concession period) on commercial terms and in which the private partner has been procured through a transparent and open procurement system" (Nanda, S.S., 2015). The term public private partnership in the present context is necessarily a collaborative effort between the public and private sectors contributing for one or more functions like planning, resources and activities as required to accomplish a shared goal set out by the partners. It is risk sharing, cooperative and contractual relationships with flexible ownership between public and private sectors. The PPP approach supplements scarce public resources, creates a more competitive environment and helps to improve efficiencies and reduce costs. The rationale for public sector involvement differs between different kinds of services and influences the type of involvement required (Paul and Margaret 2003). Risk allocation plays a vital role in PPP management. Preplanned proposals with time frame, budget, methods and materials would result in expected outcome of PPP, for which it is established.

Need for PPP

Public Private Partnership is most preferred in developing countries for effective delivery of infrastructure facilities like transportation, education and health care services as it is more successful there. In developing

countries, rural-urban migration has increased urbanization at same time socio-economic developments have increased the demand for infrastructure and also pressure on maintaining and operating the existing infrastructure. Thus private sector could be attracted through mutually beneficial agreement for efficient use of resources, availability of modern technology, better project design and implementation and improved operation combine to deliver efficiency. Public Private Partnership also fastens the implementation, reduces life cycle cost and optimizes risk. The important feature of Public Private Partnership is its ability to seek finance from private sector, when the funding is limited from public sector.

Relevance of PPP in agriculture

Agriculture, being backbone and support system of rural economy should be strengthened, if we want paradigm shift in the approach and its development. With the advent many popular and appropriate technology, many innovations are also brought in the field of agriculture. This is now an ominous task before the policy makers and government to feed the ever increasing population while preserving and conserving the resources as well. Hence, PPP has an immense role to play in agriculture sector. PPP offers a win-win solution for all stakeholders. PPP allows the government to tap the private sector's capacity to innovate. It can be implemented in a number of areas like agricultural research, agricultural supply chain management, watershed management, agricultural extension management, Biotechnology, etc. PPP in Agricultural Research: Till date, PPP is more in the research field when compare to other fields of agricultural sector. The private sector has invested a lot for undertaking the research, as developing countries in particular, are not in the position to do so. Research through PPP is

carried out for enhancing agricultural productivity both in quality and quantity, developing ways for the use of depleted resources, lowering the food prices, and accumulating the capital resources among the vulnerable sections.

PPP in irrigation

Proper irrigation and water availability at the right time is the major problem for agriculture since a long time. This creates a vicious circle of problems for the countries that are totally dependent on monsoon. Inconsistency and erratic nature of weather along with natural disasters enhance the woes for the poor farmers. To address the problems, PPP in the area of large scale irrigation and drainage schemes through participation is seen in water supply and sanitation. The success of PPP in water supply and sanitation has given some lessons which can be utilized for irrigation and drainage purpose.

PPP in agricultural extension management

Agricultural extension has a significant role to play towards attainment of self-reliance. But in the context of multi-faceted problems of the farmers, public extension alone has failed to address the farmers' needs. In most of the times public extension is under tremendous pressure due to limited resources, disparity ratio between farmers and extension personals, demand for quality, agreements and commitments under WTO, etc. A holistic approach which is needed can be provided by private farms, farming communities, SHGs, NGOs, media people, co-operatives, etc.

Partnership for information sharing

Public and private sector institutes both possess the knowledge needed to improve global agriculture. Collaborative projects are sharing practical agricultural information and

cultivation of best practice among public and private sector organization and farmers.

Revenue sharing model of PPP

Model 1

This model is particularly suitable where the capital investment is low and many private vendors can be attracted to invest in to the venture. The revenues can be predicted with certainty; the fixed pay off variant will be useful.

Model 2

In this model the capital investment is done by the government and the business is run by the private partner. This model is especially useful where the government wishes to utilize the efficiency of private sector in running important citizen services. The financial risk in this model is taken by the government and also incurs the administrative risk. Government also becomes the major beneficiary of the revenue generated through this model.

Model 3

In this model both partners invest capital into project. Returns are shared as per the original capital investment ratio as well as the risk perception of the partners. Project requires large capital like oil refining etc, may fall under this category. This model tries to equally distribute the risk and return among Public Private Partnership partners. Government may make initial investment and then take annual revenue from their investments.

Impacts of PPP in agriculture

The good impact of PPP in any field depends on involvement of institutions and industries

in seeking collaboration and combining all available public and private skills (Peter, 2002). PPP has made constructive modifications in social mobilization, economic empowerment, market linkage of farm produce, capacity building of farm families, decrease of risk and uncertainties, etc. (Hisrich and Peters, 2002).

Information management

Information management strategy in relation to PPP could result better production and delivery system to the farmers. From the review it was revealed that, this approach helped in replacement of traditional rice varieties with basmati rice, cultivation of medicinal and aromatic plants and mushroom in Patna district of Bihar. Farmers got an average net income of Rs. 22000/ha by diversifying from groundnut and paddy to maize in Chittoor district of Andhra Pradesh and also expanded maize area from 60 ha to 1150 ha (Srinath and Ponnusamy, 2011).

Technological management

Better technologies could be generated along with improving adeptness in management of PPP and improving the institutional intellectual property management skills and information database on available technologies in the public sector. Commercialization of Bt maize varieties based on partnership between Agricultural Genetic Engineering Institute (AGERI) of Egypt and Pioneer Hi-Bred Company, developing delayed ripening of Papaya between Syngenta and University of Nottingham, development of GM sweet potatoes in Kenya, development of super sorghum through nine globally respected institutions and completion of rice genome sequencing project in 2004 have resulted in high end technologies through PPP approach (Khush, 2005).

Community mobilization

Developmental departments carry out major efforts to activate the group dynamics among the community in order to create a better social linkage through SHG, Farmers' Clubs, Commodity groups, Farmers cooperative societies and Federations. These efforts would be more effective, when they are combined with the capable and reputed private partners. Programmes should be inclusive in nature to mainstream poor, women and youth for their active participation in decisions making and benefit sharing.

Agricultural Technology Management Agencies (ATMA) created large number of Farmer Interest Groups (FIG) in Nellore, Sangrur, Ratnagiri, Chittor and Patna and they were facilitated to collaborate with private extension players resulting in direct marketing of many farm produce (Srinath and Ponnusamy, 2011). A producer group was formed in 2011 to produce and sell maize through PPP mode in Khurda district of Odisha for tribal men and women (Ponnusamy and Kishore, 2012). PPP in social mobilization is a grouping factor which is eradicating invisible social discriminations and social immorality prevailed in our Indian society. Increased Productivity: The transfer of Bt cotton technology to India was initiated by ICAR and Department of Biotechnology, Government of India by Monsanto. Subsequently, Mahyco went into partnership with Monsanto, which finally resulted in the introduction of Bt cotton in India (APCoAB, 2007).

India experienced an unintended increase in Bt cotton acreage from 29000 hectare in 2002 to 9.4 million hectare in 2010 (James, 2010). Bt cotton technology has brought in more equality in farm-income distribution (Morse *et al.*, 2007). The productivity of cotton has increased to 526 kg/ha in 2009-10 from 301

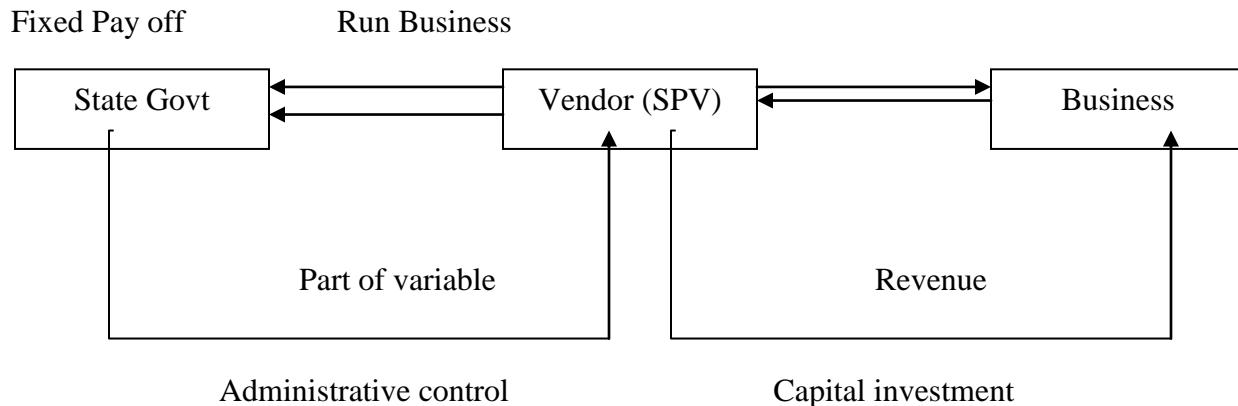
kg/ha in 2002-03 and reduction in real cost of production ranged from 16 to 46 per cent (Ramasundaram *et al.*, 2011).

Economic empowerment

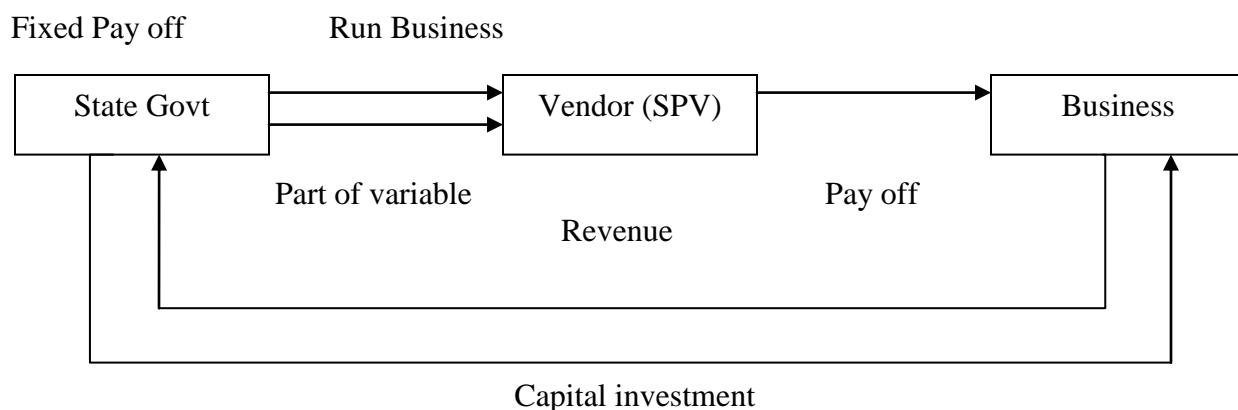
PPP for service delivery have revealed significant opportunities for women entrepreneurs and groups in delivering local services and creating conditions for empowerment at the grass root level. The PPP between Cadbury India, Kerala Agricultural University and DBT during past 23 years trained 250 women and established 28 cocoa

chocolate units in different parts of Kerala. Thirumadhuram Pineapple project through PPP involving Kudumbhasree Project Mission, Department of Agriculture, women SHGs and Nadukkora Agro processing centre could produce 25000 tonnes of pineapple in 500 ha and directly employed 12500 women (Rajendran *et al.*, 2010). PPP in vegetable marketing in Coimbatore district of Tamil Nadu enhanced the income level of farmwomen by 20 per cent (Thangamani *et al.*, 2012).

Model 1



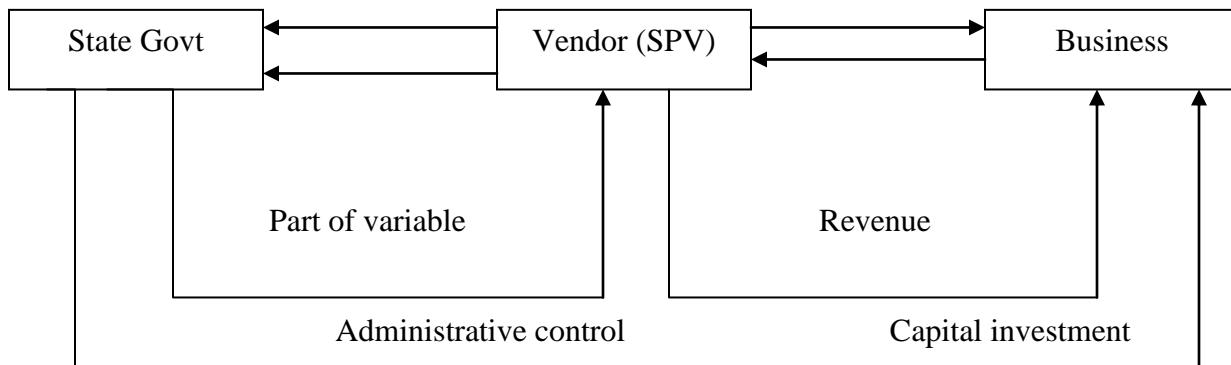
Model 2



Model 3

Fixed Pay off

Run Business



Reduction of risks and uncertainties: PPP has the potential to reduce risks and uncertainties related to crop failure, pest and diseases, natural calamities and natural resource management. Food safety-related barriers in the export context were addressed through PPP approach for green beans in Kenya and grapes in India. Insurance against drought was made truly affordable in 2009 through PPP between Syngenta East Africa Limited, MEA (a fertilizer company), KilimoSalama's agribusiness partners and KilimoSalama's telecommunications partner Safaricom using weather station data resulting in faster payments through phone and reduction in cost of insurance (Narrod *et al.*, 2007). John Deere, a leading farm implements manufacturing company helped to promote mechanized farming in tribal region of Gujarat by establishing 8 Agricultural Implements Resource Centers each covering 600 acres of cultivated land through PPP (Reddy and Rao, 2011).

Limitations of PPP models in agriculture

Most of the farmers in India are belonged to small and marginal category having lack of capacity to raise their own capital to finance their agriculture based venture and the policy did not have interest in PPP for farmer welfare. The problem is further compounded

where the proposed facility depends on a single commodity grown by small scale farmers carrying high levels of production risk (NAO, 2008). PPP in agriculture suffers due to problems linked with supply of raw materials, mode of procurement and rate fixing and thereby affecting cooperation and coordination between the partners. The performance of private extension is said to vary widely and tends to focus its services on areas with sufficient resources and is limited to a few crops and areas where profits can be assured (Sulaiman and Van Den Ban, 2003).

In recent decades, Public-Private Partnerships (PPP) has gained increasing attention and popularity because they are believed to be effective and efficient strategies to deal with such increasingly complex and wicked governance issues. PPP are now a widespread instrument of governance in society. However, partnerships between public and private actors are no easy feat. Public and private actors operate in different systems, with different values, practices and institutional logics; moreover, the sociopolitical environments in which PPP are planned and implemented are very complex and uncertain. Each PPP model is unique and has a well-defined understanding among the partners regarding the working relations and outputs. In each model, there should be clarity

on sharing of fund investment, research and development components and business operations. A consortium involving unequal partners may not yield a viable partnership. Further, the models should take into their ambit of the whole chain from innovative product development to marketing.

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