ISSN No.: 2454- 2024 (online)

International Journal of Technical Research & Science

PUBLIC PRIVATE PARTNERSHIP AND IT'S ROLE IN LIVESTOCK SECTOR

Rayees Ahmed Bafanda[1], S. A. khandi[2]
E-Mail Id: rayeesahmed372@gmail.com, shafkatext@gmail.com
Division of Veterinary and Animal Husbandry Extension Education, F.V. Sc & A.H. SKUAST-J, R.S.Pura, Jammu (India)

Abstract- India being an agro based economy with the second highest farm output in the world needs more sustainable growth in this area. The public private partnership is one step towards attaining holistic growth. The government alone is not the answer to everything; the need is more than the capital investment. This paper is an effort to propose the possibilities of PPP in the field of Livestock. The livestock population has increased enormously, while public sector funding to the veterinary services is not adequate as per the need, then, livestock support services has been suffering a lot. To meet this inadequacy, emphasis in recent years has been shifted over to decentralize veterinary services, cost recovery, withdrawal of selected services and contractual services and encouraging Public-Private-Partnership model for veterinary services. The roles and responsibilities of national Veterinary Services are continuing to expand, triggered by multiple global trends, including: the increased demand for animal protein, the (re-) emergence of zoonotic pathogens and public health risks such as antimicrobial resistance. Furthermore, the United Nations' Sustainable Development Goals provide an opportunity for Veterinary Services to contribute to the achievement of these goals. Together, these pressures exert an unprecedented responsibility on the veterinary profession to ensure a safer and healthier global community. Hindered by the scarcity of resources and capacities within the public or private spheres of Veterinary Services, Public-Private Partnerships (PPPs) offer a tangible and timely solution to address this complex environment and fulfill societal demands.

Key Words: Public private partnership, Livestock development, Sustainable growth

1. INTRODUCTION

Public Private Partnerships offer potentially important opportunities for pro-poor livestock research, growth and development of developing countries (Spielman and Grebmer, 2004). Increased responsibilities & declining budgets for government veterinary services drives the need to utilize service providers beyond what government can directly employ. 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. (O.I.E) .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 (National PPP Policy, 2011). Public Private Partnerships (PPP) in agriculture and livestock 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). 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).

2. 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 Planning Commission of India has defined the PPP as "the PPP is a mode of implementing government programmes/schemes in partnership with the private sector. It provides an opportunity for private sector participation in financing, designing, construction, operation and maintenance of public sector programme and projects". Public Private Partnership means an arrangement between a government or statutory entity or government owned entity on one side and a private sector entity on the other, for the provision of public assets and/or public services, through investments being made and/or management being undertaken by the private sector entity, for a specified period of time, where there is well defined allocation of risk between the private sector and the public entity and the private entity receives performance linked payments that conform (or are benchmarked) to specified and pre-determined performance standards, measurable by the public entity or its representative (National PPP Policy, 2011) .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.

3. HISTORY AND PRESENT STATUS OF PPP IN INDIA

Initially the model was evolved in Europe and especially in Italy. It is essential a form of collaboration between the public and private sectors towards achieving the target of mobilizing investment from private sector towards creating a public asset or project for creating public utilities or services to be enjoyed commonly by all inhabitants deriving benefit from the public investment. Such collaboration not necessarily be confined to a firm or commercial entity or a corporate entity but it may be in the shape of a process either. PPP were prevalent in nineteenth century when the Great Indian Peninsular Railway Company in 1853; The Bombay Tramway Company's tramway services in Bombay in 1874; electric power generations and distribution activities in Mumbai and Kolkata carried in PPP model. This concept was not unknown to India, when the Haripura Tripuri congress working committee had recommended the concept of mixed economy and duly accepted by Pundit Nehru's government in 1948 by providing equal opportunities for both the segments, public and private, within their respective domain targeting commonality towards building a new emerging free nation after taking the reign from the British authorities. The philosophy of joint partnership on economic activities for free sovereign nation and guidance was provided by the celebrated Jamshedji Naoroji Tata when he set up Tatanagar steel city of Jamshedpur, private own civil aviation and helicopter service in Mumbai. Then the laissez-faire force was tied up with regulating chain it cropped up mistrust between public and private resulting in wide resource gap and downsizing the growth and the nation witnessed adverse balance of payment(BOP); decline in GDP growth rate, fiscal deficit as a percentage of GDP; current account deficit(CAD)in external sector. This has created a vicious circle forcing the state authorities not to keep the private business magnets outside the economic pursuit of the government; paving the way for mutual respect and consultation leading to the aim of nation building. Thus prominent business house chiefs, corporate executives were nominated as a member in the Raja Sabha allowing them to reap the benefit of their business acumen shipin legislative functions of the state. This effort helped build up mutual trust and formation of public private partnership in nation building exercise (Das and Sikidar, 2014). After nineteenth century 1991–2006 just 86 PPP projects worth USD157.1 billion were awarded until 2004 . Large-scale private financing has been limited to Vishakhapatnam and Tripura. Post 2006 growth in PPP to 758 projects costing USD70.1 billion by july 2011 from 450 projects costing USD45.7 billion in November 2009 (DEA) . According to Draft Twelfth FYP (2012-17), Planning Commission, G0I), around 881 PPP projects worth more than INR5.4 trillion were operative in India by 02 April 2013 across various sectors. Roads dominate the PPP scenario in India, accounting for 52% of all PPP projects. There is also a need to focus on social sectors, especially health and education, which currently accounts for only 3.7% of PPP projects in India. India Infrastructure Finance Company Limited (a non-banking financial company) was established to provide financial support for projects with long gestation period. Top five states in terms of number of PPP projects (Percentage of total projects in India) Karnataka 108 (12%), Andra Pradesh 100 (11%) ,Maharashtra 88 (10%), Madhya Pradesh88 (10%), Gujarat74 (8%). These Five states constitute 51% of all PPP projects in India (FYP (2012-17), Planning Commission, GoI).

4. COMPARISON BETWEEN PUBLIC, PRIVATE AND PPP ATTRIBUTE

The key difference between the PPP and privatization is that the responsibility for delivery and funding a particular service rests with the private sector in privatization. The PPP, on the other hand, involves full retention of responsibility by the government for providing the services. In case of ownership, while ownership rights under privatization are sold to the private sector along with associated benefits and costs, the PPP may continue to retain the legal ownership of assets by the public sector. The nature and scope of the services under privatization is determined by the private provider, while it is contractually determined between the parties in PPP. Under privatization, all the risks inherent in the business rest with the private sector while, under the PPP, risks and rewards are shared between the government and the private sector.

Table-4.1 Comparison Between Public, Private and PPP Attribute

Attributes	Public	Privatization	PPP
Responsibility	Govt.	Entrepreneur	Govt.
Ownership	Govt./Public	Private sector	Govt.
Nature of services	Govt.	Decided by private operator	Mutual agreement
Risk & reward	Govt./Public	Private sector	Shared between Govt.& Private party

Table-4.2 Key Difference Between the PPP and Privatization

Attributes	Privatization	PPP
Responsibility	The responsibility for delivery and funding a particular service rests with the private sector in privatization	The PPP, on the other hand, involves full retention of responsibility by the government for providing the services
Ownership	Ownership rights under privatization are sold to the private sector along with associated benefits and costs	The PPP may continue to retain the legal ownership of assets by the public sector
Nature and scope of the services	The nature and scope of the services under privatization is determined by the private provider	While it is contractually determined between the parties in PPP
Risks and rewards	Under privatization, all the risks inherent in the business rest with the private sector	Risks and rewards are shared between the government and the private sector.

5. THE CYCLE OF PARTNERSHIP FORMATION IN PPP

The creation of public–private partnerships occurs in several phases: (1) identifying a common interest; (2) negotiating the partnership contract, including financing and organizational design; (3) operating the partnership itself; (4) evaluating it; and (5) deciding to terminate or continue the partnership

Phase 1: Identifying the Common Interest

- Potential partners must have a common interest.
- The problem or opportunity identified by the public and private actors based on relationships or through a formal process of identifying a common interest.

It is often useful to develop a strategic vision that will allow the partnership to orient itself when it must adapt to changes in the socioeconomic context

Phase 2: Negotiating the Partnership Contract

- In this phase, the potential partners begin to develop the partnership's activities and discuss the expected costs versus the possible benefits.
- The goals of the partnership are reviewed, as are the interests and capacities of the potential partners.
- The main subjects of negotiation at this phase are
- Financing
- Distribution of benefits and intellectual property
- Structure or organizational design of the partnership
- Specific partnership activities

Phase 3: Operation

- In this phase, the proposed activities of the partnership are put into practice. Some strategies that can improve the operation of partnerships include:
- Confidence building
- Transparency
- Understanding different cultures
- Strategic vision

Phase 4: Monitoring and Evaluation

- The evaluation of a partnership can have different purposes, such as justifying the use of funds, understanding whether the expected results have been or are being generated and how efficiently they are being realized, and identifying the strengths and weaknesses of the partnership in areas related to administration, management, leadership, and the synergetic effect produced.

- The way in which the evaluation is conducted varies according to its purpose .
- Some evaluations, for example, focus primarily on the final research results obtained through the partnership.
- Other types of evaluation verify the use of resources and monitor the progress in achieving results.
- There are also participatory evaluation mechanisms in which the partners themselves review the results achieved, exchange information, and identify opportunities of improvement

Phase 5: Termination or Continuation

- After evaluating the partnership and examining whether the expected results have been achieved, the partners must choose whether to continue or terminate the partnership.
- The partners may decide to continue if the original interest has broadened and been consolidated, or if the original goals have not yet been attained.
- At the same time, the partners may decide to conclude the partnership if they believe that the expected results have not been satisfactory, have not been obtained in an efficient way, and/or do not meet the partners' interests, or if they determine that the initial objectives cannot be achieved without incurring additional costs that the partners are not prepared to pay.

6. TYPES AND PREFERENCE OF PPP MODEL IN INDIA

Some of the commonly adopted forms of PPP include management contracts, build-operate-transfer (BOT) and its variants — design-build-finance-operate-transfer (DBFOT) and operate-maintain-transfer (OMT).

6.1 Performance-Based Management/Operations and Maintenance (O&M) Contracts

In such contracts, most or all of the operations and maintenance of a public facility or service is given to the private sector. The sectors meant for such form of PPP models include water supply, sanitation, solid waste management, road maintenance, etc.

6.2 Modified Design-Build (Turnkey) Contracts

In traditional design-build (DB) contract, the private contractor is paid a fixed fee after the completion of the designing and building phase. These contracts yield benefits in the form of time and cost savings, efficient risk-sharing and improved quality. The turnkey approach with milestone linked payments and penalties or incentives can be linked to these kinds of contracts.

6.3 BOT Models

Under BOT contracts, the responsibility for construction and operations rests with the private partner, while ownership is retained by the public sector. The BOT model and its variants are the most common form of PPP models used in India, accounting for almost two-thirds of PPP projects in the country. The two major forms of BOT models are:

6.3.1 User-Fee-Based BOT Model

Commonly used in medium to large-scale PPPs for the energy and transport subsectors (road, ports and airports).

6.3.2 Annuity-Based BOT Model

Commonly used in sectors/projects not meant for cost recovery through user charges, such as rural, urban, health and education sectors.

6.3.3 Lease Contracts

Under leasing agreements, assets are leased, either by the public entity to the private partner or vice-versa. Build Lease Transfer (BLT) or Build-Own-Lease-Transfer (BOLT) or Build-Transfer-Lease (BTL) contracts have been used in India for greenfield projects, which last for 10 to 15 years.

6.3.4 Concessions

Under concession agreements, the responsibility for construction and operations rests with the private partner, while ownership is retained by the public sector. Concession contracts are generally for 20 to 30 years, and the private operator is responsible for all capital investment.

7. BUILD OWN-OPERATE-TRANSFER (BOOT) CONTRACTS

Under BOOT, the private partner has the responsibility of construction and operations. Ownership is with the private partner for the duration of the concession — generally 20 to 30 years — after which it is transferred to the public sector. While there do exist build-own-operate (BOO) models, they are not supported by the GoI due to their finite resources and the complexities in imposing penalties in case of non-performance and estimation of the value of underlying assets in case of early termination. Furthermore, the GoI does not recognize service contracts, engineering procurement- construction (EPC) contracts and asset divestitures as PPPs.

7.1 Need for PPP

Public Private Partnership is most preferred in developing countries for effective delivery of services as it is more successful there. 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.

8. ADVANTAGES AND DISADVANTAGES OF PPP

8.1 Advantages

- **Value for Money:** The important advantage of PPP is the creation of value for money. This means delivering a project with the superior quality for same amount of money.
- **Risk Transfer:** Risk will be transferred to third party who is best able to manage risk at least cost.
- **Private Sector Management Skills:** This allows the project to be delivered well ahead of time. By using PPP Government will have access to new skills.
- **Competition:** Generally competition is associated with private sector, like lower prices, Innovative Practices, Increased Investment, Better services etc.
- **Cost Efficiencies:** PPP leads to cost efficiencies which are as a result of increased competition, increased proportion of risk transfer, and closer integration of various aspects.
- **Time to Delivery Savings:** PPP projects can be delivered quicker than under conventional procurement because of better project management, better management of project risks and because the service provider is not paid until the project is completed.
- **Reduction on the Public Treasury:** PPP helps reduce the capital demands on the public treasury for infrastructure development.
- **Broad Support:** PPP are broadly supported by central, state and local bodies.
- **Others:** Innovation, Private sector project development skills, Transparency of process, Involvement of third party financiers etc.

8.2 Disadvantages

- **Higher Transaction Cost:** PPP's try to reduce total project cost, however trending costs and developing costs are generally higher.
- **Lack of Coordination:** As there are two or more parties involved in PPP there are chances of misunderstandings.
- **Inefficiencies:** PPP can lead to Inefficiency due to lack of contestability and competition.
- **Culture Gap:** There exists a culture gap between public and private sector which may result in loss of confidence in each other.
- **Different Objectives:** The private sectors motive to take part in PPP is to mainly make profits but the motive of public sector is service oriented.
- **Corruption:** PPP projects are always behind the risk of corruption as there are too many people and processes involved in the completion of the project.
- **Political and Legal Problems:** Changing Governments and major changes in law has sometimes a very bad impact on PPP projects.

9. PPP IN LIVESTOCK SECTOR

Even prior to independence, the Government provided various support services for development of rural livelihood in India. This continued even after independence and the Government has taken the entire responsibility of providing necessary services and inputs for promoting livestock development in the country. However, there are many agencies involved in providing various services in different forms resulting in duplication and wastage of resources, due to lack of coordination among them. When several agencies are providing similar services, it is also difficult to assess the output of different agencies and the quality of their services. As a result, a lot of resources are spent on distribution of inputs, without any direct impact on the productivity of livestock and profitability of the farmers.

Free services have also had a negative impact on the mindset of the recipients in many ways. First of all, the free services are believed to be of inferior quality. While some of the services and inputs are wasted due to lack of accountability, many farmers are not able to realize the value of the services and neglect the opportunity to enhance their production. When the free services are made available, the farmers generally do not have wider options of their choice. Thus, in the absence of efficient services, needy farmers end up spending more money to avail of services from private agencies where they are sure of the quality and timely delivery of the goods and services. Therefore, it is advantageous to create greater awareness among farmers and develop an efficient infrastructure for timely delivery of services, and motivate farmers to avail them at cost, instead of spending on sub-standard sources and inputs, which are not able to make significant contribution to productivity improvement.

9.1 Public-Private Partnership for Livestock Development

Gradually, with economic reforms and resource crunches being faced by the Government, the idea of promoting private services is being considered as a solution to ensure efficiency and to reduce the financial burden of the Government. While some of these services can be privatized due to low cost and high demand, a few other services which need large investments and are not directly linked to improvement in production cannot be promoted as self sustainable activities. Some such activities need initial support, till the volume of activities increase while others need to be continued by the Government as farmers will not be interested in paying for such services. With this understanding, public-private partnership can be initiated in the development sector to enable the farmer to become self reliant to receive efficient and reliable services at reasonable costs.

9.2 Critical Services Required for Livestock Development

Among various inputs and services needed by the livestock owners, services such as breeding, veterinary health care and vaccinations are available either free or at a subsidized cost by the Animal Husbandry Department, provided the farmers are ready to bring their animals to the veterinary dispensary. Barring these services, the farmers have to pay for the other inputs and services, which are available either with the Animal Husbandry Department or with other agencies. Even with regard to breeding and health care, farmers are prepared to pay for the services when they own very valuable animals, which require superior quality services. When they pay for services, they also expect reliability and efficiency and thus the service providers have to be answerable to them. With this paradigm shift in the delivery of services, the entire Animal Husbandry sector can progress further as is being witnessed in the poultry industry.

Therefore, while promoting Public-Private Partnership (PPP) in Animal Husbandry Services, it is necessary to analyze the scope for privatization of various activities based on the ability and interest of the farmers to pay for them. It is also necessary to improve the infrastructure to deliver the services and to develop a comprehensive value chain to provide efficient backward and forward linkages to enhance the production. Thus, with promotion of PPP, the sector can gradually become independent, while the Government can closely monitor the services to ensure that the farmers get a fair deal.

The value chain on Inputs and Services identifies various players involved in promoting livestock development. They include, Research Institutes, input producers, providers of services such as breeding, health care, extension and technical advices on fodder production, feeding, housing, clean milk production and linking with milk processing and marketing agencies.

There are research institutions engaged in developing new technologies and inputs such as vaccines and diagnostic kits, laboratories for providing disease investigation services, genetic evaluation of sires and production of frozen semen and training centers engaged in building the capabilities of the field technicians and farmers. There are many pharmaceutical firms engaged in commercial production of medicines and vaccines for selling to farmers and banks and micro-finance agencies who are engaged in providing finance to livestock owners. There are agencies involved in milk procurement, processing and marketing.

While most of the activities can be self supportive as an enterprise, there are activities such as Research and Development, disease surveillance, genetic evaluation, breeding of new fodder varieties, etc. which require regular financial support to continue their services, as farmers will not be willing to pay for the cost, till they start realising the benefits and generating adequate income. With this background, the following activities can be promoted under Public-Private Partnership wherein the Government should encourage the private agencies and People's Organizations to provide these services, while restricting their role to monitoring, evaluation and surveillance.

Table-9.1 The Scope for Promoting PPP for Taking up Delivery of Various Services and Inputs

S. No.	Scope	Private service	Public service	Joint service
1.	**Services**			
a.	Livestock breeding	√		
b.	Pregnancy diagnosis	√		
c.	Vaccination	√		
d.	Deworming	√		
e.	Veterinary services	√		
f.	Testing against various diseases (D. I.)		√	√
g.	Nutritional analysis of various feed ingredients		√	√
h.	Advice on fodder cultivation and feeding	√	√	√
i.	Milk collection, chilling, marketing	√		
j.	Efficient use of dung and carcass	√		
2.	**Inputs Production**			
a.	Fodder breeding Fodder seed production	 √	√	
b.	Fodder, feed and concentrates	√		
c.	Mineral mixtures and vitamins	√		
d.	Research on vaccines, medicines Production of vaccines, medicines	 √	√	√
e.	Milking vessels, milking equipments	√		
f.	Various farm equipment	√		

From Table 9.1, it can be observed that most of the activities can be privatized except research and disease investigation services.

10. PRIVATIZATIONS OF BREEDING AND HEALTH CARE

There are many agencies providing breeding services and prominent among them are Animal Husbandry Departments, Livestock Development Boards, Dairy Federations and some NGOs. While the Animal Husbandry Departments and Livestock Development Boards are providing free services, others are providing services either at subsidized or at actual costs. As the farmers are willing to pay for good services, there should not be any difficulty to shift over to paid services, particularly after the discontinuation of free services.

Presently, there are very few Non-Government agencies who are engaged in providing breeding services, which may not have the capacity to take over the entire responsibility across the country. Therefore, additional service providers will have be promoted either directly or through some important players in the dairy value chain. For instance the Dairy Federations or private dairies engaged in milk collection and processing can take up this programme.

Privatization of veterinary health care may require initial support for the next few years, as the farmers owning unproductive and sick animals may not be able to pay for the treatment of such animals. However, this will be a transitional phase when a nominal service charge can be introduced in the beginning and subsequently the subsidy can be withdrawn and the entire activity can be privatized during the next 5-6 years.

For popularization of private service, awareness should be created among the farmers about the role of good quality services for improving livestock productivity. Simultaneously, the Animal Husbandry Department should withdraw breeding and health care services in a phased manner, so that farmers start availing private services.

Inputs such as fodder seeds, fodder concentrate, mineral mixture, dewormers and medicines required by the farmers are being procured at cost without any subsidy but farmers maintaining low or unproductive animals, generally do

not spend on treatment of such animals, as they are unable to recover this cost through enhanced production. These farmers gradually start culling such unproductive animals, thereby making this sector more competitive and profitable.
Milk processing and marketing are the other major activities in the value chain of dairy husbandry. Installation of modern dairy equipment and cold chain to preserve raw milk as well as processed products, require highly sophisticated equipment which are very expensive. Therefore, Farmers' Cooperatives on their own, will not be able to invest. Hence, financial support in the form of interest-free loan or subsidies will be necessary, particularly where a majority of the farmers belong to the lower income group. Support is also needed to strengthen them to be competitive in the international market, which is necessary to prevent the import of milk products and facilitate export of milk products. With the support for capital investments, the processing activities can be managed efficiently ensuring higher profit margin for milk producers.

10.1 Need for Public Investment for Research and Development

The research institutions, agricultural and veterinary universities, State biological labs and national institutes engaged in animal science and forage research, require financial support to conduct research and to develop new technologies, as farmers cannot bear the cost. Thus, in conclusion, it can be said that with some initial capital support, almost the entire dairy husbandry activity can be brought under Public-Private Partnership except for research and technology development. Public support for research will help in taking up innovative approaches to make livestock development more competitive and sustainable in the long run.
Services of the Disease Investigation Laboratories need some support from the Government, as farmers who are still not aware of the benefits, will not come forward to make best use of the facilities by paying service fees. However, these labs are essential to monitor the disease outbreaks and to control them. Therefore, the state has to carry out the activities for some more years till the farmers start realizing the utility of this service.
Pharmaceutical firms and biological engaged in production of vaccines, medicines, diagnostics, etc. can continue to operate without any financial assistances, except for production of certain vaccines which are required in small quantity and hence are not economically viable for private firms. For production of such vaccines and biological, the Government may provide financial assistance to ensure their supply at subsidized prices.
To be effective and sustainable, the partnership needs to give sufficient evidence that the benefits for both partners from this interaction are greater than when the action would be undertaken separately. In most countries the PPP arrangements have been aimed at overcoming broad public sector constraints in relation to either:

- Weak linkages between research and extension
- Extension more responsive to government bureaucracies than to the needs of the farmers
- Difficulty in delivering integrated crop-livestock extension programmes to mixed crop livestock farmers because extension agents are located in different ministries and respond to different administrative entities
- Veterinary services have shown their limitations in providing the comprehensive animal health services needed for livestock development
- Decentralization of veterinary services in a number of countries without adequate provision for the co-ordination of the control of major infectious diseases
- Privatization of some services have had varied degree of successes
- Weak Public Private Partnership
- Low involvement of Private sector in livestock service delivery
- Absence of a legal and policy framework for supporting PPP
- The role of Public and Private sector are not well defined

In determining the appropriate channel for delivery of services, it is necessary to classify each service on the basis of its public and private good character, while taking into account any externalities, moral hazard problems, or free rider problems that may accompany the production or consumption of the service.

10.2 Best Practices in PPP in the Livestock Service Delivery

The value chain approach to service delivery, provision of holistic and integrated service and inclusivity of beneficiaries is essential for effective livestock service delivery. Among other best practices are Permanent consultation between public and private sector through various mechanisms/structures such as the chambers of agriculture, value chain stakeholder's organizations, and federations.

- Sanitary mandates
- Establishment/use of multi-service hubs for one commodity (dairy cooperatives and collecting centers)
- Transfer of technologies between research and extension (on farm research, partnership private companies/research)

11. EXAMPLES OF PUBLIC-PRIVATE PARTNERSHIPS IN LIVESTOCK SECTORS

11.1 GALVmed (Global Alliance for Livestock Veterinary Medicines)

GALVmed's South Asia office is closely working with both State and non-State actors in order to facilitate the provision of animal health tools to poor livestock keepers in rural areas. India (States of Orissa, Bihar, West Bengal, Assam, Nagaland and Jharkhand only.

Bharatiya Agro Industries Foundation (BAIF) and the J K Trust, partner with the governments of Bihar, Jharkhand and Odisha to provide artificial insemination services through integrated livestock development centers.

The National Smallholder Poultry Development Trust (NSPDT) in Jharkhand and the Nagaland Pig Farmers Association (NPFA) in Nagaland are two other emerging organizations partner with the governments of Jharkhand and Nagaland which provide training to local youths and women in rural areas to vaccinate poultry and to conduct artificial insemination and healthcare in pigs, respectively

In 2015, the Bill & Melinda Gates Foundation (BMGF) and the International Fund for Agricultural Development (IFAD) launched a scoping project for "Public Private Producer Partnerships (PPPPs) in small ruminant value chain development in India" with a view to build a solid understanding among goat industry stakeholders (public and private) on the profitability, competitiveness, and importance of investing in the goat sector as a mean to enhance the livelihoods of and business opportunities for poor farmers in the rural areas of Bihar, Odisha and Uttar Pradesh.

Haryana Livestock Development Board (HLDB) are working in tandem with the State Government as well as registered 'Gaushalas' (cow ranches), run by nongovernmental organizations for conservation of indigenous Tharparkar breed from Haryana State in India through strengthening /extension of field artificial insemination network, field performance recording and control of infertility among bovines in both urban and rural areas.

Government of West Bengal introduced educated unemployed youth as Pranibandhus (field level stakeholder of Public-Private-Partnership model of veterinary services in West Bengal) for livestock extension services round the clock at the farmers' door step.

Government coordination, cooperation and shared financing with producer groups in implementing disease control schemes (e.g., Animal Health Australia).

CONCLUSION

The public-private partnership is a notion that covers a great range of cooperation shapes between the public and private sector, which has determined in the international literature and practice the inexistence of an unanimous accepted opinion regarding what this partnership represents. The differences in opinion regarding the public-private partnership exist also because of the different approach of each state. This diversity of opinions from the literature is found also in what its use by the local public administration in concerned. However, we can conclude that despite this diversity of opinions, the decision to run a project in the public-private partnership must be taken based on a cost-benefit analysis that relatively analyses the version of running a project in the public-private partnership and the version of running one in a traditional way. Only when all the particularities, benefits and risks of a project are taken in consideration, the version of running a project in the public-private partnership is more viable and brings value for money, only then we can stipulate that the public-private partnership bring value to the public administration. PPP is the promise of better quality of service to legal and regulatory reforms which can effectively extend the reach, impact & effectiveness of service to society. In Livestock sector Private veterinarians & veterinary-paraprofessionals under veterinary supervision can provide a wide range of services for government through sanitary mandate contracts. Effective use of the private sector requires strong legislation & enforcement mechanisms for proper delegation of authority to ensure the quality & performance of private sector actors. Overall success of Veterinary Services depends on quality veterinary education & effective veterinary statutory bodies. Therefore Governments should consider shifting their role from direct implementation of Veterinary Services to facilitation & regulation of selected veterinary service delivery by the private sector.

REFRENCES

[1] A. M. Abdel-Aziz, A, D. Russell. A Structure for Government Requirements in Public–Private Partnerships", Canadian Journal of Civil Engineering. 28(1) 891–909, 2001.

[2] Academic Foundation. State of the Indian Farmer, a millennium study. Ministry of Agriculture, Government of India, New Delhi. 2004.

[3] Animal husbandry department reports, Government of India, 2012 -13

[4] Anonymus. Public-Private Partnerships for Agricultural Innovation: 6thmeeting of the Food Chain Analysis Network, Paris, 13-14 October 2014 Parishttps://www.oecd.org

[5] Agricultural research, MoU, fodder shortage, TANUVAS, Public Private Partnership Public–private partnership From Wikipedia.

[6] E. Binenbaum, P.G. Pardeyand, B.D. Wright. Public-private research relationships. Bulletin of the World Health Organization. 79(8): 748.754, 2001.
[7] K. Buse and A. Waxman. Public-private health partnerships: A strategy for WHO. Initiative on Public-private partnerships for health (IPPPH). 2003.
[8] J.S. Buurmaand, D.M. Boselie. Stakeholder perception analysis for agri-supply chain consultative group on international agricultural research. American Journal of development. Acta Horticulturae. 536: 625-33, 2000.
[9] C.T. Das, Sikidar, Sujit.. Public private participation (ppp) in india-its operational mechanism and challenges ahead. International Monthly Refereed Journal of Research in Management & Technolog. ,3(4): 14-22, 2014
[10] Draft Twelfth FYP (2012-17), Planning Commission, GoI
[11] Department of Economic Affairs, Ministry of Finance, Government of India, 2007
[12] Economic Forum Annual Meeting 2003, January 24, 2003. <http://www.weforum.org>.
[13] Economic survey India, 2012-13
[14] P.A. Groutand, M. Stevens. The assessment: financing and managing public services. Oxford Review of economic policy. 19(2): 215-234, 2003
[15] Government of India, Guidelines for modified 'support to state extension programmes for extension reforms' scheme, Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India, June 2010.
[16] R. D. Hisrich, M. P. Peters. Entrepreneurship. Tata McGraw Hill Publishing Company Ltd. New Delhi: 1–663, 2002.
[17] G. A. Hodge, C. Greve. Public–Private Partnerships: An International Performance Review, Public Administration Review. 67(3): 545–558 , 2007
[18] International food policy research institute www.ifpri.org.
[19] S.S.Nanda. Infrastructure Development in India: The Role of Public-Private Partnership. International Journal of Core Engineering and Management. 2(6):60-70, 2015.
[20] A. G. Paul, S. Margaret. Financing and Managing Public Services: An Assessment. Programme on Public Private Partnership in Social Sector Chapter 6. Bella Vista Publication, Hyderabad. 2003.
[21] Planning Commission, 2008. Eleventh Five Year Plan (2007-2012), Vols. I&III, Government of India, New Delhi.
[22] N. Pongsiri "Regulation and Public-Private Partnerships," The International Journal of Public Sector Management, 12(1) :7-9. 2002.
[23] G.P. Reddyand, K.H. Rao. Public Private Partnership in Agriculture-Challenges and Opportunities, Summary proceedings and recommendations of NAARM. National Workshop held on September 19 & 20, 2011. National academy of Agricultural research Management, Hyderabad 500 407, Andhra Pradesh, India. 2011.
[24] P. Scharle. Public-private partnership (PPP) as a social game. Innovation: The European Journal of Social Science Research, 15(3): 227-252, 2002.
[25] D.J. Spielman, K. Grebmer. Public-private partnerships in agricultural research: an analysis of challenges facing industry and the Consultative Group on International Agricultural Research (Vol. 113). International Food Policy Research Institute. 2004
[26] The Department of Economic Affairs (DEA). Ministry of Finance, Government of India, 2007