



## Public Private Partnership in livestock sector of Bangladesh

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### Abstract

In Bangladesh the concept of Public Private Partnership (PPP) has been launched very recently. In view of the present need of the country, the Government of Bangladesh issued the Policy and Strategy for Public Private Partnership (PPP) in August 2010, to facilitate the development of core sector public infrastructure and services vital for the people of Bangladesh (Bangladesh Gazette, additional 2010). The PPP program is part of the Government's Vision 2021 goal to ensure a more rapid, inclusive growth trajectory, and to better meet the need for enhanced, high quality public services in a fiscally sustainable manner. It is very practical to understand that only public or private sector alone could not be able to cope with all the essential needs of the country. It is also eventually true that there are almost equally distributed trained personnel in both the field having variable opportunities. Government resources are not enough always to run huge development of the country. On the other hand it is not always possible for the private sector to start with the view to build up all the facilities alone to meet up the demand of the nation. Thus PPP has been termed as effective vehicle for the integrated development of the country.

**Key words:** livestock, Bangladesh, PPP

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### Public Private Partnership

Public Private Partnership (PPP) can be defined in broad term as "A contractual framework, or structure, where the public and private sector come together to deliver a project/service that is traditionally provided by the public sector, by means of risk transference. Whilst various structures exist, the key principle is that better value can be achieved through leverage of private sector competencies and the allocation of risks to those parties best-suited to manage them"(ILO, 2011).

PPP is the most important talking topics among the developing countries of the world. PPP is the collaborative work of Government and Public enterprises where the private party provides a public service or project and assumes substantial financial, technical and operational risk in the project. It is being considered worldwide as an inimitable window for the development of infrastructure sector for the country. Since the private sector has to bear the cost resulting from accidents and damages, they certainly use reliable and quality materials to ensure their own safety.

It is generally observed that all kinds of PPP incorporate three main characteristic components like:

- a) A contractual agreement defining the roles, regulations and responsibilities of the parties;
- b) Sensible risk-sharing among the public and the private sector partners, and
- c) Financial rewards to the private party proportionate with the achievement of pre-specified outputs.

### Conditions for successful PPP

A successful public private partnership should also fulfill three conditions at a minimum:

- a) **Benefits for private sector:** generate a profitable revenue stream or expand market access.
- b) **Benefits for the consumer:** deliveries of services that people want and would not have access to at the same price, in a business as usual situation.
- c) **Benefits for the government:** fulfillment of a political need, social obligation and development imperative.

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### PPP Policy and Strategy in Bangladesh

#### Background

- a) Share of investment to GDP needs to be raised from current 24-25% to 35-40%;
- b) To sustain GDP growth rate of 8% in 2016 and beyond, requires additional BDT 4.8 Trillion from 2009 to 2016;
- c) Needs investment of private sector for infrastructure development/services;
- d) The Government may be the main purchaser of services;
- e) Private operators may also sell services directly to private consumers;
- f) Both may be applied in a project;
- g) Under the agreement, the Private Partner is obliged to undertake the investment;
- h) The Govt. defines its requirements by way of output and result. But does not specify the detailed engineering;
- i) Private sector assumes the associated risk in exchange for the right to earn an adequate return;
- j) Risk allocation is the heart of how PPPs are structured.

#### Concept of PPP

- a) PPP normally covers public good provisions;
- b) PPP is a win-win relationship between the government and private sectors players sharing the risks and rewards under a contractual obligation;
- c) The private sector is the active party undertakes activities, depending on the model, starting from the stage of conception and up to the stage of operation and maintenance;
- d) In most of the cases, PPP allows private sector into areas of business where the government holds control over infrastructure or service before such partnership;
- e) The public sector retains a significant role in the partnership, either as the sole purchaser of the services provided or as the main enabler of the project.

### Applicability of PPP

#### Project in PPP where at least one of the following circumstances exists:

- a) Financial resources constraint or absence of expertise with the government alone;
- b) Private investment would increase the quality or level of service or reduce the time to implement ;
- c) Opportunity for competition, among prospective private investors;
- d) Private investment in public service provides an opportunity for innovation; and
- e) No regulatory or legislative restrictions in taking private investment in the delivery of public service.

From the activities of the Government of Bangladesh it is observed that a good number of approaches for PPP have been initiated covering most aspect of infrastructural development in different sectors. But unfortunately livestock sector has not been taken into consideration for integrated development. Due to heavy thrust in agriculture sector cereal food production is going to be self-sufficient to meet the demand of the country. But it is evident that there are huge gap for the consumption of animal protein and their total production.

It is reported that for sustainable growth of the livestock industry, Bangladesh has to face the challenges on several fronts, such as the lack of capital, inadequate availability of inputs, inadequate institutional credit, guaranteed and profitable markets for output, quality control and certification of livestock product, value added in different stages of marketing of livestock products, disease control. The private sector is playing a vital role in the production and marketing of livestock products. However, interface between public and private sector is sadly missing. Government should encourage private investment in livestock sector but quality assurance of day old chicks, drugs, vaccines, feeds, breeding materials through legal and regulatory framework is necessary for sustainable development of the sector. Government needs to widen its approach to planning by increasing budget allocation for the development of this sector along with policy intervention focusing on technical and productivity issues (Rahman *et al.*, 2014).

Above statement justify the need of PPP in livestock sector for adequate development and to

fulfill the requirement of the people of the country. Thus existing scope and facilities must be explored by the Govt. to make a practicable collaboration with the private sectors of various natures to boost up the production of animal protein.

**The thematic areas of PPP in livestock production could be the followings**

- (a) Dairy development, beef fattening and meat production;
- (b) Poultry development;
- (c) Breeds and breeding (Artificial Insemination);
- (d) Feeds and fodder;
- (e) Veterinary services and animal health;
- (f) Analysis of Department of Livestock Services (DLS) and Bangladesh Livestock Research Institute (BLRI), public agencies related to the management of livestock services;
- (g) Hides and skins and other animal by products;
- (h) Marketing of livestock products; and
- (i) International trade, livestock insurance and credit.

**Human population growth projection and its relation with livestock production**

Human population growth in the country has been projected to rise 1.5 - 1.9% annually. The population size in 2001 was 129,247,233 and estimated population size in the year 2050 would reach up to 218,000,000 (Table 1). Probable important features of the population growth can be summarized as

Proportionate increase of urban inhabitants will occur and Bangladesh will become essentially a city state. City dwellers would require increased quality food in increased amount but they will be consumer of food certainly not grower.

- a) Because of increased average life span of the citizens people aging over 60 will jump from 7 million to 65 million;
- b) Sharp reduction in child death will eventually inflate infant-adult ratio;
- c) Elevated number of elderly citizens and infants will require additional quality of milk and egg per year;

- d) Increased buying capacity of the inhabitants would demand more supply of quality animal products such as milk, meat and egg.

**Table 1.** Human population growth projection

| Year | Size        | Annual growth |
|------|-------------|---------------|
| 2001 | 129,247,233 |               |
| 2050 | 218,000,000 | 1.5 - 1.9%    |

Source: Streatfield and Karar, 2008

**Table 2a.** Requirement and availability of livestock products (person/year)

| Prod ucts | Requir ements | Availa bility | Absolute deficit | % Deficit |
|-----------|---------------|---------------|------------------|-----------|
| Milk (L)  | 91.25         | 17.50         | 73.75            | 80.82     |
| Meat (kg) | 43.25         | 9.12          | 34.13            | 78.90     |
| Egg (No)  | 104           | 36            | 68               | 65.35     |

Source: FAO/APHA cited by NLDP, 2007

**Table 2b.** Requirement and availability of livestock products (per capita/day)

| Product   | Intake | Requirement |
|-----------|--------|-------------|
| Milk (ml) | 43     | 250         |
| Meat (g)  | 21     | 120         |
| Egg (No)  | 41     | 104         |

Source: FAO/APHA cited by NLDP, 2007

Table 2a and Table 2b highlight the estimated availability, requirement and deficits of livestock products. The current production and requirement of milk, meat, and egg/person/year figure at 17.50 L, 9.12 kg and 36 pieces and 91.25 L, 43.25 kg and 104 pieces, respectively. An explicit deficit of annual milk, meat and egg remains at 80.82%, 78.90% and 65.35%, respectively (Table 2a). At present intake of milk, meat and egg/head/day averaged at 43ml, 21g and 41 numbers against the requirement of

250ml, 120g and 104 numbers, respectively (Table 2b). Around 8% of total protein comes from livestock source and the rest amount comes from fish and vegetable sources.

**Current state of livestock production in Bangladesh and other countries**

Ruminant density (animal/km<sup>2</sup>) in Bangladesh is much higher than in other countries. These figures stand 145 in Bangladesh, 90 in India, 30 in Ethiopia and 20 in Brazil (Table 3a).

**Table 3a.** Large ruminant densities in some selected countries

| Country    | Head/km <sup>2</sup> |
|------------|----------------------|
| Bangladesh | 145                  |
| India      | 50                   |
| Ethiopia   | 30                   |
| Brazil     | 20                   |

Source: Anonym 1

**Table 3b.** Milk yield (L/cow in 10 months lactation period)

| Country    | Milk yield |
|------------|------------|
| Bangladesh | 200-250    |
| Pakistan   | 800        |
| Asia       | 700        |

Source: NLEP, 2007

Milk production in 10 months lactation period per cow also minimum in Bangladesh compared to that of in Pakistan and Asian average (Table 3b). This miserable low performance of milch cow, and perhaps in other animals as well, may be due to multiple reasons including nutrition, management and disease prevalence. But it is certain that poor genetic base of our cattle and buffaloes attributed greatly in the sub-optimal milk yield. Artificial Insemination (AI) programme conducted by DLS (since 1961) and BRAC (since 2000) and Milk Vita (localized) aiming at dairy cattle improvement contributed significantly but milk production remains still far below the requirement. Very little effort has been made for

beef cattle improvement in the country despite high demand. DLS is currently operating a GOB funded "Beef cattle development project" (2013-2019) where Brahman cattle introduction is the main concern. Fruitful initiative for small ruminant improvement neither for meat nor for milk has been undertaken. A sum of 21.6 million goats is widely distributed to almost every small holder but their rate of gain as meat producing animal needs serious attention (Amin, 2002). If 5% GDP growth rate is considered still then the current production of the commodities need to increase 2.5-3.0 times to achieve vision 2021 (NLDP, 2007). PPP deserves enormous potential for the improvement of livestock sector. Because of tremendous growth in private sector poultry industry requirement-availability gap in the poultry production has been markedly narrowed down. Per capita distribution of heads of sheep declined from 0.09 to 0.01 within 2002-2008 (NLDP 2007). Farmers have given up sheep farming as they proved to be unprofitable owing to their poor genetic base. Breeding network has not yet been developed to provide door step service. There are many options available to overcome the bottlenecks and all of them may not be equally combatable. However, species and region specific breeding programme for genetic improvement of domestic animals might be the best option to achieve the intended goals which warrant rigorous R and D initiatives. Government alone does not possess the capacity to handle large spectrum of activities until or unless PPP is undertaken in this sector.

**Objectives of livestock development policy 2007**

To provide the enabling environment, opening up opportunities, and reducing risks and vulnerability for harnessing the full potential of livestock sub-sector to accelerate economic growth for reduction of rural poverty in which the private sector will remain the main actor, while the public sector will play facilitating and supportive role.

- a) It is evident from the experiences of most countries the PPP arrangements have been aimed at overcoming broad public sector constraints in relation to either-
- b) Weak linkages between research and extension;

- c) Extension more responsive to government bureaucracies than to the needs of the farmers;
- d) 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;
- e) Veterinary services have shown their limitations in providing the comprehensive animal health services needed for livestock development;
- f) Privatization of some services have had varied degree of successes;
- g) Weak Public Private Partnership;
- h) Low involvement of Private sector in livestock service delivery;
- i) Absence of a legal and policy framework for supporting PPP for livestock development;
- j) The role of Public and Private sector are not well defined;
- k) Thus the best PPP practices for the livestock production include;
- l) The value chain approach to service delivery, provision of holistic and integrated service and inclusivity of beneficiaries is essential for effective livestock service delivery;

#### **Organizational Framework**

Directorate of Livestock service (DLS) under the Ministry of Livestock and Fisheries is the core govt. organization mandated to provide services related to livestock and fisheries. BLRI is with the responsibility to perform research and innovation in the field of animal and poultry. Some other govt. affiliated bodies like PKSf, BRDB and Milk vita have also been in operation to livestock goods and services to the citizens. Considerable number of NGOs (>2000 registered) and missionaries such as BRAC, Proshika, World Vision, HEED, ADL etc. are also involved directly in activities related to livestock production and health. More than 8 national universities do have research and in some cases extension programmes associated with livestock production and veterinary services. Banks and microcredit delivering agencies also have been participating

in establishment of private poultry, dairy and goat farms by offering loans.

#### **Possible strategies for strengthening livestock production from the view point of PPP**

Now-a-days it is globally and timely accepted opinion that economic growth of a nation needs to be achieved by joint effort of government and entrepreneurs called PPP. DLS, from this view point, formulated a "National Livestock Extension Policy 2013" which states that " To provide the enabling environment, opening up opportunities, and reducing risks and vulnerability for harnessing the full potential of livestock sub-sector to accelerate economic growth for reduction of rural poverty in which the private sector will remain the main actor, while the public sector will play facilitating and supportive role." (Mia, 2013). Keeping the idea in mind the following strategic hints are postulated for country's livestock development along with the production of safe products and their distribution and marketing.

#### **How to increase milk production?**

- a) Genetic improvement of dairy cattle pertinent to region and environmental condition;
- b) Genetic evaluation, selection, crossbreeding, grading up, introduction of new genotypes;
- c) Intensification of dairy buffalo (Murrah/Nili-Ravi) rearing in the coastal belt;
- d) Introduction of dairy goat (Alpine/Saanen) to resource poor communities;
- e) Ensuring balanced ration for the animals in adequate quantity;
- f) Prevention and control of diseases;
- g) Encouraging large scale dairy industry through PPP;
- h) Establishment of PPP driven breeding operation;
- i) Initiation of effective disease control;

#### **How to increase meat production?**

- a) Enhancing growth rate in Black Bengal goat through genetic intervention;
- b) Intensification of sheep raising in potential area such as char land, tea and

- mango sites, islands, prawn/shrimp cultivation area;
- c) Brahman cattle breeding and extension must be strengthen;
  - d) Encouraging broiler, village poultry and squab production;
  - e) Establishing mega hatcheries through PPP;
  - f) Goat distribution to the distressed women;
  - g) Effective disease prevention and control;

#### **How to increase table egg production?**

- a) Selection, breeding and improved husbandry package program for the village poultry producers developed through PPP research;
- b) Expansion of duck raising in char, haor and coastal region;
- c) Inviting PPP based mega egg industries;
- d) Subsidy in poultry feed, vaccines, drugs, feed additives, equipments;
- e) Free technical advice by the government;
- f) Effective prevention of threatening diseases;

#### **Prospect of PPP in livestock Research and Development**

Demand for livestock products is never ending, since current availability of products remains far below the requirement level. By 2021 Bangladesh will become a state of middle income which will enhance buying capacity of the people. Population size, particularly elderly and infants will increase than ever before. So marketing of livestock products will not be big problem. Stability in feed supply, processing and preservation of products, disease hazards, risk of natural disasters are considered to be the main obstacles in growing livestock enterprise. Farming ruminants require larger land resource which is a serious constraint in developing livestock industry. We have enough investors, share market, expertise, and insurance, labour force etc. If proper government facilitates ensure many large investors or companies will come forward to invest their money in dairy and meat production. Poultry industry require less area of land and they are reared by readymade feed, automation reduced labour intensiveness, can be grown in highly restricted area that facilitates easy disease control which led to easy running of the project. This is the reason why poultry industry flourished throughout the world. The above mentioned

potentials warrant government support to the private investors under a legislative frame work. In order for finding solution to the problems that can arise during operation of the animal industry concurrent research needs to carry out. So simultaneous research and development will be necessary for sustainable growth of PPP based livestock enterprises. Research should be focused on feeding vulnerable consumers of critical age, climate change, utilization of char and coastal area, biodiversity, food safety and nutritional balance, feasibility and economics and employment opportunity.

#### **Government role in livestock Research and Development**

At present government of Bangladesh is facilitating development of 100 Economic Zones in different prospective area. These zones will be utilized to set industries. Resources available around a particular zone will be the principal determinant of what type of industry can be built. Unfortunately 10 broad area of approved PPP did not include livestock resource. In this regard government should rethink and incorporate livestock farming and industry within PPP frame. Only then private owners or companies will come forward to set up animal based industries in the economic zones. Within or beyond, government can provide land leasing, housing, fencing, waste disposal, marketing, procurement, activities relating to risk coverage. Agreement between parties should specify rules of business. For uninterrupted supply of feed, breedable stocks, drugs and vaccines, equipment, housing materials and veterinary care separate establishments need to run. Government can provide capital sharing to mega project and regulatory services. Major share of research fund should come from public budget. Donations, international agencies, enterprise derived endowment fund can be alternative source of research funds. This may create a culture of franchise, having branded products, social marketing, donations, social club partnership, involvement of corporate sector and competitiveness.

#### **Research Collaboration**

Relevant expertise from Universities, NARS institutes, NGOs, Government organizations should be given contact research on issues pertinent to PPP in livestock production. Animal Scientists, Nutritionists, Economists, Social Scientists, Veterinarians, Environmentalists,

Disaster specialists all should participate in the research group under an umbrella. Research issues required to be prioritized based on the consensus made in the stakeholder opinion. Researchers, Development workers and Policy makers need to sit together, come in consensus to formulate ideas and implement projects and evaluate progress in order to reach our desired vision 2021 with livestock component.

#### **Conclusion and Recommendation**

Currently GOB is in the process of development of 100 Economic Zones (EZ) in different prospective locations of the country under PPP. These EZs are supposed to be utilized by the private sector entrepreneurs. Ten specific categories of projects have only been encompassed to allocate these EZs. Despite tremendous potential, livestock component has been overlooked from the beginning. Since lot of investments are required for purchasing land, building up infrastructures and risk coverage in setting up livestock industry particularly dairy and meat enterprise, many investors get discouraged in choosing this venture. Allocation of EZ among interested private owners can contribute greatly in solving the problem. R&D efforts must address small holder farming system as 70% of the people depend directly or indirectly on livestock for their livelihood. Expertise has been distributed in GOB, Universities, research stations, and in NGOs. There should have a body that can coordinate relevant expertise from different fields to conduct need based research. Research on policy formulation, feasibility, sustainability, project evaluation and profitability of the investors must be given priority. Extension network needs to be strengthened to provide technical back up services to the growers. GOB should provide adequate fund under PPP projects to accomplish need based research on animal production. Apart, researchers should seek fund wherever it can be made available. PPP in livestock is seems to be only the appropriate alternative approach to meet the poverty of vulnerable group of people and adequately provide nutrition security of the nation through the production of milk, meat and egg to a greater extent.

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