

A Rapid Rural Appraisal of the Family-based Poultry Distribution Scheme of West Bengal

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1. Introduction

The Eleventh Five Year Plan (2007-2012) of the Government of India recognizes that investments in backyard and small-scale poultry farming can stimulate a growth of the economy which is inclusive, though 'pro-poor' poultry sector policies have yet to be formulated and implemented countrywide.

The State Government of West Bengal has traditionally invested in backyard and small-scale poultry farming, and since 2005 has been implementing a Family-based Scheme comprising the distribution of day-old chicks to poor rural households. The objective of the Scheme is to enhance the contribution of poultry to household nutrition, food security and income, i.e. to mitigate poverty level in the State. Important lessons can be drawn out of this Scheme, for policy makers both in West Bengal and other States in India.

This Report presents the results of a Rapid Rural Appraisal of the Poultry Distribution Scheme implemented by the Government of West Bengal. The next section reviews the rationale for investing in backyard and small-scale poultry production systems to reduce poverty in the Indian sub-continent; section three illustrates the functioning and impact of the West Bengal 'Poultry Distribution Scheme' according to official data released by the State Government; section four presents some recommendations on how to improve the Scheme based on a Rapid Rural Appraisal mission in rural West Bengal. Section five summarizes the main findings and concludes.

2. Investing in small-scale poultry is good for economic growth and poverty reduction

In the past three decades, poultry have been one of the fastest growing agricultural sub-sectors in the Indian sub-continent, because of unprecedented increases in the demand for animal source food and advancements in the technology of production. However, 'the poultry production model in vogue (high input-high output using commercially developed strain of birds) ... is successful mainly in large-scale units (more than 1,000 units of birds)' (Gol, 2002), largely located in urban and semi-urban areas, and '... is becoming ineffective due to high cost of feed, non-availability of credit at reasonable interest and lack of adequate marketing support' (Gol, 2005) ... 'government intervention ... is now needed for the promotion of poultry in rural areas' (Gol, 2002).

The Eleventh Five Year Plan (2007-2012) of the Government of India – which titles 'Inclusive Growth' – stresses that economic growth should be more balanced and inclusive than has been so far, including in agriculture. It sets a target GDP growth rate of 9 percent per year, with agriculture anticipated to grow at 4 percent per annum; within agriculture, the livestock sector is expected to grow at between 6 and 7 percent per year, with poultry growing at 10 percent per year. 'For growth to be at all inclusive, the agricultural strategy must focus on the

85 percent of farmers who are small and marginal, increasingly female, and who find it difficult to access inputs, credit, and extension or to market output' ... 'special programmes need to be designed and implemented to enable small farmers to go for high value commercial activities in crop production, dairy, poultry, fisheries, etc.'¹ (GOI, 2007).

Investing public resources in livestock, and in poultry within livestock, could be an effective way to promote an inclusive growth of the agricultural sector and contribute to poverty reduction.

- The livestock sector, which accounts for about one third of Indian agricultural value added, is anticipated to become the largest single contributor to agricultural GDP in the years to come, with enlarged opportunities for the livestock-dependent poor. As economic development progresses, in fact, increasingly well-off consumers shift their food consumption from low(er)-value, carbohydrate-rich food items to high(er)-value, protein-rich food items, including meat, eggs, and dairy products.
- Livestock are more evenly distributed than land, with the landless and small landholders possessing three-fourths of the poultry stock in India – their flocks range from few to few hundred birds, which are usually kept under scavenging / semi-scavenging conditions (low-input low-output technology) (GOI, 2006). Investing in poultry, therefore, could have a direct and immediate impact on the livelihoods of the less well off, with no need to wait for 'trickle down' effects.
- Eggs and poultry meat are the cheapest source of animal proteins for consumers, and their availability in rural areas can contribute to poverty reduction through improved human health. In particular, the widespread distribution of poultry birds has a built-in mechanism to reduce extreme poverty because, given the variability of food supply / price in rural markets, poultry serve as a less expensive device to access animal source food.
- Increased poultry production creates employment opportunities in rural areas, particularly for the unskilled labourers and women. It is estimated that nationwide a consumption increase of one egg and 50 gms of poultry meat per capita/per year could generate employment for about 25,000 and 20,000 persons respectively (GOI, 2006).
- There are no scale economy effects in poultry production because of the largely divisible nature of both inputs and outputs, as shown by the extensive presence of contract farming in Southern India – whereby poultry companies provide day-old chicks, feed and other inputs to contract farmers in exchange for the finished birds at a predetermined price – as well by the existence of competitive small-scale poultry production cooperatives nationwide. In other words, smallholders can be efficient producers of poultry meat and eggs.
- From a technology perspective, it could be easier to contribute to the target GDP growth rate of 9 percent per year of the Eleventh Five Year Plan by increasing the productivity of small poultry farms. The productivity of small farms being very low, in fact, relatively minor but tailored interventions can have a big growth payoff.
- From a public budget perspective, increases in productivity are likely to be achieved at less cost in large efficient poultry farms than in small, often inefficient poultry farms, because of reduced transaction costs in dealing with the former. However, if the objective is to reduce poverty, the gains in productivity should be later transferred to the poor, which involves the design, implementation and financing of costly policies and programmes by the Government.

¹ See also the 2007 National Policy for Farmers.

- In labour-abundant rural India, supporting large-scale poultry production units is not necessarily the most effective way to reduce poverty, because the non-farm sector is currently not large enough to quickly absorb the labor force which would exit agriculture.

To sum up, supporting backyard and small-scale poultry production systems, both by the Central and State Governments, appear a promising way to contribute to the objective of the Eleventh Five Year Plan (2007-2012) of 'making growth both faster and more inclusive'.

3. The Family-based Poultry Distribution Scheme of West Bengal

The State of West Bengal has a long tradition of backyard poultry keeping and poultry-related policies – it ranks third in India in terms of poultry population (61 millions), records the highest poultry density (683 birds/sqkm) and boasts the highest per-capita consumption of eggs in the country (34 eggs/year) (FAO, 2008; GoWB, 2004). In particular, since 2005 the Directorate of Animal Resources and Animal Health of the Government of West Bengal has been implementing a State sponsored Family-based Scheme, whereby the 22 State Poultry Farms distribute poultry birds to rural households with the objective to establish small-scale, self-sustainable poultry production units, which can provide a small but steady income to rural dwellers. Between 2005 and 2008, about 50 million birds have been distributed to around 500,000 households, which allegedly makes the Poultry Distribution Scheme the largest poultry programme in India, if not worldwide. The Scheme works as follows.

- In each fiscal year the Directorate of Animal Resources and Animal Health fixes the programme budget – which totaled Rs 1463 lakh (about US\$ 3 million) between 2005 and 2008 – and identifies the target Blocks. In order to ensure a minimum and possible adequate provision of animal health services, the Department selects Blocks with at least one Block Animal Health Centre (currently more than 85 percent of all Blocks). Since 2004-2005, animal health services are also provided by community animal health workers (Pranibandhus), which have been institutionalized with the 2004-2005 State Plan that aims at having one Pranibandhu operating in each Gram Panchayat.
- Within each Block, the local Gram Panchayats select the target beneficiaries, provided that they are members of female Self-help Groups (SHGs), which comprise of 10 members on an average. In the selection process the Gram Panchayat may, but is not obliged to, consult the Block Livestock Development Officer. The latter is responsible for providing one- to a few-day training in poultry management to the selected beneficiaries.
- Each beneficiary receives, one time only, 12 vaccinated day-old chicks (DOCs) (10 per member plus 2 to cater for losses), as well as feed for rearing them to the age of 13-16 weeks. The relevant State Poultry Farm delivers the DOCs to the Block Livestock Development Offices, from there the DOCs are collected by the beneficiaries. Travel costs of beneficiaries are covered by the programme, but beneficiaries pay Rs 1 per DOC to the Block Livestock Development Officer.
- The distributed DOCs are both Rhode Island Red (RIR) chicks and Khaki Campbell (KC) ducklings. These exotic breeds have been used in India for the longest period and are acclimatized to local conditions, are widely available and have proved to be more productive than indigenous chickens and ducks, also under scavenging or semi-scavenging conditions.
- To ensure better sustainability of the Scheme, the Directorate of Animal Resources and Animal Health has also established a 'Poultry Rearing Units Scheme', which is expected

to reduce mortality rates in DOCs. Selected SHGs / members of SHGs are supposed to be provided with feeders, waterers and other equipment necessary to establish small scale brooding units free of charge; then 250-300 DOCs would be supplied to them, along with feed to raise the DOCs for about four weeks, when the grown-chicks are distributed to beneficiary households.

The Directorate of Animal Resources and Animal Health of the State Government of West Bengal has conducted a preliminary evaluation of the scheme on a sample of beneficiary households.

Table 1. Details of programme costs (one-time) and benefits (annual) per beneficiary household (Rs.)

Item	12 RIR chicks	12 KC ducklings
<i>Birds</i>	108.00	144.00
<i>Vaccination</i>	18.00	12.00
<i>Packaging</i>	18.00	22.00
<i>Transporting</i>	12.00	13.00
<i>Brooding</i>	24.00	24.00
<i>Feed</i>	69.60	225.00
Total cost	249.60	440.00
Eggs/poultry meat home-consumption	115.00	115.00
Cash income from poultry	510.00	510.00
Benefit / cost ratio	2.50	1.42

Source: Govt of West Bengal Memorandum No. 3/28-AR&AH/4A-18/2005; and 316/28-AR/2G-497/2005.

Table 1 indicates that the Scheme works well: beneficiary households are more food secure and possibly get a steady flow of income from their poultry birds, and the private benefits of the programme definitely exceed the public costs, making it an effective means to contribute to poverty reduction in rural West Bengal.

4. Evidence and Recommendations from a Rapid Rural Appraisal

SA-PPLPP and PPLPI-FAO, with the assistance of West Bengal University of Animal and Fishery Sciences, undertook a Rapid Rural Appraisal mission in December 2008 to gain a deeper understanding of the Family-based Poultry Distribution Scheme of the Government of West Bengal. Semi-structured interviews were carried out with individual beneficiary households (10), Self-help Groups (4), Block Livestock Development Officers (4), Livestock Development Assistants (1) and Pranibandhus (1) in 5 blocks located in the Districts of North 24 Parganas, South 24 Parganas and Howrah. The State Poultry Farm in Tollygunj was also visited.

- The Directorate of Animal Resources and Animal Health has been implementing the Poultry Distribution Scheme on a massive scale in rural West Bengal, with Rhode Island Red (RIR) chicks being distributed in a far larger number than Khaki Campbell (KC) ducklings to beneficiary Self-help-Groups.
- Beneficiary households have generally increased their consumption of eggs, as RIR birds are more productive than local birds (desi), and many now obtain a steady, though small flow of income through the regular sale of surplus eggs, which fetch a market price of Rs. 2 to 4 per egg; the total gross monthly cash income from eggs per beneficiary household ranges between Rs. 120 to 720.

- Beneficiary households also sell live birds, at a price ranging between Rs 60 to 100 / kg live wt. Live birds are usually marketed to meet specific expenditure, such as to pay for medical or school fees for children, buy small inventory items, production equipment etc.; only few households have started selling birds on a regular basis. The Scheme, therefore, contributes to alleviate the credit constraints faced by beneficiary households and increase their ability to cope with unexpected outlays as well as to diversify their portfolio of activities.
- Women benefit more than men from the Scheme, as they have been traditionally responsible for both raising poultry birds and marketing surplus eggs. However, men remain responsible for selling live birds, when market transactions involve a relatively significant transfer of wealth.

The Rapid Rural Appraisal largely substantiates the results of the preliminary assessment of the Poultry Distribution Scheme carried out by the State Government of West Bengal – suggesting that the benefits of the Scheme are possibly higher than its costs – but areas for improvements were also identified.

- RIR birds are less agile than indigenous poultry breeds and all beneficiary households had to build shelters / cages for birds to keep them safe from predators. However, keeping RIR birds confined is hardly profitable, because the monthly net value of the produced eggs is barely enough to cover the cost of feed, and it may turn out a loss when family labour and fixed costs (e.g. shelters) are accounted for. An analysis of the economics of poultry keeping for a sample of beneficiary households would help clarify this point better. In any case, the Scheme could be certainly improved if the beneficiary households were selected among those who can keep birds under scavenging or semi-scavenging conditions and/or have access to some free sources of feed (e.g. land / ponds).
- Beneficiary households with previous experience in poultry keeping are more likely to establish small-scale, self-sustainable poultry production units than new entrants to poultry keeping. The Scheme could be improved if beneficiary households were given better training in poultry management and/of if they were selected among those with previous experience in poultry keeping. *Ceteris paribus*, the former option would entail increased outlays for the Department of Animal Resources and Animal Health, whereas the latter would involve a tradeoff between equity and efficiency, as the very poor with no experience in poultry keeping would be no longer eligible as beneficiaries.
- Despite the Scheme being implemented in areas which are purportedly well covered by animal health services, birds are often vaccinated on an irregular basis and Newcastle, fowlpox and other diseases contribute to high mortality in birds. Animal health institutions tend in fact to prioritize ruminants over monogastrics, and *Pranibandhus* – who are principally trained in artificial insemination and primary animal health care for large/small ruminants – rarely consider poultry as a major source of income: for instance, they often provide bird vaccination for free rather than charging the 50 paise (1/2 Rs) fee set by the Government. Some institutional changes are necessary to re-orient the focus of the provision of animal health services, with *Pranibandhus* realizing that the more the Scheme is successful, the more poultry will become a significant source of income for them: the vaccination of 10 birds generates a revenue equal to the vaccination of 2.5 goats or 0.5 cows and in rural villages the number of birds is definitely higher than that of goats and cows.
- Since RIR birds are good layers and poor brooders, only households with some indigenous hens for brooding have been able to establish self-sustainable poultry

production units, whereas the others expect the Department of Animal Resources and Animal Health to regularly deliver free additional DOCs. Some households, in effect, have been given DOCs more than one time. Whether the continuous distribution of birds at a subsidized rate to rural households is good is debatable because: (i) it would transform the Scheme in a wealth transfer programme, which is neither self-sustainable nor has been proved the most effective way to contribute to inclusive economic growth / poverty reduction; (ii) the majority of beneficiary households have appreciated the profitability of backyard poultry keeping and are now willing to pay for DOCs at market price, i.e. about Rs 9/chick vis-à-vis the current subsidized price of Rs 1/chick. (iii) The State hatcheries do not have a delivery chain in place to supply DOCs at village level, and sourcing the chicks from State hatcheries on their own is not cost effective for the villagers. In the medium to long term, therefore, the Scheme could shift its focus from subsidizing the production and distribution of DOCs to the delivery of poultry-related public goods – such as appropriate training for beneficiary households and better quality / coverage of animal health services – with the State Poultry Farms and other private companies (competing for) supplying DOCs to farmers at market prices.

- Small scale brooding units under the ‘Poultry Rearing Units Scheme’ have yet to be established in rural areas, which will be critical to reduce the mortality of DOCs as well as to create further employment for the poor. Before pushing this Scheme further, however, it would be useful to evaluate the market feasibility of a three-tier supply chain involving hatcheries-brooding units-farmers, the risk being to establish brooding units which have neither access to a regular supply of chicks (from hatcheries) nor to a regular market for the grown birds (farmers willing to buy poultry birds).

5. Conclusions

In low income rural settings, policies which support backyard and small-scale poultry keeping appear can contribute to household food security, nutrition and income, with possible efficiency losses in terms of output / sector growth being more than offset by reduced food insecurity and poverty level. The Eleventh Five Year Plan (2007-2012) of the Government of India appreciates the potential role of small-scale poultry for poverty reduction, though specific policies to promote an inclusive growth of the sector have yet to be formulated and implemented.

Since 2005, the State Government of West Bengal has been implementing a Poultry Distribution Scheme, which has so far involved the delivery of 50 million DOCs to about 5 million female headed beneficiary households. This is the largest Poultry Distribution Scheme in India, if not worldwide, and its contribution to economic growth / poverty reduction could be remarkable. Official data released by the Department of Animal Resources and Animal Health of the State Government of West Bengal suggest that the Poultry Distribution Scheme is proving effective at contributing to poverty reduction, with the benefits of the programme largely exceeding its costs. A Rapid Rural Appraisal of the Scheme substantiates the findings of the Department of Animal Resources but also identifies some areas for improvements, including better selection of beneficiary households / Self-help Groups; better training in poultry management; a shift in focus from the provision of DOCs to the provision of poultry related public goods, such as training in poultry keeping and animal health services.

Overall, the Poultry Distribution Scheme of the Government of West Bengal stands to show that investments in small-scale poultry can support food security and poverty reduction, though some small adjustments in the Scheme could make it much more effective. Some

household and community surveys as well as a more detailed analysis of Government data would be extremely useful to better identify priority areas for adjustments, so as to make the Poultry Distribution Scheme a good practice for emulation by policy makers in other States of India.

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