

## Good Practice Brief

# Government-Led Integrated Approach for Delivery of Services to Smallholder Poultry Farmers<sup>1</sup>

### Summary

The Bastar Integrated Livestock Development Project (BILDLP), implemented by the Government of Chhattisgarh and initially supported by the Danish International Development Assistance (DANIDA), makes an effort to enhance livelihoods based on indigenous poultry rearing. The intervention is a government programme, initiated as a part of the DANIDA-supported integrated livestock development project in 1999, and subsequently scaled up and sustained by the state government after



DANIDA phased out its support in 2004.

The experience from the project shows how simple, cost-effective interventions, with adequate extension and support systems, contributed to the improvement of poultry and the farm-management capabilities of tribal farmers in the Bastar region of Chhattisgarh in India, thereby contributing to poverty reduction.



### Background

Chhattisgarh is a relatively new state in the Indian Union and was formed in 2000. It is broadly divided into three agro-climatic zones, comprising the northern hilly region, the Chhattisgarh plains and the Bastar plateau.

The Bastar plateau, situated in south Chhattisgarh, is one of the most backward regions of the country. Seventy per cent of the region's population is tribal (GoCh and CALPI, 2007). The region has dense forests, rich in minor forest produce (MFP). Traditionally, tribal communities depend heavily on MFP for their livelihood; they also rear small animals such as goats, pigs and poultry in their backyard in order to supplement income.

Tribal households have been traditionally rearing poultry and women have been the main caretakers of the flock. Poultry rearing, thus, is a key source of supplementary income. It also provides them with nutritional supplements, in the form of valuable animal protein because milk and milk by-products are not part of the tribal diet. The flock sizes are highly variable and range from as low as two hens to ten hens per household (Shinde and Shrivastava, 2006). Men usually rear poultry for gaming purposes and champion cockerels are the pride of owners.

### The Problem

Backyard poultry in this region is plagued by various problems. Ranikhet disease and fowl pox are endemic throughout the state and cause considerable loss (ibid, 2006). Moreover the mortality rate in growing chickens is high due to predation. Parasitic infection is a common problem because both

<sup>1</sup>This brief is based on Good Practice Note, 'SA PPLPP (2010) Code: SAGP05, "Government-Led Integrated Approach for Delivery of Services to Smallholder Poultry Farmers - Traditional Poultry Rearing becomes a Profitable Activity for the Villagers of Bastar", Good Practice Note, Delhi, India.

ecto-parasites and endo-parasites are found in household poultry. Unhygienic surroundings and *kuchcha* (temporary) housing aggravates the parasitic infestation, resulting in the death of birds and direct economic losses. The main endo-parasites include round worms and tape worms, which compete for food inside the alimentary canal of infected birds and multiply rapidly. All this, in conjunction with lack of access to credit, training and relevant extension information, further complicates the practice of backyard poultry rearing.

**The Good Practice**

Where communities have traditionally reared poultry, as in the Bastar region, a poultry rearing initiative must build on these practices, and at the same time, gradually introduce technical innovations. The project approach was to slowly evolve from Step 0 through to Step 3, as suggested by Bessei (1987) and explained in Table 1.

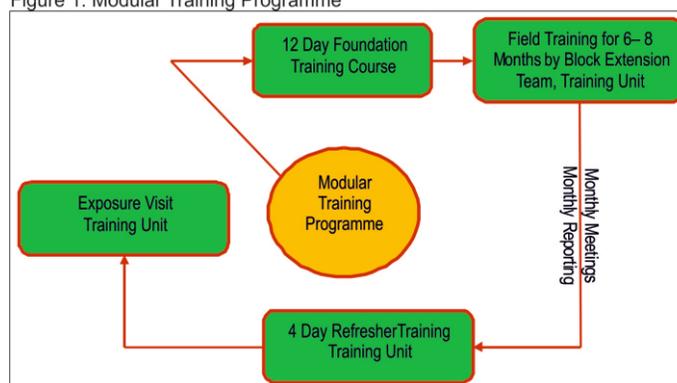
Table 1: Gradual change brought about by building upon Indigenous Knowledge	
Step	Production System
Step 0	Scavenging: No regular water or feed, poor night shelter
Step 1	Offered water and supplementary feed, improved shelter, DOC care in the first week, Newcastle Disease (NCD) vaccination
Step 2	Practices, as in Step 1, plus better feeding, watering, improved housing, treatment for parasites, additional vaccinations for fowl pox, Infectious Bursal Disease (IBD), etc., though the focus has remained on NCD
Step 3	As in Step 2, along with the introduction of improved breeds and balanced diets, gradually moving to a semi-intensive system

**Emphasis on low-cost technologies:** The low-cost, pro-poor technologies introduced in the programme aim at strengthening household poultry production. These include low-cost, protein-rich feeding, de-worming, vaccination, low-cost housing, egg-candling and promoting the use of bamboos as feeders and waterers.

**Doorstep animal health service delivery:**

This aimed at improving the risk management capacity of farmers by promoting a doorstep, animal health service delivery on a user payment basis, and at creating village facilitators (VFs), or para vets, at the village/hamlet level to deliver regular, economically sustainable animal health services within the villages. The BILDIP invested significantly in identifying and training VFs, who provided health services to poultry rearers. A modular approach to training (see Figure 1) helped nurture the interest of the facilitators for a sustained period of time.

Figure 1: Modular Training Programme



**Ethno-veterinary practices:** The adoption of ethno-veterinary practices to combat common diseases such as cough and cold, diarrhoea, fowl pox, wounds, endo-parasites and ecto-parasites, which contribute to morbidity and mortality in birds, can be adopted easily and costs practically nothing.

**Vaccinations:** Mass vaccination drives to fight diseases such as Newcastle are unique to Bastar because of the network of VFs, operational in remote villages, to implement the campaign.

**Change in practices:** These include-

- A change from traditional scavenging practices to a semi-scavenging system.

•Low-input, protein-rich feed formulation, using locally available material such as feeding ants and termites through the earthen-pot method has helped save financial resources spent on feed.

**Candling of Eggs - A Simple Technique to Differentiate Fertile Eggs from Non-Fertile Eggs**

A bulb-holder with a light bulb is fixed on one end of a tin box ( a torch may be used in remote areas); on the other end, a small hole is formed to place the broad end of an egg. A fertilized egg will show a pin-head shaped black spot floating near the broad end whereas an unfertilized egg looks transparent. Through this technique, unfertilized eggs can be sorted out on the fourth or fifth day of the brooding process and can, thus, be sold or consumed by the farmer.



•Checking the fertility of eggs through the candling procedure is another practice that has enabled fe/male farmers to retain only the fertile eggs for hatching, thereby improving the hatchability rate as well as making infertile eggs available for household consumption and sale.

**Harvesting Termites by Earthen Pot Method**

Household waste material such as old cotton rags, worn-out gunny bag pieces, fresh/dried cow dung, and vegetable leftovers are put in an earthen pot. Small pieces of ant-hill with termites are added to this pot along with some water to make it moist. This earthen pot is kept upside down in a cool dark place. The termites feed on the rags, food leftovers and multiply so that in 72 hours the pot is full of white ants. The pot is turned over and the birds are allowed to feed on these ants which are a rich source of protein. (Protein content approximately 30%)



**Stakeholders and their Roles**

The promotion of rural household poultry is managed by village institutions with support from state departments. The major players in this practice are the self help groups (SHGs), model farmers and VFs along with the Block Extension Team and the Project Management Unit. The actors involved and their roles are described in Figure 2.

**Outcomes**

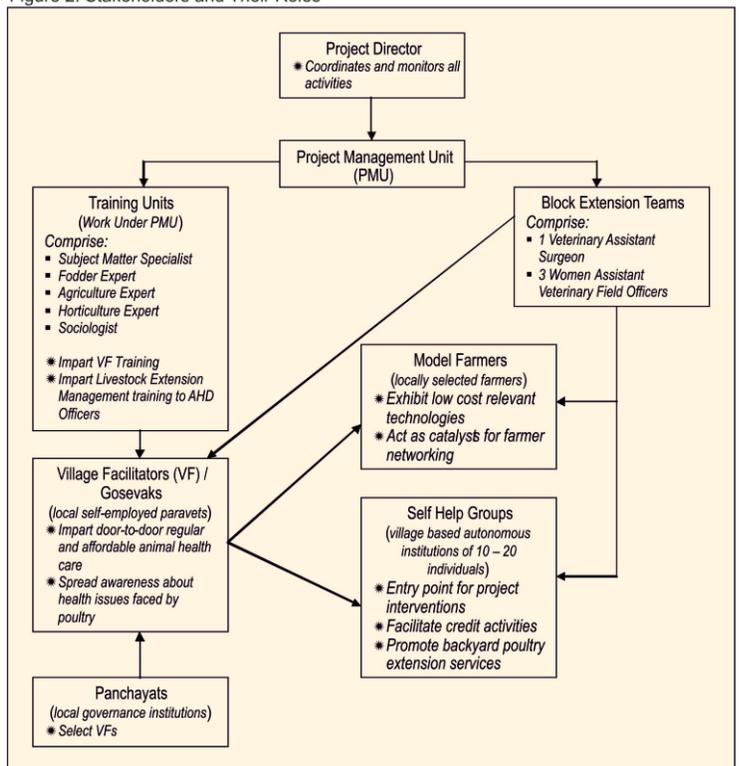
**Health Services:** Since the VF's are trained individuals from within the community, there has been better coverage and easier availability of health services. The network of VFs has ensured a regular supply of vaccines and the provision of first-aid services to livestock keepers in remote areas, which in turn has led to a reduction in the mortality rate (from 80–90% to 20–30%), thereby contributing to improved flock productivity. The number of poultry birds vaccinated through sustained efforts such as the Pulse Ranikhet drive has almost doubled over the last three-year period.

**Employment Opportunities for VFs:** Over 1,500 facilitators have been trained over a period of eight years. Of these, 813 VFs are currently working. Sixty-four per cent are able to earn Rs 500 or more per month as supplementary income.

**Strengthening Indigenous Knowledge:** The use of ethno-veterinary practices to combat common health problems has contributed to strengthening indigenous knowledge systems.

**Nutrition and Food Security:** The low mortality rate in poultry has resulted in the availability of more birds for home consumption. The money generated from the sale of eggs and meat has also contributed to higher food security. The simple practice of egg candling to identify fertile eggs has also made it possible for infertile eggs to be consumed within the home or sold.

Figure 2: Stakeholders and Their Roles



## Learning

Some of the key elements that contributed to the success of the project are:

- Full integration of VFs and multi-disciplinary extension teams for the optimal delivery of health services at the doorsteps of poor tribal farmers.
- Compared to the more conventional government interventions of introducing improved birds, the approach of providing health and extension services to existing *Desi* flocks is more effective and cost efficient.
- Animal health workers/VFs from within the community understand local problems and requirements of the farmers and are more committed about providing their services because they are accountable to the community.
- The modular training of VFs/animal health workers comprising classroom training, field training and exposure visits, refresher training at regular intervals and being part of referral vet systems helps in sustaining interest and increases the knowledge of the Vfs.
- Focusing on preventive animal health measures such as poultry vaccination drives (Pulse Ranikhet), involving the entire community provides outstanding results in resource-poor areas.

## Suitability and Replicability

This project has the potential for replication and it has promoted rural household poultry successfully in one of the most inhospitable terrains in the country. The project has now expanded to 16 blocks covering 37,000 farmer families of four different districts of the Bastar region, and has created a network of village-level institutions in 435 villages of the region. Its strength lies in building on the traditional knowledge-base and existing farming systems, with minimal introduction of practices that advocate drastic changes. The model demonstrated by the BILDIP can be further developed and replicated in other districts of the state, and in the adjoining tribal regions of Madhya Pradesh.

## References

- Bessei (1987), *Tendencies of world poultry production. Paper presented at the 3rd International DLG-Symposium on Poultry Production in Hot Climates, June 1987, Hamelin, Germany*
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