

EMPOWERING RURAL WOMEN THROUGH BACKYARD POULTRY IN MIZORAM



Introduction of superior germplasm dual-purpose Vanaraja breed of poultry helped increase egg and meat production among farmers in Mizoram. Here, Dr Saidur Rahman and Dr Lalthumliana Toichhawng describe these interventions and how it resulted in generation of continuous income, together with knowledge empowerment and self-respect of women poultry rearers in Mizoram.

CONTEXT

Backyard poultry farming is a traditional farming practice in Mizoram practiced from time immemorial by Mizo women. Mizo women rear chickens in their backyard, providing them with homegrown feed and with housing made of cheap and locally available materials such as bamboo, wood, etc. They rear local poultry in their backyards as a secondary source of income and also to provide better nutrition for their families through production of egg and meat. Traditional production system is expedient for two reasons: the availability of free feed resources in the surrounding environment and kitchen leftovers, and use of local breeds that are adapted to their environment along with conserved ability to incubate and brood naturally. However, non-availability of quality chicks, poor reproductive performance, low growth rates, diseases, mortality, predation and meagre level of knowledge among farmers are some of the major constraints in backyard chicken production. Backyard poultry farming that requires hardly any big infrastructure set-up is a potent tool for upliftment of the poorest of the poor. There is need for introduction of improved dual-purpose bird having the capacity to lay more eggs and gain higher body weight than the local or *Desi* birds, along with capacity building of rural women and support services. A Societal Development Programme entitled, '**Sustainable Livelihood Generation for Rural Women through Improved Backyard Poultry Farming**' is sponsored by the Department of Biotechnology, Government of India, New Delhi. It was implemented by the Department of Veterinary & Animal Husbandry Extension Education, College of Veterinary Sciences & Animal Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram, for improving backyard poultry farming in Mizoram.



GOOD PRACTICES

A. Establishment of Parent Stock of Vanaraja Birds at the College

Parent stock of Vanaraja chicks was maintained at the College of Veterinary Sciences & Animal Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram. These parent stocks of Vanaraja chicks were procured from Project Directorate of Poultry, Hyderabad. The chicks produced were distributed to the 200 women beneficiaries selected for the project. Chicks were also distributed to other villages covered under the Prime Minister's Flagship programme *Mera Gao Mera Gaurav* and Krishi Vigyan Kendras of the state.



Parent stock of Vanaraja birds maintained at the college

B. Selection of Villages

The project was implemented in Aizawl and Kolasib districts of Mizoram. Personal visits were made to different villages of the two selected districts, namely Aizawl and Mamit, to select five villages from each district i.e., 10 villages in total, before initiating the project. The villages which had highest women poultry rearers were selected. Initial discussion was conducted with the village leaders, namely, Village Council President (VCP), Young Mizo Association (YMA), MHIP, Zoram Ente Pawl (ZEP) regarding the project and its feasibility. As open rearing and foraging of animals and poultry are not allowed in a few villages, after meticulous discussion with village leaders, the project teams selected the following villages.

Aizawl District	Mamit District
Kelsih	Nghalchawm village
Tlangnuam Block Veng	Reiek village
Hlimen	Lengpui village
Hualngohmun	Ailawng village
Phunchawng	Lengte village

C. Selection of Target Beneficiaries

After preliminary discussion and reactions, 20 women who rear poultry from each village were selected. From these villages, 10 unemployed young women were selected for advanced training on poultry farming, processing and marketing. The young women who received training were referred to as 'Ar-thian' (*Ar* means poultry and *Thian* means friend). The *Ar-thians* were trained mainly on skills of giving vaccination, egg candling, brooding and processing, and value addition of poultry products. They were encouraged to sell processed birds, feeds, supplements and minerals to the poultry farmers

of the village and nearby areas. They will also vaccinate the birds periodically on a payment basis after the project is over. These activities certainly incentivise the *Ar-thians*.



Selecting the beneficiaries for the project

D. Nature of Intervention

The selected farm women were trained on poultry farming and management at the village level. They were provided with 20 numbers of Vanaraja chicks initially along with necessary inputs like feeds, feed supplement, and vaccines for initial period. Regular monitoring and providing a support system for the adoption of technologies were given by the project staff and experts from the college. The beneficiaries were helped to redesign their poultry shed with locally available materials. The *Ar-thians* collected the eggs from the beneficiaries periodically and the project staff used to transport them to the college hatchery. The eggs were marked village-wise and farmers-wise so that there was no mixing of eggs and chicks could be identified when hatched. The women sold the chicks to their fellow farmers. The hatcheries of beneficiaries were maintained in the college which helped the beneficiaries in scaling up their poultry farming.



Redesigned poultry sheds using locally available resources



Distribution of Chicks and Minerals and Supplements

E. Skill Development Programmes

Trainings were organized and conducted for women beneficiaries under the project by the project staff in consultation with the experts from the college. Both on-campus (college) and off-campus (village) trainings were conducted in the selected villages of beneficiaries. They were imparted training on poultry farming and its management, vaccination, processing and marketing in order to enhance their skills. Advanced hands-on trainings on poultry farming were organized for ten *Ar-thians* so that they can serve others as local service providers in their respective villages and establish a Rural Poultry Resource Centre (RPRC).



Training and interaction with the women poultry rearers



Hands-on trainings on poultry farming to the *Ar-thians*



Hands-on trainings given to the *Ar-thians*

F. Establishment of Rural Poultry Resource Centre (RPRC)

The RPRC is established under the project for the benefit of women poultry rearers. One RPRC was

established in each village. This RPRC acted as a single window system. It supplied inputs such as chicks, feeds, vaccines, feed supplements, etc., after purchasing it from Aizawl and local markets. They were also involved in collection and marketing of eggs, culled birds and processing. The RPRC acts as an information centre for the poultry farmers of the village. RPRCs were provided with one deep freezer, weighing balance, egg candler, etc. With the benefits of having a RPRC for individual *Ar-thians* and for other poultry rearing farmers, each *Ar-thian* under the project was encouraged to establish an RPRC in each village to cater to the needs of the poultry farmers. Initial handholding support was provided under the project and it was further developed and maintained by the *Ar-thians*. The *Ar-thians* own the RPRCs in villages.



Distribution of inputs to Rural Poultry Resource Centre / A Rural Poultry Resource Centre

G. Establishment of Rural Hatcheries

The project beneficiaries from the six villages, namely Phunchawng, Lengpui, Reiek, Tlangnuam, Hlimen and Lengte, formed groups and purchased rural hatcheries from their savings facilitated by the project team. They were trained on hatchery management by the project team in the college. They established the hatcheries in their villages and are continuously producing chicks. They sell the chicks to other farmers of the nearby villages. There is great demand for chicks in the villages. It is noticed that farmers booked chicks before they even hatched out. There is no difficulty in getting a market but it is quite difficult to meet the demand. The RPRC and individual farmer hatcheries are trying their best, independently, to meet the demand for chicks. But, in most cases the *Ar-thians* are also members of the group of farmers managing the hatcheries. Somewhere the collaborative efforts also help them meet market demands. This is helping the beneficiaries to generate additional income and sustain their poultry enterprise.



Rural hatchery managed by women

H. Linkage with NGOs

Collaborative trainings were conducted with KVKs, and NGOs to train personnel to spread the technology to all the districts of the state. The KVKs/NGOs were requested to nominate one or two women farmers to undergo training at the college. There is no formal MOU signed between the college

and KVKs. The personal rapport of the Principal Investigator with the KVKs and NGOs helped to train the women farmers nominated from KVKs/NGOs. After training, the trained women under the project are encouraged to open improved backyard poultry farming or RPRC in collaboration and consultation with the institute.



Training of women entrepreneurs from different districts of Mizoram to establish Rural Poultry Resource Centres

CHALLENGES

The major challenges faced during implementation of the project included the following:

- Frequent occurrence of diseases;
- Low knowledge and skill on poultry production and management;
- Inadequate or no forward and backward linkages;
- Predators, particularly dogs and cats – during foraging birds become vulnerable to predators;
- Non-availability of vaccine and other medicines.

The following strategies were adopted to address some of these challenges:

- To minimize disease occurrence, mainly Ranikhet and Fowl Pox, the birds were vaccinated periodically with the help of *Ar-thians*. Beneficiaries were asked to deworm the birds regularly. They were sensitized on importance of maintaining bio-security in the units;
- The beneficiaries constructed enclosures for the birds to prevent predators from entering and to restrict the movement of birds to others' agricultural fields;
- The RPRCs are established with the active participation and consent of the beneficiaries. Mini Hatcheries were procured from one innovator located in Guwahati, Assam, to support the beneficiaries.

IMPACT ON LIVELIHOOD OF THE BENEFICIARIES AFTER INTERVENTION

- Generation of Income:** Each beneficiary generated additional income by selling eggs, chicks and adult birds for meat.
- Knowledge improvement, attitude and practice:** There is perceptible improvement in knowledge of beneficiaries on poultry farming due to hands-on training and regular extension contact.
- Economic empowerment:** Backyard poultry farming is a source of income, as well as an emergency source of cash for medical treatment, school fees, etc.
- Food and Nutritional security:** Apart from sale, families regularly consume eggs, providing nutrition for children, and consumption of birds contribute to greater food security at the household level.
- Self-esteem and social empowerment:** Owning, controlling and benefiting from poultry production and marketing increase women's self-esteem and strengthen their role as producers and income generators within the household and in the community.

vi. **Access to credit:** Better income and ownership of assets increases the likelihood of gaining access to credit from financial institutes.



An old lady with birds (left) / harvesting eggs (right)

Performance after Intervention

Productive performance	Before intervention	After intervention
Age at 1 st laying	7.5 months	5.7 months
Adult body weight of male birds	2.0 kg	3.89 kg
Adult body weight of female birds	1.5 kg	2.45 kg
Egg weight	51.9 gm	55.30 gm
Egg production per bird	72 nos.	139 nos.



Backyard poultry units in villages

Economics of a Poultry Unit with 20 birds

Fixed cost	Rs. 500.00/-	Total Return	Rs. 30,600.00/-
Variable cost	Rs. 11,200/-	Net Income /bird	Rs. 930.00/-
Total cost of production	Rs. 11,700/-	Net Income	Rs. 18,600.00/-
Cost of production per bird	Rs. 585/-	Benefit-Cost Ratio (B:C)	2.61



Backyard poultry units in villages



Storing and collecting eggs for marketing



Harvesting eggs

Success Story

Mrs Lalthlamuani, a 49-year-old homemaker has a family of five members. Looking after her three children, she started a backyard poultry with 20 Vanaraja chicks under a DBT-sponsored project on a small patch of land near her house by the end of 2016. She was motivated by her friend, Mrs Vanlalhrati, who was placed in the village as a farmers' friend, that is an *Arthian*, whose success and income generated interest among the villagers.

Since receiving the chicks, she has been continuously rearing them till date (May 2021). She is part of an SHG 'Vanaraja Lover Group' formed in Rejek village. Presently, 14 members are running the SHG (2020-21). The SHG members purchased a Rural Hatchery Unit in 2017, which is looked after by the SHG. Mrs Lalthlamuani is now the President of the SHG. The members hatch eggs from time to time for sale of chicks as well as for replacement of stock/increasing flock size. The SHG members bring their eggs for hatching and after incubation, the hatched chicks are taken from their own eggs by paying Rs. 20 per chick to compensate for the electricity charges incurred towards egg incubation.

Success of Mrs Lalthlamuani

The chicks which were received from the project started laying in April 2017. The total egg production was roughly around 2400 eggs in 2017. Meanwhile in July 2017, she increased her flock size by purchasing 40 chicks from the State Veterinary Poultry Farm and she also received another 20 chicks in September 2017 from the project. The average egg production from her hatchery in 2018 was 30 eggs/day. Her net monthly income from sale of eggs alone came to around Rs 10,000-12,000 per month by selling eggs at Rs 15 per egg, excluding what she kept for family consumption. Culled birds were also sold and she received around Rs 20,000, and some were consumed by the family. Her expenses towards poultry rearing was roughly Rs 4,000/ month for purchase of layer feeds which was supplemented with kitchen waste, vegetable and green grasses.



Backyard poultry unit of Mrs Lalthlamuani_

APPLIED VALUE OF THE PROJECT

- The project helped to train 200 farm women in poultry rearing and they are rearing superior birds and thereby improving the livelihood of the farmers.
- The project helped to generate income among the farmers through poultry farming.
- Technical knowledge gained by farmers through the project helped the farmers to rear poultry in a scientific way.
- The *Ar-thians* are providing help to other villages who are also rearing birds.

LESSON LEARNED AND WAY FORWARD

- Establishment of rural hatcheries in a cluster of villages:** There are no private hatcheries in the state. The only hatchery of the State Department situated at Aizawl cannot cater to the

needs of all the poultry farmers of the state. To supply quality chicks to the farmers, establishment of rural hatcheries in a cluster of 3-5 villages is a viable option.

- ii. **Continuous supply of vaccines in the face of disease outbreaks:** It has been observed that there are frequent outbreaks of diseases like Ranikhet, Fowl Pox in the state due to the import of birds from neighbouring states. The vaccines are not available in the market. The supply of vaccines and timely vaccination is crucial for the survival of the poultry sector in the state.
- iii. **Strengthening poultry producer cooperative system:** To facilitate supply of quality feed, medicines, and vaccines at proper price, there is an urgent need to strengthen the poultry producers' cooperative system in the state. A strong cooperative system can safeguard the smallholders in the state.
- iv. **Sustainability of the initiative:** The selection of right beneficiaries is very important for success. Continuous monitoring and motivation is key to successful implementation of the project. The beneficiaries require not only technical advice but information about inputs too. Providing linkage to input dealers and market information is very important for sustainability of the programme.

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