

Backyard poultry farming ensured

livelihood/food security in NW-Himalaya during Covid-19: Success story

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Increasing populations, rising consumption, declining resource bases, climate change impacts, widening supply-demand for food resources and existing resource-use conflicts challenge the food and nutrition security in India questioning the sustainability of environment and living. While diversification of food production systems and components hold key to ease out situation of food-nutritional insecurity, animal-based production systems, especially rural poultry farming have immense potential for supply of protein and other essential micro- and macro-nutrients to farming communities and rural development. Nonetheless, the rural backyard poultry farming suffers due to various pitfalls and lack of technological information amongst the rural people. Participatory research-cum-demo on poultry farming of Kroiler and Vanaraja birds was taken up under the Farmers FIRST Project to introduce scientific dual-purpose poultry farming, demonstrate and improve their adoption in foothills of Himalayas.

Keywords: Nutritional security, Poultry farming, Rural development.

AT a time when the main livelihood sources-the Agriculture, agro-forestry and horticulture in Himalayan region have become increasingly difficult proposition due to various challenges including climatic extremities, wildlife interferences and anthropogenic causes. Improved rural backyard poultry farming was introduced as an alternate climate-resilient livelihood and food production technological avenue. The intervention gains importance from the fact that the people of Uttarakhand and other Himalayan states traditionally follow non-vegetarian food habits most often depending on wild meat, which in recent years is becoming difficult to fetch due to various reasons.

Interventions

The introduction of dual purpose backyard and low-input poultry farming was brought based on the analysis of rural livelihoods, underlying agro-ecological situation, and problems prioritized and ranked using PRA tools. As a solution to the growing problems for livelihoods and food security the improved backyard poultry farming introduced to around 97 households with a day-old dual purpose poultry chicks (Kroiler and Vanaraja bird breeds) and starter poultry feeds for initial 20–25 days (0.75–1 kg/chick) were provided under the Farmer FIRST research-cum-demonstration project during 2017–21. Around 15% of the cost of poultry



Inputs (chicks, starter feeds and technical know-how) provided



Demo and outreach made for widespread adoption

farming towards day-old-chicks (DoC), starter feeds and medicines was the contribution from the project and rest 85% borne from the beneficiary farmers in terms of labour and shed, besides later-stage feeds, which the beneficiaries could mobilize themselves or through interventions of other departments like Livestock or Watershed Directorate of Uttarakhand. Continued training and demo on improved backyard poultry farming was provided to all beneficiary households.

The total cost of rearing the improved breed was ₹350/bird and it generated a return of ₹1,600/bird which included eggs (11 months yielding period) and poultry meat. The eggs of Kroiler and Vanaraja birds fetched better price in the market, i.e. ₹10–18 against ₹4–7 per egg of a normal white-leghorn. The meat of the bird had also fetched premium price in the market about ₹200/kg against ₹100/kg of white-leghorn. During winter and festive seasons more demand was noticed and accordingly higher profit was realized by the farmers. Laying starts at about 5½–6 months of growth and attains around 2–2.5 kg weight. Egg laying is comparable and almost similar amongst Vanaraja and Kroiler birds. A bird lays about 25 eggs/month during the initial year of laying and subsequently for about another 6 months at a reduced rate of 20 eggs/month. Cock of these birds attains 3–4 kg weight in 1 year. The mortality rate of the poultry birds was very low (5%).

Impact and success in sustainability

During pre-project period, only 1.6% farm families had backyard poultry units, mostly (90%) with local non-descript breeds, which now have grown up to 18% with improved breeds, after the intervention. Presently, 54 numbers of small-scale or backyard Kroiler farming units with 10–50 birds and 250 units of Vanaraja birds established a new exploiting local farming and household ambience as income generating units for eggs and meat besides profit. Apart from backyard poultry units, about 10% of the beneficiary farmers motivated to establish bigger poultry units with 100–400 birds on their own as a source of livelihood and food production. Rest (35%) of the farmers reared and discontinued after benefitting from the intervention within 4 months. Every farmer trained on backyard poultry farming assisted at

least 2–3 neighbouring farmers by sharing knowledge received, which helped spread of the backyard poultry farming in the region.

Food and economic benefits: The resilience and sustainability of the alternate farming system of rural poultry farming introduced through participatory interventions is evident from the changed scenarios of lifestyles, livelihoods and food/nutrition intake patterns observed on ground over 3 years, and the feedbacks received from the beneficiary farmers. Consumption of eggs increased from 0–2 eggs per person/week in a family to 6–8 and also from 0–2 chicken meat meal per month to 4, in the adapted households as a consequence of the intervention, which indicated 5–6 fold increasing demands for eggs and birds besides the consumption patterns. The family nutrition improved as 55% respondents reported that atleast once poultry meat and eggs were used as guest food such that meat has now become a regular family food. Also, farmers' income almost doubled from ₹9,63,750–19,21,352 in the adopted villages mainly due to the poultry interventions.

The backyard poultry intervention established benefitted farmers variously in making continued availability of starter capital and liquid money rotation giving insulation against families' day-to-day exigencies and balancing family micro-economy, besides providing an accessible protein source. It was observed that the established poultry units helped utilize house-hold labour judiciously and economically. Also, the intervention mobilized the nearby market towards villages for easy and economic transactions that helped farmers greatly to have livelihood security and evade poverty. In all, the interventions opened new scope and established improved low-input dual-purpose backyard poultry farming with improved breeds (Vanaraja/Kroiler) for eggs/meat that benefitted over 500 resource-poor and women farmers directly or indirectly. The intervention introduced resulted in over 300 viable/resilient backyard poultry production units that benefitted around 18 hamlets and 500 farm households in the adopted villages in Raipur block, Dehradun, Uttarakhand who could triple meat/egg/protein consumption besides improving income sources. Also, an equal number of villages and farm

Success story

1. Smt. Asha Dhobal, village Chak Chobha

The success story of Smt. Asha Dhobal, one of the resource-poor women farmers reported that she made the livelihood and daily food and nutritional needs of her family of 7 members, from the interventions and the backyard poultry farming. She revealed that about 30% poultry eggs and meat produced was self-consumed by the households and rest went to market at the rate of ₹10–15/egg and ₹35–500 per live bird weighing between 3–5 kg depending on season and production. According to her, the produce was sold at the house premises itself which provided easy and economic transactions helping evade poverty and livelihood related difficulties. She reiterated that the poultry farming made her life easy and moving, even during the COVID-19 pandemic.



Poultry unit of Smt. Asha Dhobal, village Chak Chobha

2. Sh. Suresh Manwal, village Ghaisen

He was overwhelmed by the free-ranging potential of the established poultry unit that provided good scope for effective scavenging the spillover grains and roughage from his harvested fields, which otherwise became waste. The free-ranging of the caged birds help recycle his farm wastes. Also, poultry manure as an additional monetary benefit became available to promote organic farming. He could increase the bio-resource flows by 65% in his farms pre-intervention periods since poultry feed wastes and excreta formed safe manure recycled to agriculture fields. Also, he informed that poultry birds and eggs gave a great relief and benefit as a sustainable source of livelihood and food supply source to tide over the problem posed by the COVID-19 pandemic since various crops failed due to disease and insect-pest attack. Poultry farming greatly supplemented the earnings to his small-scale bakery business and farming.



Poultry unit of Sh. Suresh Manwal, village Ghaisen

3. Sh. Rajiv Krishali, village Kotimaychak

He succeeded from establishing a backyard poultry farming unit in addition to his hardware business, giving opportunity for diversification of business and income. Improved rural poultry farming provided an additional income source while having nutritious food for the family members.



Poultry unit of Sh. Rajiv Krishali, village Kotimaychak

Success story

4. Sh. Subash Kothari, village Talai

The backyard poultry intervention benefitted him variously by providing starter capital and liquid money giving insulation against families' day-to-day exigencies or money rotation balancing family micro-economy, besides forming an accessible protein source, particularly during the pandemic period. Poultry unit helped him critically tide over the challenges of COVID pandemic by supplementing income and food produced from small-scale carpentry and farming.



Poultry unit of Sh. Subash Kothari, village Talai

families benefitted indirectly from the interventions through diffusion in the region.

Support provided during COVID and climate extremities: The established poultry units supported the farmers to tackle the hardship imposed by the ongoing COVID-19 pandemic and climatic change scenarios proving as an insulating technology to tide over the crisis and difficulties posed by the ongoing challenges.

Success in resource recycling: The established poultry units provided good scope for free-ranging and help effectively scavenging the spillover grains from the harvested fields.

Brought reverse migration

The innovative and creative intervention was backed with technological/scientific inputs, unique outreach, capacity-building activities and establishing connections with stakeholders. This provided food, balanced nutrition, liquid money and livelihood security to local communities, especially weaker-sections of the farming community including resource-poor and women farmers, which largely sustained the farming, small-scale other business practiced and reversed the migration of local people.

Way forward

As a way forward, clustering of farmers and creation of farmers' co-operatives for production and supply of chicks and feeds locally and economically is suggested to promote small-scale poultry production and reduce vulnerability and risks of climate impacts. Creation of revolving and corpus funds within co-operatives and

establishing poultry farmers' group, hatchery and feed producers and poultry meat consumer groups besides continued capacity building of small land-holders/landless households towards backyard poultry farming would help harness the resources and potentials. Poultry feeds and chicks cost may be subsidized through promoting suitable co-operatives to promote poultry farming.

SUMMARY

The participatory research and demonstration of backyard poultry farming of Kroiler and Vanaraja birds conducted under the Farmers FIRST Project proved to be an economically viable rural enterprise and farming avenue that ensures food/nutritional and livelihood security in Himalayan foothill watersheds. The backyard dual-purpose poultry farming was found to be potential for scavenging since the poultry birds fed on the left-over grains in the farm fields during daytime and farmers could increase the farm bio-resource flow by 65%. The intervention improved the nitty-gritty understanding of the poultry farming with which farmers could enhance the profit as liquid money besides improving the nutritional status of the family members. The intervention has now become a promising rural enterprise that could tackle the hardship imposed by the ongoing COVID-19 pandemic and climatic change scenarios.

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Improved crosses for rural poultry farming

CARI-Gracy and CARI-Nirsafed were developed to address issues of climate change for backyard poultry. These are dual type hardy efficient egg producers even in intense summer (hot and hot-humid) conditions and also good meat producers. This will help in increasing farmers' income by maximising production throughout the year.

Source: ICAR Annual Report 2021-22