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A Subsidiary of Heifer International

A NEW APPROACH TO

BACKYARD POULTRY FARMING

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Introduction

Backyard poultry (BYP) farming has long been a staple in rural India, especially among Self-Help Group (SHG) households. Traditionally, it has served as a vital source of nutrition and supplemental income, particularly for marginalized communities. The growth of the poultry population in India—rising by 16% to 851.8 million from 2012 to 2019—signals a promising opportunity to elevate the livelihoods of SHG households through more structured poultry interventions.

Despite its potential, BYP farming faces several challenges, including high mortality rates due to inadequate healthcare, poor housing conditions, and reliance on scavenging for feed, which hinder productivity. Additionally, there is a pressing need for better breed selection, enhanced disease management, and more effective training for SHG members.

In response to these challenges, **Heifer International**, in collaboration with **Cargill** under the **HATCHING HOPE** program and with the technical inputs from **Forum of Enterprises for Equitable Development (FEED)**, has developed an **innovative backyard poultry model**. Initially piloted in Odisha, this model, focuses on improving productivity and reducing mortality through advanced practices. Now, the model is expanding to seven states across India with support from various stakeholders, aiming to offer a scalable solution for rural development and poverty alleviation through backyard poultry farming.

Why Backyard Poultry (Desi)?

Backyard Poultry (BYP) focusing on desi chickens is a crucial strategy for boosting rural income and enhancing family nutrition, particularly for women and children. Despite high demand, desi chickens only hold a 7-8% market share, presenting an opportunity for growth, especially with the rising popularity of local delicacies in restaurants and dhabas. Desi chicken fetches a higher selling price than broilers, with eggs priced at ₹9-10 each. The poultry sector is growing rapidly, with egg production increasing by 6.77% and chicken meat by 7-9% annually. In 2022-23, out of 9.77 MMT total meat consumption, poultry accounted for 4.995 MMT. BYP also promotes the preservation of indigenous breeds and serves as a sustainable livelihood model, particularly empowering women in rural communities.

The Model USP

The training and capacity building component of the backyard poultry model focuses on equipping participants with essential skills for successful implementation. Key elements include:

- Vertical Integration: The model involves different stages of poultry production system, including breeding, hatching, brooding, fattening, and marketing handled by different groups of farmers and FPOs.
- **Community Resource Person (CRP) Training:** Local women are trained as **Community Agro-vet Entrepreneurs (CAVEs)** to provide veterinary services and agricultural inputs, receiving technical training in poultry health, management, and biosecurity.
- **Community Member Training on Biosecurity:** Hands-on sessions are conducted forcommunity members on best practices in breed housing, feeding, and disease prevention.
- **Awareness Campaigns:** Campaigns educate community members on the economic and nutritional benefits of improved poultry practices, promoting broader adoption.
- **Continuous Learning and Support:** Ongoing support and learning opportunities, including workshops and refresher courses, ensure that CAVEs and community members stay updated with the latest practices and technologies.

This comprehensive approach aims to enhance productivity, income, and livelihood security for rural communities.

Key Components of the New Model

1 Improved Housing Design

The new backyard poultry model enhances safety, comfort, and predator protection, increasing productivity and reducing mortality. It offers each bird 2 sq. ft. during the day and 1-2 sq. ft. at night, with ventilation, natural lighting, and easy maintenance. This scalable design accommodates various flock sizes, supporting sustainable poultry farming.

2 Alternate Feed Strategies

The new model emphasizes alternate feed strategies to reduce costs and improve nutrition. Of a total 100 grams of feed, 50% consists of Azolla, 30% of concentrate, and the rest of local feed ingredients and local waste. Cultivating protein-rich Azolla, utilizing local resources like agricultural by-products and household scraps, and promoting insect farming for natural protein. Supplemental feeding is also incorporated to enhance growth and egg production.

3 Community Agro-vet Entrepreneurs (CAVE) Model

The model trains local individuals, primarily women, to provide affordable animal health services and agricultural inputs to smallholder farmers. CAVEs serve as vital links in the agricultural ecosystem, using their farms as demonstration sites to share best practices in poultry management.

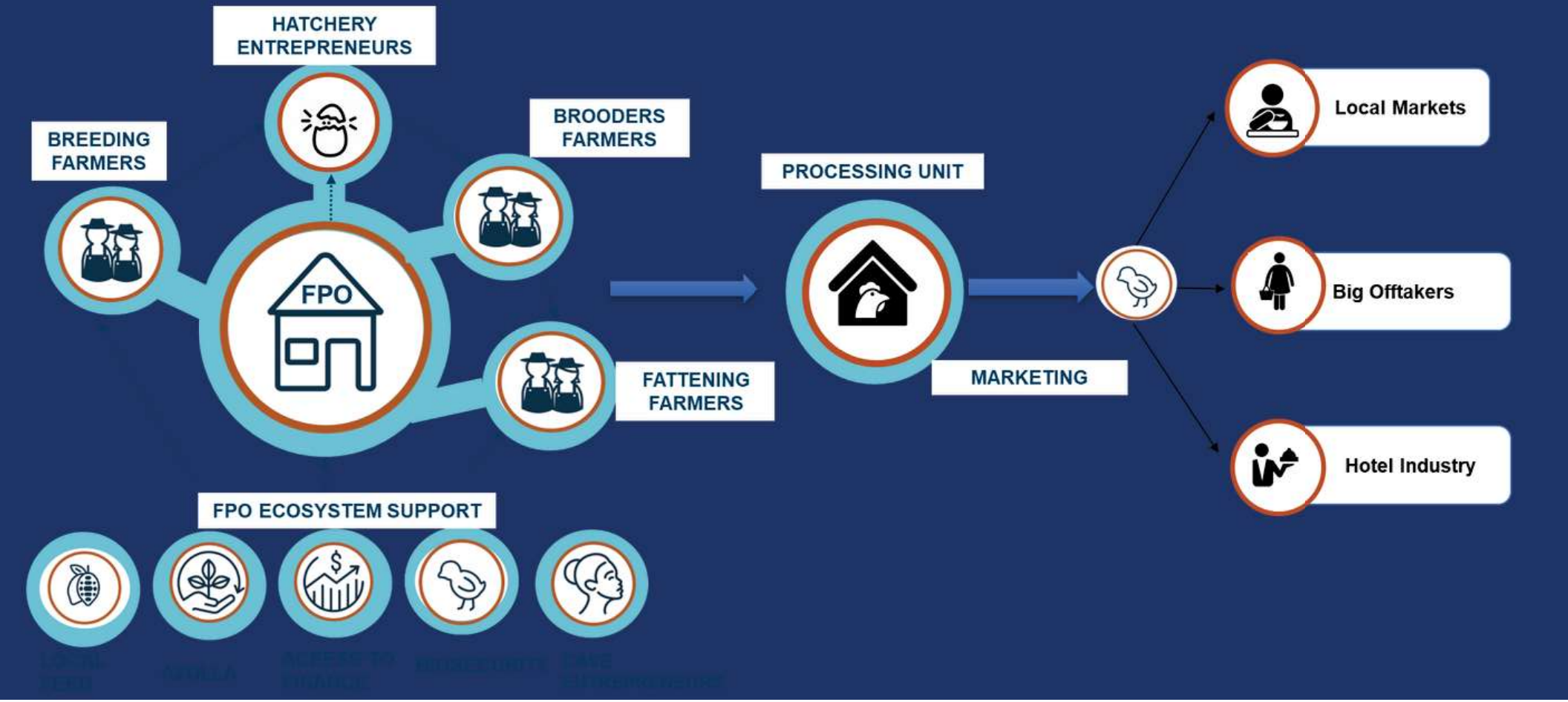
4 Weather-Protect Insurance

It is a tailored financial product designed to shield smallholder poultry farmers from climate risks like extreme temperatures and rainfall. It offers coverage to maintain production levels and protect farmers' livelihoods, ensuring they can repay loans and sustain their operations. This insurance is crucial in areas where climate variability threatens agricultural productivity, providing a safety net for farmers.

5 Linkages with Government Schemes

The success of the backyard poultry model depends on effectively linking SHG members with government schemes. Key steps include identifying relevant programs like the National Livestock Mission (NLM), National Rural Livelihood Mission (NRLM) and MGNREGA, facilitating access through workshops and documentation support, and training members to optimize the benefits. Collaborations with local government bodies ensure timely technical assistance, while monitoring and reporting ensure continued support.

MODEL BACKYARD POULTRY (NATIVE BIRDS)



HATCHING HOPE

In this Backyard Poultry (BYP) pilot model, farmers are educated to take on entrepreneurial roles in hatchery management, breeding, brooding, and fattening. Farmers' Producer Organizations (FPOs) offer market connections and financial advantages, while Community Agro Veterinary Entrepreneurs (CAVE didis) provide technical support such as vaccination and deworming. Utilizing large azolla pits improves poultry nutrition. This strategy enables farmers to operate independently and secures the long-term success of the model.

THE COST DYNAMICS

Breeder Farmers

Breeder farmers rear birds for producing fertile eggs that are supplied to hatcheries to produce chicks, with a unit size of 200 birds and a male-to-female ratio of 15:85. The birds are reared for 2.5 to 3 years to ensure optimal egg production, size, and quality, after which they are sold for meat. Farmers provide both night and day shelters for the birds to scavenge and express natural behaviors, alongside preventive healthcare and biosecurity measures. They are trained in housing, strategic feeding, egg management, and the benefits of azolla as a cost-effective feed supplement.

Sl No	Particular	Amount (In Rs.)
A	Total Fixed cost	1,16,450
B	Total Recurring Cost	1,94,850
C	Total Return from sale	3,03,840
D	Net Profit in two years (C - B)	1,08,990

Hatchery Entrepreneurs

They operate hatcheries to incubate chicks from fertile eggs purchased from breeder farmers. They follow an agreement with breeder farmers to buy eggs at a price adjusted for inflation and production costs. The hatchery process involves 21 days of incubation under controlled temperature and humidity: 18 days in a setter and 3 days in a hatcher. Entrepreneurs receive training in essential hatchery functions, including temperature and humidity control, egg turning, and egg management practices such as collection, transportation, storage, and fumigation. Economics of a hatchery with 2000 hatching eggs capacity:

Sl No	Particular	Amount (In Rs.)
A	Cost Incurred on Eggs Purchase	2,52,000
B	Yearly Miscellaneous Expenses	30,000
C	Total Return from sale of chicks	4,44,976
D	Net Profit in a year (C - [A + B])	1,62,976

Brooding Unit

In the brooding unit, day-old chicks are cared for intensively for up to 28 days to ensure their health and minimize mortality. The unit provides essential facilities including light, ventilation, feeders, waterers, starter feed, and vaccinations. The main goal is to reduce mortality risks during the chicks' early life. After 28 days, the chicks are sold to fattening farmers. Entrepreneurs managing brooding units receive training on chick care and management practices. Economics for 1000 birds:

Sl No	Particular	Amount (In Rs.)
A	Total Fixed cost	80,000
B	Cost Incurred on Poultry Equipment's (per year)	95,900
C	Working Capital	54,730
D	Gross Revenue	61,825
E	Net Profit per batch (D - C)	7,095
F	Net Annual Profit (from 10 batches)	70,950

Fattening Farmers

Fattening farmers purchase 28-day-old chicks from brooding units and rear them for 135 days, aiming for a weight of about 1 kg per bird. After 5.5 months, they sell the birds for meat to a farmer producer organization (FPO) at a price per kg. Each fattening farmer manages a flock of 100 birds and can complete 2.5 batches annually. The setup includes night and day shelters, with preventive healthcare and biosecurity measures in place. Farmers receive training in housing, feeding, management practices, and the benefits of feeding azolla.

Sl No	Particular	Amount (In Rs.)
A	Total Fixed cost	55,500
B	Total Recurring Cost of two batches	45,421
C	Total revenue from two batches	66,500
D	Net Profit from 2.5 batches	26,349

Government Scheme Alignment

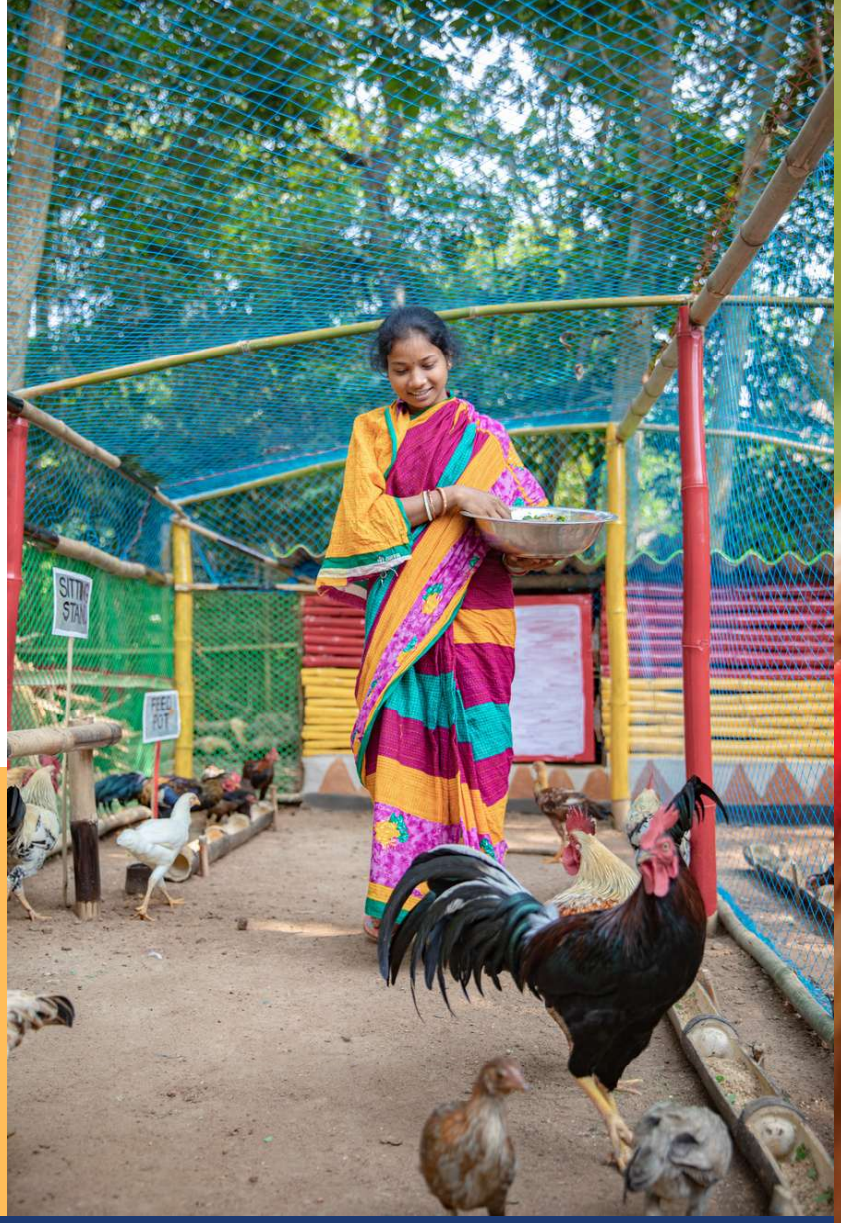
- **National Livestock Mission (NLM) - Entrepreneurship Development and Poultry Intervention:** Subsidies for Capital Costs: The NLM offers 50% subsidies for capital costs related to poultry farming, which can help beneficiaries in building infrastructure like poultry shelters, hatcheries, and breeder units as outlined in the model.

- **Animal Husbandry Infrastructure Development Fund (AHIDF) - Financial Assistance**: The AHIDF provides financial assistance, including 3% interest subvention loans for six years, which can help farmers cover working capital and operational costs related to breeder farms, hatcheries, and feed supplies.

- **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)**: MGNREGS can provide financial and labor support for the construction of poultry housing and shelters, which is a significant component of the model. This can be used to build fenced open areas and night shelters for backyard poultry

- **National Rural Livelihood Mission's financial and technical support:** Self-Help Groups (SHGs) and Farmer Producer Companies (FPCs) can leverage the NRLM support to facilitate collective marketing, access to credit, and capacity building for rural women engaged in backyard poultry.

- **NRLM Pashu Sakhi Model**: The model's focus on Community Agro-vet Entrepreneurs (CAVE), who provide veterinary services, aligns well with NRLM's Pashu Sakhi cadre. Training and capacity-building efforts for women SHGs in poultry management, healthcare, and biosecurity can be integrated into the NRLM framework to support local veterinary services.



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