



# Horizontal Spread of Vanaraja Poultry Bird in Chandel District of Manipur after Intervention of FLD

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**Abstract**— In Chandel district of Manipur, almost every rural household rears one or two livestock along with 5-10 desi birds under backyard poultry farming (BPF). Rearing of desi chickens is interwoven with the culture and tradition of tribal people and is kept for ritual purposes. According to traditional knowledge, black-coloured birds are used for medicinal purposes. However, the poultry sector in the district has remained rather stagnant due to the low productivity of native poultry varieties reared under the backyard system. Vanaraja is a breed of choice under the backyard system to augment poultry production in Chandel district of Manipur due to its coloured plumage, disease resistance, coupled with higher egg production and faster growth rate. This paper documents the horizontal spread of Vanaraja poultry birds following Front Line Demonstrations (FLD) conducted by Krishi Vigyan Kendra (KVK), Chandel, and assesses the impact on livelihood security of tribal farm women.

**Keywords**— Vanaraja, Horizontal spread, Front Line Demonstration, Backyard poultry, Chandel district, Manipur.

## I. INTRODUCTION

Poultry farming plays a vital role in improving the livelihood and nutritional security of rural households. Among the improved poultry varieties developed for backyard farming, Vanaraja birds have gained significant popularity due to their adaptability, higher productivity, and low input requirements. Developed by the ICAR-Directorate of Poultry Research, Hyderabad, Vanaraja birds are specifically suited for free-range and semi-intensive systems commonly practiced in villages.

Vanaraja birds are dual-purpose, providing both eggs and meat, which makes them an excellent source of regular income for farmers. They are hardy in nature, resistant to common diseases, and can thrive under scavenging conditions with minimal supplementary feeding. Compared to local indigenous birds, Vanaraja birds grow faster, attain higher body weight, and produce more eggs, thereby enhancing overall productivity.

Rearing Vanaraja birds requires relatively low investment, making it accessible to small and marginal farmers, landless labourers, and women entrepreneurs. Their ability to utilize locally available feed resources further reduces the cost of production. Additionally, the demand for desi-type eggs and meat in local markets ensures better pricing, contributing to increased profitability. Thus, Vanaraja bird rearing has emerged as a sustainable and profitable enterprise that supports rural livelihoods.

In Chandel district of Manipur, almost every rural household rears one or two livestock along with 5-10 desi birds under backyard poultry farming. Rearing of desi chickens is interwoven with the culture and tradition of tribal people and is kept for ritual purposes. According to traditional knowledge, black-coloured birds are used for medicinal purposes. However, the poultry sector in the district has remained rather stagnant due to the low productivity of native poultry varieties reared under the backyard system. The present study aims to document the horizontal spread of Vanaraja poultry birds in Chandel district following FLD intervention and assess its impact on livelihood security.

## II. MATERIALS AND METHODS

The present investigation is based on Front Line Demonstrations (FLD) conducted on promoting backyard poultry in Chandel district by KVK Chandel. Under mandatory activities after standardization by ICAR Manipur Centre during 2000, the dual-purpose bird Vanaraja, a strain cross of PDP, Hyderabad, was reintroduced during 2009-10 (in September to November months) under the FLD programme.

Initially, KVK selected three villages in Chandel district: Tuishemi, Teraphai, and Khangshim. A total of 30 farmers (10 tribal farm women from each village) were selected. Each farm woman was provided with 25 started chicks (3-4 weeks old) in a ratio of 5:20 (male:female). Most of the farm women maintained Vanaraja birds under a semi-range system.

Initially, Vanaraja birds were introduced in selected villages through Krishi Vigyan Kendra, Chandel. Farmers were provided with chicks, training, and technical guidance on scientific rearing practices. These initial beneficiary farmers acted as demonstrators of the technology.

As the birds started showing better performance—such as faster growth, higher egg production, and better income—neighbouring farmers observed the benefits and became interested in adopting the practice. This led to horizontal spread through informal channels such as sharing of chicks, exchange of fertile eggs, and farmer-to-farmer learning.

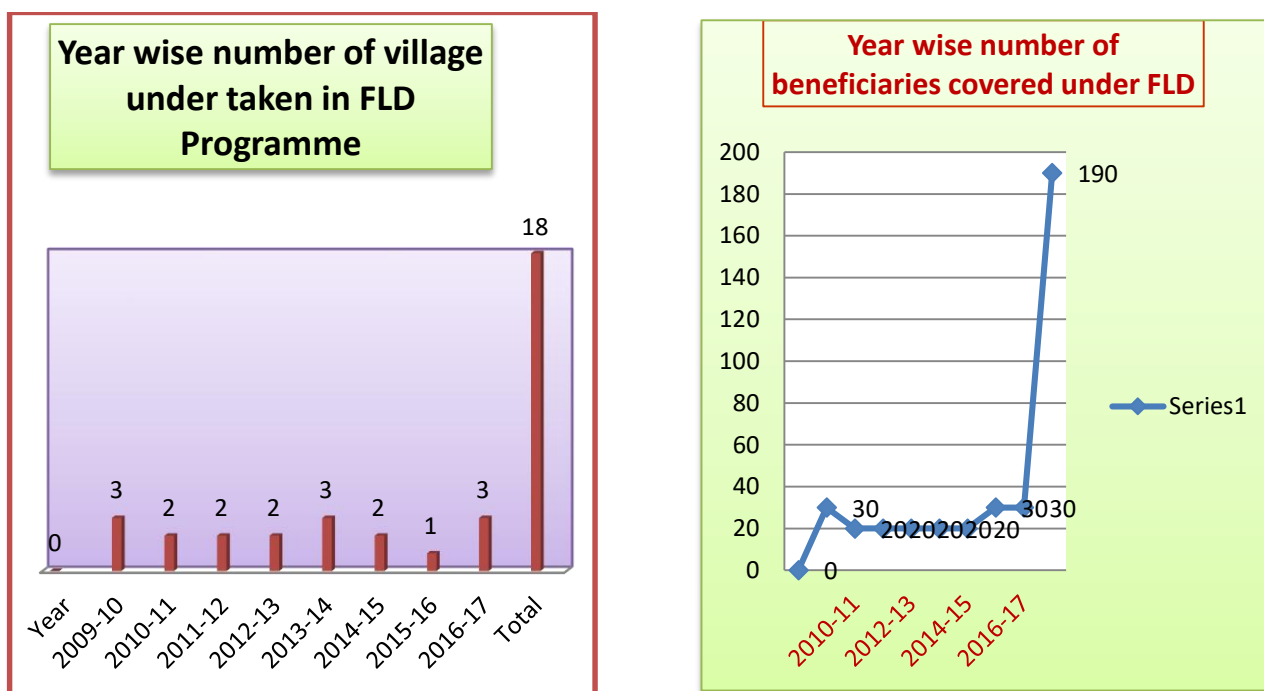


FIGURE 1: Details of villages adopted, number of birds distributed, and beneficiaries

## III. RESULTS AND DISCUSSION

Vanaraja birds are more remunerative than the local desi bird (Kakyen). For this reason, Vanaraja has been widely accepted by many villagers. The acceptability among the people was found to be high, as these birds have a triple advantage in terms of colour and hardiness similar to local birds, early laying age, high egg-laying capacity, and higher weight gain over local

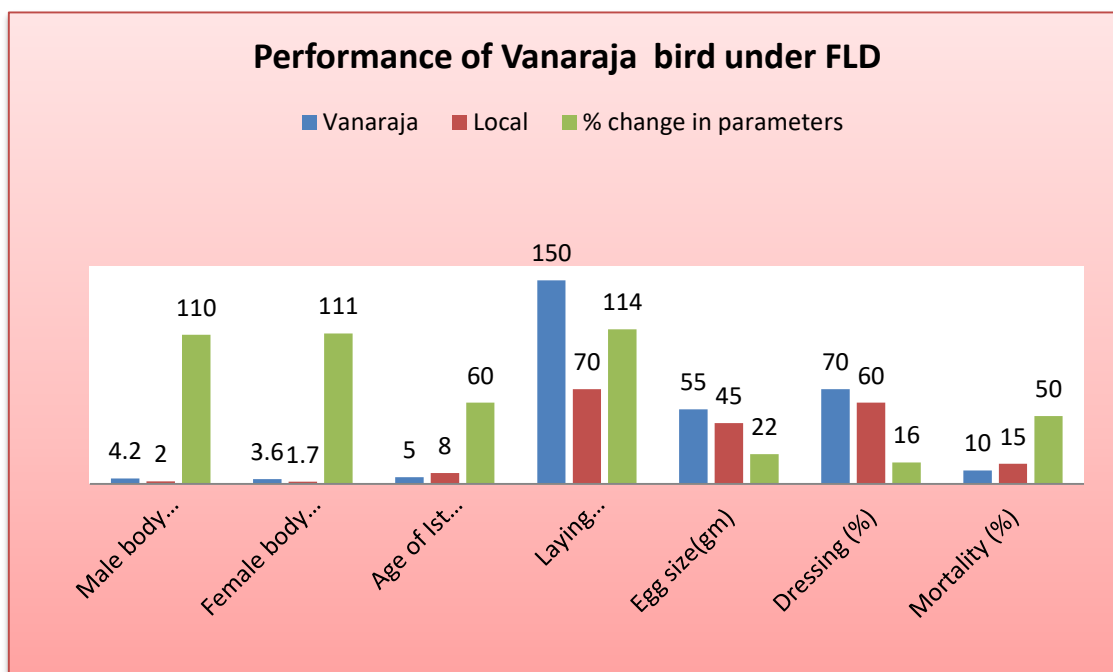
birds with minimal supplementation of locally available feed ingredients. Under these conditions, there is a wide demand for new improved birds among farmers, which started the popularization of Vanaraja from farmer to farmer and horizontal spread from village to village.

Villagers used to sell eggs for hatching purposes, which were brooded by local desi hens. Likewise, propagation expanded, and many villagers approached KVK for more training and more demand for Vanaraja chicks. The details of FLD results are described in graphical form.



**FIGURE 2: Results of Front Line Demonstrations on Vanaraja birds**

The rearing of Vanaraja birds under backyard or semi-intensive systems has shown significant improvement in growth performance, egg production, and income generation compared to local indigenous birds. The results from various field observations indicate that Vanaraja birds attain an average body weight of about 2.5–3.0 kg at 15–16 weeks of age, which is considerably higher than local birds of the same age. This faster growth rate contributes to early marketing and quicker returns.



In terms of egg production, Vanaraja birds lay around 140–160 eggs per year under improved management practices, whereas local birds usually produce only 70–80 eggs annually. The eggs are larger in size and have good consumer preference due to their brown shell and desi-type characteristics, which fetch a higher market price.

Mortality rate in Vanaraja birds is relatively low when basic healthcare, vaccination, and proper housing are provided. Their hardy nature and adaptability to scavenging conditions reduce the risk and cost associated with intensive management. Farmers reported better survivability and disease resistance compared to exotic breeds.

Economically, Vanaraja bird rearing has proven to be profitable. The combination of higher egg production, better growth rate, and premium market value of eggs and meat results in increased net income. The use of locally available feed resources and minimal input costs further enhances the benefit-cost ratio. Additionally, this enterprise provides supplementary income, especially for rural women and smallholder farmers, contributing to household livelihood security.

Rearing of Vanaraja birds can offer immense potential in rural areas by providing regular income throughout the year, along with suitable employment, food security, and other livelihood benefits in Chandel district. The horizontal spread of Vanaraja bird rearing from one village to another in Chandel district demonstrates the effectiveness of farmer-led technology dissemination supported by extension services. The visible success in terms of higher egg production, better growth performance, and increased income has encouraged neighbouring farmers to adopt this improved poultry variety.

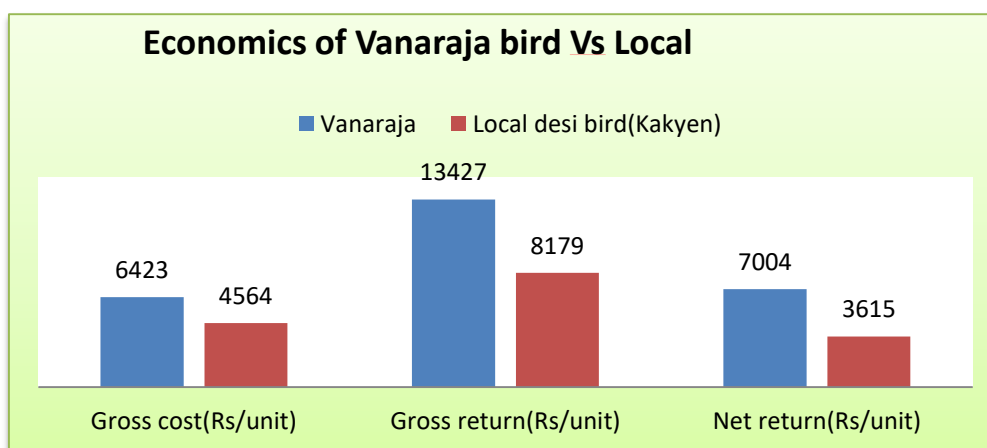


TABLE 1

COMPARATIVE PERFORMANCE OF VANARAJA AND LOCAL DESI BIRDS UNDER BACKYARD SYSTEM

Parameter	Vanaraja Birds	Local Desi Birds (Kakyen)
Average body weight at 15-16 weeks	2.5-3.0 kg	1.0-1.5 kg
Annual egg production	140-160 eggs	70-80 eggs
Egg colour	Brown	White/tinted
Disease resistance	High	Moderate
Age at first laying	5-6 months	6-8 months
Market preference	High (desi-type)	Moderate

#### IV. CONCLUSION

The widespread adoption of Vanaraja bird rearing has contributed significantly to livelihood improvement, nutritional security, and employment generation in Chandel district. It serves as a sustainable and scalable model for rural development, particularly benefiting small and marginal farmers and women in the district. The widespread performance of Vanaraja birds across villages indicates their acceptability among farmers due to low input requirements, scavenging ability, and comparatively higher productivity than local indigenous birds. Overall, the rearing of Vanaraja birds can be considered a sustainable and profitable enterprise, especially for small and marginal farmers, playing a significant role in improving the rural economy and supporting poverty alleviation.

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