

Vanaraja and Srinidhi poultry

Bridging the gap of chicken meat and egg in north east hill region of India

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North-East India is a live museum of anthropology and one of the biodiversity hotspot. The food habits of the people in the North-East India are mainly non-vegetarian. The per capita consumption of animal source food is highest in the region (51 kg per capita in Nagaland) on national level. The tribal people mainly prefer pork followed by chicken meat. In poultry, meat of indigenous or local or desi birds are highly preferred because of texture and flavour. However, productivity of local bird is very low and unable to fulfill the current demand. Therefore, ICAR has introduced improved rural germplasm like Vanaraja and Srinidhi through Poultry Seed Project. In NEH region, there are four ICAR-Poultry Seed Projects catering to the demand of tribal farmers. With these efforts, Vanaraja and Srinidhi birds are household name in the remotest corner of the region. Their hardiness ensures these birds to survive from sub-tropical to temperate climate. This has ensured food and economical security of the resource poor farmers in NEH region and bridged the gap of chicken meat and egg.

Keywords: Chicken, Meat, Srinidhi, Vanaraja

THE poultry farming is practiced by farmers of the region since ancient times. The backyard poultry farming with the local/*desi* birds is the dominant poultry production system in the region. The poultry production system is zero to low input with locally available resources. Compared to other livestock, backyard poultry farming is practiced by almost all farmers due to low investment, early return and economic viability. The backyard poultry is a valuable asset used during emergency need of the family. The backyard poultry is also a continuous source of food and nutritional security to rural tribal households. These birds are mainly managed by women and the decision making for sale and purchase of these birds rest with her, thus helping in women empowerment. Although the local/*desi* birds are adaptable to diverse climate, hardy and are immune to diseases, however, their production

potential is low. Due to increase in human population, there is increase in demand of poultry meat and eggs in the region. Also, there is major flow of tourist in the region, which further put stress on availability of chicken meat and eggs. This increase in demand cannot be met by local/*desi* birds. The region is highly deficit in egg production as compared to national average. Although, the per capita consumption of egg and meat is highest in the region, however, per capita availability of meat and eggs from its own production is very low. None of the seven NEH states represents in the list of top ten poultry producer states of India.

The total poultry in India is 851.81



Mr. Nungshi Temshu at his poultry farm

Table 1. Growth in poultry population in India from 2012 to 2019

	Population (in millions) 2012	Population (in millions) 2019	% growth
Backyard poultry	217.49	317.07	45.78
Commercial poultry	511.72	534.74	4.50
Total poultry	729.21	851.81	16.81

Source: 20th Livestock Census of India, 2019

Table 2. Total poultry population and backyard poultry population in NEH Region

State	Total Poultry population	Backyard poultry		
		Desi	Improved	Total
Arunachal Pradesh	1599575	1318133	154447	1472580
Manipur	5897637	1824096	2009879	3833975
Meghalaya	5379532	5022152	210297	5232449
Mizoram	2047810	1020296	998199	2018495
Nagaland	2838944	2050759	604398	2655157
Sikkim	580864	349160	224327	573487
Tripura	4168246	2668862	510178	3179040
Total	22512608	14253458	4711725	18965183

Source: 20th Livestock Census of India, 2019



Eggs collected from Vanaraja and Srinidhi birds

million and it has increased by 16.81% over the 19th Livestock Census. There is tremendous increase in backyard poultry population by 45.78% in country whereas the commercial poultry has increased by 4.5%. In NEH Region, except Manipur and Tripura, backyard poultry comprises more than 90% of total poultry. In backyard poultry, majority of population is local chicken in all the states. Similarly, total egg production in India is 129.6 billions in 2019. The per capita availability of egg is 95 eggs per annum in India. However, backyard poultry contributes only 17.8% of total eggs in country. The total egg production in NEH region is 6342.29 lakhs and per capita availability is below the national average in all the NEH states. The ICMR recommendation is 180 eggs per person per year. This clearly depicts the huge gap present in NEH region.

Table 3. Total egg production and per capita availability of egg in NEH Region

State	Total egg production (in lakhs)	Per capita availability of egg
Arunachal Pradesh	594.64	44
Manipur	1053.24	36
Meghalaya	1090.36	38
Mizoram	415.19	38
Nagaland	374.74	15
Sikkim	54.56	8
Tripura	2759.56	70
Total	6342.29	

Source: Basic Animal Husbandry Statistics-2019

The deficit in poultry meat and egg is due to many constraints like

non-availability of good backyard poultry germplasm, higher feed cost, non-availability of vaccine, poor animal health services and lack of awareness among the farmers. By seeing the challenges faced by tribal people of NEH region, ICAR has introduced improved backyard poultry germplasm in NEH Region through Poultry Seed Project. Vanaraja and Srinidhi poultry developed by ICAR-Directorate of Poultry Research, Hyderabad are dual purpose birds suitable for backyard poultry farming in rural and tribal areas for meat and egg purpose, respectively. Due to the similarity in phenotypical appearance of these birds with desi birds, these birds are well adopted and accepted by the tribal farmers of the region. In addition, these birds lay brown coloured eggs and their meat texture and flavour is almost similar to *desi* birds. Moreover, these birds have higher growth rate, less mortality, brown colour egg and higher egg production. Vanaraja

cocks attain 2.5 to 3.0 kg body weight in three to four months and hens lay 120 to 150 eggs in backyard conditions with little supplementary feeding. Similarly, Srinidhi male birds attain 2.5 to 3.0 kg in three to four months and female birds lay 220 to 250 eggs in one laying cycle in backyard production system. Since the inception of Poultry Seed Project at ICAR Nagaland in 2010-11, ICAR Nagaland Centre has provided around ten lakhs of improved backyard poultry germplasm to more than five thousand tribal households. Besides, the ICAR Nagaland Centre has trained around two thousand farmers in scientific management of backyard poultry. With these efforts, improved backyard poultry germplasm has reached the every nook and corner of NEH region including at Indo-Myanmar border. These birds are now households



Adult birds of Vanaraja and Srinidhi at his farm



Backyard rearing of Vanaraja birds in his farm

name in NEH region and ensuring food and nutritional security of the tribal population.

Success story of Mr. Nungshi Temshu Ao

Mr. Nungshi Temshu is hails from Chuyim bang village of Ongbangkong block in Mockukchung district Nagaland. He is 36 years old unemployed youth. He did his education till senior secondary level. He is having 2.3 acres of land in the village. In the year 2018, he took three days residential training on scientific poultry farming at ICAR Research Complex for NEH Region, Jharnapani, Medziphema, Nagaland. After

training, he constructed a poultry house with a mix of concrete and locally available materials. He has the capacity to keep 1500 birds at a time. Thereafter, he started his poultry farm with Vanaraja and Srinidhi birds. He prefers to keep Vanaraja for meat purpose and Srinidhi for egg purpose. He also helped other farmers by supplying them grown-up chicks after brooding phase. This reduces the mortality of birds in field condition and enhances the profit of farmers. Now, he also purchase chicks from private suppliers and raise the chicks to four weeks age. Then he sells these grower birds to the farmers.

He fed mix of commercial feed as well as homemade feed. His total investment in a year is around ₹2.0 lakhs and his gross revenue is ₹3.5 to 4.0 lakhs. Therefore, he earned ₹1.5 to 2.0 lakhs in a year from poultry farming. He narrates his main challenge was non-availability of good germplasm on time. However, with the help of ICAR Nagaland Centre, now, he is getting regular supply of chicks. He says that he prefer to keep Vanaraja and Srinidhi birds than broiler or Kuroiler. Total mortality in his farm is below 5%. His success has motivated unemployed youth of the region.

SUMMARY

Backyard poultry farming with improved germplasm like Vanaraja and Srinidhi is gaining popularity in NEH Region. The higher productivity of these birds along with unique traits makes them highly acceptable in tribal region. In the last one decade, these birds have reached in remotest corner of NEH Region because of ICAR-Poultry Seed Project. Their higher productivity is translated into food and economical security of resource poor tribal farmers.

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TECHNICAL SPECIFICATIONS

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