

Empowerment of rural youth through backyard pig farming: A rewarding enterprise

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A climate resilient backyard pig farming model was implemented in Singimari village of Cooch Behar district under the National Initiative on Climate Resilient Agriculture (NICRA) project by Cooch Behar Krishi Vigyan Kendra. Ghungroo pigs, a climate resilient indigenous breed of northern part of West Bengal, were introduced among rural youth and small farmers. The breed is well adapted to low input production systems, possesses high prolificacy, better disease tolerance and performs efficiently under local climatic conditions. Scientific interventions such as low-cost housing, mineral supplementation, deworming, vaccination and feeding using locally available resources including rice bran, kitchen waste, colocasia and green fodder were demonstrated. The intervention significantly improved litter size, litter weight and piglet survival compared to local pigs.

Keywords: Backyard farming, Climate resilience, Ghungroo pig, Income generation, Tribal farmers

PIG farming plays an important role in the livelihood and food security of tribal communities in the Teesta and Terai region of northern part of West Bengal. Pork is highly preferred among the local tribal population and almost every household traditionally rears one or two pigs under backyard conditions. However, the productivity of local non-descript pigs is low because of poor genetic potential, inadequate feeding, lack of scientific housing and improper healthcare management. As a result, the growing demand for pork in the region is not adequately fulfilled.

Backyard pig farming offers an excellent opportunity for income generation and employment for rural youth, especially under smallholder farming systems. The enterprise requires relatively low investment and can efficiently utilise household waste, crop residues and locally available feed resources. In addition, pig farming provides regular cash income and acts as a financial asset during emergencies.

Under the National Initiative

on Climate Resilient Agriculture (NICRA) project, the Ghungroo breed of pig was introduced in Singimari village of Cooch Behar district during 2021-22. Ghungroo pigs are native to the Teesta and Terai region of West Bengal and the foothills of Nepal. The breed is well known for its high prolificacy, adaptability to low input production systems, efficient feed conversion and tolerance to climatic stress. These characteristics make the breed suitable for climate resilient backyard pig farming systems in rural areas.

Intervention

Under the NICRA project, Cooch Behar Krishi Vigyan Kendra (KVK) distributed 20 Ghungroo pigs (2 boars and 18 gilts) among beneficiaries of the Singimari Adibasi Krishi Kalyan Society during 2021-22. Prior to distribution, the beneficiaries received hands on training on scientific pig management, including housing, feeding, breeding, sanitation, vaccination and disease

management. Low-cost housing models using locally available materials such as bamboo, wood and thatch were demonstrated to reduce investment costs. Feeding strategies emphasised use of locally available low input resources including rice bran, broken rice, kitchen waste, colocasia leaves, green fodder and hydroponic fodder. Mineral mixture supplementation was also provided to improve growth and reproductive performance.

Regular animal health-cum-vaccination camps were organised by KVK scientists for vaccination, deworming and treatment of the pigs. Farmers were also trained in hygienic management and scientific breeding practices for sustainable pig production under backyard conditions.

Success story and technology adoption

Sri Benjamin Oran, a 37-year-old farmer residing in the hamlet of Singimari in the Cooch Behar District of West Bengal, is currently generating a net annual income of ₹4,32,000 from his backyard piggery

unit. The remarkable success of his enterprise has attracted considerable interest from farmers in the surrounding villages. In addition to pig rearing, he maintains a small flock of local poultry birds, primarily for domestic consumption, and cultivates oats (Kent 5), maize (J1006) and hydroponic fodder, as well as other crops, to meet the nutritional requirements of his pigs. His entire backyard farming system is established on one bigha of land, on which he has constructed a shed with a thatched roof, semi concrete flooring and compartments capable of accommodating ten sows and thirty piglets simultaneously.

Although Sri Benjamin Oran had a strong inclination towards pig farming, he was initially reluctant to pursue it due to his limited technical knowledge and skill. His engagement with the Cooch Behar KVK proved to be a turning point. The scientists provided him with substantial inspiration and the

Table 1. Adoption of scientific backyard pig farming practices by tribal farmers

Scientific intervention	Traditional practice	Adopted practice under NICRA
Breed	Local non-descript pigs	Climate-resilient Ghungroo pigs
Housing	Temporary kutcha housing	Low-cost bamboo and thatch housing
Feeding	Kitchen waste only	Rice bran, broken rice, colocasia, fodder, mineral mixture
Healthcare	Irregular treatment	Regular vaccination and deworming
Breeding	Uncontrolled breeding	Scientific breeding management

technical guidance necessary to initiate the unit and played a pivotal role in building his confidence to take up pig farming as a viable livelihood activity.

Under the NICRA project, the KVK provided him with ten Ghungroo breed piglets, one male (boar) and nine female (gilts). He established the unit in the year 2021. In the first production batch, each sow farrowed eight to twelve piglets within 11-12 months. The piglets were sold at the age of 70–80 days at a price ranging from ₹3,500–4,000/piglet. He expressed considerable

products as well as on veterinary medicines, dewormers and vaccines. It is important to note that this figure represents only the cash expenditure on purchased inputs; a significant portion of the animals' nutritional requirements is met through farm grown fodder (oats, maize and hydroponic fodder) and kitchen waste, which considerably reduced the effective out-of-pocket feed cost. The daily husbandry and management of the pigs is carried out jointly by Sri Benjamin Oran and his wife, eliminating the need for hired labour.

Sri Benjamin Oran has, thus, established himself as a successful role model in the field of swine breeding and backyard piggery enterprise. His farm serves as a learning hub, drawing farmers from across the Cooch Behar District who seeks improved Ghungroo piglets and practical guidance on pig rearing.

Table 2. Success indicators of backyard pig farming technology

Parameter	Before intervention	After intervention
Average litter size	Low	39.75% increase
Litter weight at birth	Low	58.62% increase
Litter size at weaning	Poor survival	64.92% increase
Litter weight at weaning	Low body weight	82.60% increase
Annual income from pig farming	Limited income	Approx. ₹4.32 lakh/year
Technology adoption	Very few farmers	Rapid spread in nearby villages

SUMMARY

The introduction of climate resilient Ghungroo pigs under the NICRA project significantly improved



Vaccination of the pigs

satisfaction with the marketing of the piglets, noting the strong and consistent demand for improved breed piglets in the region. Over the preceding year, he had already successfully sold 80 piglets. In addition, five aged sows that had exceeded their productive lifespan were culled and sold for pork, while the remaining piglets were retained as parental stock. The aged animals were sold at prices ranging from ₹20,000–22,000/head, depending on

their live body weight. He further noted his intention to retain each sow in the breeding herd for as long as it remained reproductively active, emphasising that pig rearing has the potential to substantially enhance household income.

With regard to expenditure, he reported spending approximately ₹2,000–2,500/pig/month on the purchase of supplementary feed materials including broken rice, rice bran and similar agro industrial by



Ghungroo sow with her piglets

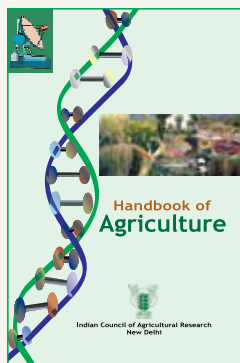
backyard pig farming in the adopted village of Cooch Behar district. Scientific interventions related to low-cost housing, feeding, breeding and healthcare enhanced productivity and profitability under low input rural conditions. The Ghungroo breed performed well under the

local climate and showed better reproductive performance compared to local pigs. The study demonstrated that backyard pig farming can serve as a sustainable livelihood option for rural youth and tribal farmers by generating regular income, improving food security and strengthening

resilience against climate related risks. The successful adoption of the technology by beneficiary farmers also facilitated horizontal dissemination of improved pig farming practices in the surrounding villages. A successful farmer from the adopted village generated an annual net income of approximately ₹4.32 lakh through backyard pig farming, motivating adjacent farmers to adopt the technology. The study highlights that scientific backyard pig farming using Ghungroo pigs can enhance income generation, livelihood security, climate resilience and social empowerment of rural youth in the Teesta and Terai region of West Bengal.

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