



## Research Article

# CASE STUDY ON KUROIILER: DUAL PURPOSE BIRD DEVELOPED FOR FREE RANGE POULTRY FARMING IN RURAL AREAS

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**Abstract:** There is a huge demand of meat and egg due to non-vegetarian dietary habits. But low egg production and lesser weight gain is major problem in local poultry. Moreover, there is unavailability of good quality dual purpose poultry breed. So, there was a need of introduction of a good quality dual purpose breed. Kuroiler is dual purpose multi-colored poultry with highly suitable for hilly areas like Mon district of Nagaland. The disease resistance capacity is also advantage of this breed besides, the meat and egg of Kuroiler birds in taste and appearance wise similar to desi birds and more preferred than those of commercial broiler/layer birds.

**Keywords:** Kuroiler, Survivability, Adaptability, Growth performance

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## Introduction

Backyard poultry farming is an old practice in rural of Mon district, Nagaland. Most of the poultry production comprises rearing of indigenous birds with poor production performances. However, the backyard poultry production can be easily boost up with improved varieties of chicken and can promise a better production of meat and egg. To improve the socio-economic status of the traditional farmers, backyard poultry is a handy enterprise with low - cost initial investment, but high economic return along with guarantee for improving protein deficiency among the poor [1,2]. Keeping in view the need of the local people, improved dual purpose breed Kuroiler developed from Keggfarm, Gurgaon; Haryana had been introduced as a suitable alternative to local birds for rearing under backyard system.

## Objectives of study

1. To study knowledge of the farmers regarding improved breeds of poultry other than the Desi (country breed) poultry birds.
2. To study survivability of the Kuroiler birds in local conditions of Mon district.
3. To study farmers opinion/response on rearing Kuroiler bird in their backyard with regard to ease in handling.
4. To know the production of Kuroiler in local conditions.
5. To know the body weight of Kuroiler birds at different age.
6. To know the economic benefits to the farmers by maintaining Kuroiler birds.

## Material and Methods

The study was conducted in Langmeang village during the year 2018 to 2019. Fifty farmers from various Self Help Groups and Farmers Club were provided with 11 numbers each of 15 days old Kuroiler chicks after proper vaccination and selected randomly as respondents for the survey. Prior to distribution of the birds, these farmers were trained in backyard poultry farming by the Krishi Vigyan Kendra Mon, expert. A questionnaire on performance of Kuroiler birds was used and information was gathered from 50 selected farmers after 18 months of receiving the birds. Data was collected on the basis of the following aspects of Kuroiler birds viz. farmers knowledge regarding improved poultry breeds (previous and present); survival rate in local conditions; overall opinion of the farmers

regarding ease of handling the birds; body weight at different ages; egg yield; days to first egg; overall economic benefits, etc

## Finding and Results

95 percent of the respondents agreed that management of Kuroiler birds was easy comparable with that of desi birds. Based on the data on deaths, the mortality rate was slightly lower for desi (15 percent) to Kuroiler (17 percent) birds however, statistically the difference was not significant and this could be attributed to better vaccination. The estimated positive correlation was observed between age-weight for Kuroiler and desi birds during the studied period that on an average Kuroiler birds exhibited significantly faster growth than the desi birds and by three months reached 2.016kg body weight against desi 0.475kg. This relationship was more or less similar across altitudinal gradient in the district where availability of concentrate feeds was limited among the less income generating farming community. Similar finding was reported [1].

Egg production of Kuroiler birds was recorded @ 105eggs/hen/year which was higher than the desihens' egg production@45 egg/hen/year. Net return from Kuroiler was Rs.1050 / bird/year (at prevailing market for brown coloured Kuroiler egg was Rs.10/egg). 99 percent of farm women satisfied with the taste of meat and egg of Kuroiler birds. 68 percent of respondent families opined that Kuroiler birds played important role and was useful in uplifting their social status, while 32 percent of them opined that rearing of Kuroiler birds was very useful. In the context of this study, an important question to ask was which factor did the household considered important in influencing their choice of rearing Kuroiler. While their contribution to income and household nutrition were obvious candidates, the qualitative component of the survey attempted to go beyond these factors to create a more complete list of factors considered important by the household. These were few mentioned below.

Access to market: the most critical factor identified by the households was marketing the Kuroiler. Despite such competition in the market, the sale of Kuroiler chicks has continued to grow very rapidly. The selling age varied significantly across the district depending on the market linkages and cultural practices.

At the same time most households had a rather easy and assured market for Kuroilers. In many cases when the households could not manage to sell Kuroilers, these were consumed at home but most of these households were not willing to expand their flock size. Most important of all, Kuroiler emerged as the 'Bird of hope' for hundreds of thousands of extremely poor families.

Kuroiler easier to sell than other livestock: The short interval between investment and earnings makes the Kuroiler an especially attractive option for households living on day to day basis. Larger animals need open areas to graze and invariably find their way to neighbours' yards if left on their own. Most households avoid options which could lead to confrontation with their neighbours or relatives. However, Kuroiler can be easily managed within the house or time and available resources and provides a business opportunity.

Well Suited to women's daily timetable: Women rearing Kuroilers have adjusted their own routine to seamlessly integrate Kuroilers into their life. In the household jobs that are expected of women concerning children, cooking, cleaning, field work etc the task of Kuroiler rearing has also been added.

Kuroiler looks good: Kuroiler has the beauty of a zoo bird. With rich colorful plumage, large size of long legs, the Kuroiler is a treat to watch. These qualities add to its reputation and make it a preferred bird. Its majestic carriage enhances the status of the rearer in the community.

Kuroiler not as good as desi at avoiding predators: The survival instincts of desi birds have been honed by their generations learning to live in a hostile environment with predators. The reaction of desi bird in the presence of predators was either to stay motionless or make it scarce. Kuroiler was sloppier than desi in avoiding danger. This quality of the desi makes it preferred option for the poor who cannot oversee the scavenging of the birds and have permanent or seasonal predators in the vicinity of their household.

They do have to be fed: Although Kuroiler was propagated as a scavenging/semi - scavenging bird, it has been observed that Kuroiler need to be fed as they cannot meet their food requirement exclusively through scavenging. This was more pronounced when the Kuroiler do not have sufficient access to open areas to scavenge. The Kuroiler in many households was fed broken rice, rice bran, maize mixed with little concentrates in village with limited quality and poor-quality scavenging spaces.

## Summary and Conclusion

With the popularity of Kuroiler increasing rearing Kuroiler was become a way of life. Here the status was influenced by the knowledge villagers have of rearing birds and the quality/quantity of birds they hold. Detailed information collected on the cost and benefits of Kuroiler units in rural households indicated high profit margin ratios at all level and hence the enterprise passed the test of economic viability. Although the profit margin ratios of those rearing desi birds were comparable (sometimes equal or higher) with those rearing Kuroiler overall profits generated by Kuroiler enterprises were significantly higher than those rearing desi birds. Thus, Kuroilers bring in much more market orientation and contribute significantly more to cash flows at the household level. Although the overall average contribution of Kuroiler to total household income was about 5-10 percent their contribution to other aspects of livelihoods such as security, development of entrepreneurial capabilities in women, strengthening of social networks was substantial. Many poor households considered the Kuroiler as a living bank that they can cash in case of an emergency or any other special occasion.

This enterprise also provides a mechanism for effective use of kitchen/ feed leftovers which in turn providing manure droppings for kitchen gardens. Thus, Kuroiler easily form an integral part of the livelihood system.

In rural households with Alfa males these decisions remain small but, in many households, women have taken the lead in making expenditure decision. The power that the women feel when taking decision independently was a positive step towards empowerment. Thus, Kuroiler make a considerable contribution towards inculcating leadership and entrepreneurial skills in significant number of women.

The other significant aspect of household poultry (not necessarily Kuroiler) relates its contribution towards both food and nutritional security and subsidiary income.

## Recommendations

Majority of the respondent farmers expressed the need for multiplication and promotion of Kuroiler and there is a need for awareness about such good dual-purpose backyard poultry breeds among farmers. Farmers need to be trained on feeding and healthcare management of poultry birds. There is a need of Government scheme to promote this dual-purpose variety for nutritional and subsidiary income.

**Application of research:** Kuroiler is dual purpose multi-colored poultry with highly suitable for hilly areas like Mon district of Nagaland. The disease resistance capacity is also advantage of this breed besides, the meat and egg of Kuroiler birds in taste and appearance wise similar to desi birds and more preferred than those of commercial broiler/layer birds.

**Research Category:** Backyard poultry farming.

**Abbreviations:** Nil

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**Study area / Sample Collection:** Mid altitude areas Mon district Nagaland

**Breed name:** Kuroiler poultry birds

**Conflict of Interest:** None declared

**Ethical approval:** This article does not contain any studies with human participants or animals performed by any of the authors.  
Ethical Committee Approval Number: Nil

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