

CHICKENING OUT OF POVERTY? STORY OF 'KUROILER' FROM INDIA

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Summary

Poor rural households in the developing countries have relied on backyard poultry for sustaining their livelihoods for as long as anyone can remember. But, the recognition of this enterprise as a development policy tool is somewhat recent. A number of development initiatives in the recent past have incorporated household poultry in their ambit. Most of these have been supported by development funds provided by local and national governments or international donors. The degree of success of these projects has varied greatly depending on the degree of self-sustaining market linkages these projects could forge. But, the private sector initiated and sustained examples of backyard poultry are rare. This paper presents the case of one such rare example—Kuroiler, from India. The results show that Kuroiler based enterprises are economically viable and make substantial contribution (direct and indirect) to poor peoples' livelihoods in terms of increased income, women's empowerment and enhanced nutritional status of households.

I. INTRODUCTION

In recent years there has been increasing recognition of the role of backyard poultry in enhancing poor peoples' livelihoods in developing countries. Market oriented backyard poultry enterprises are being recognized as a stepping stone for the poorest households enabling them to take the first step towards breaking out of the vicious circle of poverty. There is also growing evidence to demonstrate the role of rural family poultry in enhancing the food and nutrition security of poorest households, reducing the livelihood vulnerability, and promotion of gender equity (Dolberg, 2004; Ahuja, 2004; Ahuja and Sen, 2007).

Despite the potential offered by backyard poultry production in reaching out to the poorest, there has been little public support for backyard poultry in India. Recently, however, Government of India and a number of State governments have become sensitive to the potential offered by this activity and have begun to promote backyard poultry through various schemes. Similarly, there is growing awareness among the private sector players of the 'business potential' offered by this sector. This opens up new possibilities of nurturing synergistic partnerships between public, private and civil society organizations with the common objective of enhancing poor peoples' livelihoods.

One example of private sector promoted backyard poultry in India pertains to the 'Kuroiler' introduced by Keggfarms Private Ltd. Kuroiler – "Kegg + Broiler" is a dual purpose hardy bird with significantly higher productivity while it retains many desirable features of indigenous birds, such as the feather colors for camouflage, agility to escape from predators and resistance to diseases⁵. Kuroiler was introduced by Keggfarms in 1993. In the first year itself the company sold more than a million day old Kuroiler chicks. By 2005-06,

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⁵ The 'K' in the Kuroiler also derives from 'Curry', the generic term for spice mix and the style of Indian cooking. Due to the hardy character of Kuroiler meat, it takes a little longer to cook, allowing the 'curry' to permeate deep inside the meat, giving it a distinct taste and aroma specially suited to the Indian palette.

the number had already reached the figure of 14 million—a phenomenal annual growth rate of almost 22 percent sustained for more than a decade.

Although ‘Kuroiler’ has been receiving increased attention over the last few years, no systematic studies have analyzed its livelihood impact at the village level. This paper presents *the results of first field study* designed to understand Kuroiler’s contribution in improving poor peoples’ livelihoods.

II. METHODS

The study was conducted in four districts of West Bengal—a state in eastern India bordering Bangladesh. Since the primary objective of the study was to understand the ‘livelihood’ impact of Kuroiler, it was necessary that the sample contained sufficient data points of Kuroiler and Desi (indigenous) birds. Thus, the sample was drawn with two main considerations in mind—adequate representation of (i) areas with Kuroiler and Desi poultry population and (ii) geographic and agro-climatic diversity. In all, data were collected from 260 households across 19 villages in four districts.

To examine livelihood patterns across income categories, this survey collected information on a number of assets (land, livestock, housing and other consumer durables), created an index of assets using weights derived from principal component method and used this index as a measure for income and overall economic status. For the purpose of comparison across income groups, the households were ranked in ascending order of the index, and comparisons made across three categories—bottom 20 percent, middle 20 percent and top 20 percent.

III. RESULTS

Similar to a large number of low income countries, household poultry in India finds special favor with the poor (landless, marginal and small farmers) and backward communities. Earnings of most of these households are usually insufficient to finance even subsistence consumption throughout the year. These households rely on small scale low cost poultry production systems to supplement and enhance their livelihoods.

In the sample selected for this study, a remarkably large proportion comprised landless households or marginal farmers with less than one acre land. Similar pattern was reflected in the pattern of other assets. For example, less than 10 percent households in the bottom 20 percent category reported owning a radio. No one in that category owned such common assets as a watch, fan, television or sewing machine. Thus, the sample households belonged to very poor category. Such a pattern was observed despite conscious attempts to spread out the sample across income space subject to them raising poultry.

Age-weight relationship for Kuroiler and Desi birds is reported in Table 1. As expected, on average Kuroiler birds exhibited significantly faster growth than the desi birds and by sixth month reached 2.5 kg body weight. This relationship was more or less similar across geographic areas and income groups.

Table 1: Age-weight relationship based on household level data

Weight in Kg	Months				
	5	6	7	8	9
Desi	0.80	0.70	0.97	1.00	1.23
Kuroilers	2.50	2.60	2.70	2.75	2.70

Mortality rate for Kuroilers was estimated at a little over 20 percent. Although the mortality rate was slightly lower for desi birds, statistically the difference was not significant. The rates varied considerably across geographic areas and at least part of this variation could

be attributed to better vaccination rates at the mother unit and better feeding/husbandry practices at the household level due to better market orientation.

Economics of poultry keeping and contribution to household income

Tables 2 presents the economics of household poultry production across income groups. As can be seen, overall size of enterprise increased with economic status with total number of Kuroilers (sold and consumed at home) increasing from about 9 in the bottom 20 percent to nearly 17 in the top 20 percent. Net profit margin ratio when calculated on total income from Kuroilers (including home consumption) was comparable across income categories, but the share of Kuroiler meat consumed at home as a proportion of total production increased dramatically with income. In the bottom 20 percent category only about 10 percent of Kuroiler meat was consumed at home with the proportion increasing to over 40 percent in the case of top 20 percent. Interestingly, the share of eggs consumed at home as a proportion of total egg production was similar across income groups. All three income groups consumed about 60 percent eggs at home. Overall the share of cash revenue in total value of production was about 70 percent in the case of poor 20 percent households declining to about 53 percent for top 20 percent households. On average, Kuroiler households generated more than five times the value from their poultry enterprise when compared to non-Kuroiler poultry households.

Table 2: Economics of Kuroiler Rearing across income groups

	Bottom 20 percent	Middle 20 percent	Top 20 percent
Kuroilers sold during the past 12 months (Kg)	21.6	25.5	26.2
Kuroilers consumed during the past 12 months (Kg)	2.60	9.53	19.3
Total cash revenue (Rupees)	1633.5	2013.0	2154.0
Total value of production (Rupees)	2329.0	3361.5	4028.0
Total cost (Rupees)	855.0	1387.3	1647.5
Net Revenue/profit (Rupees)	1401.0	1974.2	2381.1
Net profit margin ratio (percent)	60.0	58.0	59.0

Similar calculations for households keeping indigenous birds suggested comparable net profit ratio but significantly lower net returns in absolute terms. Further, due to Kuroiler enterprises being more market oriented, the cash component of overall production value varied between 60 to 75 percent compared to 20 to 35 percent for the households keeping indigenous birds. Households used this increased cash income to pay for educational expenditures, medical emergencies, and overcoming food shortages. In the case of very poor households the cash earnings were typically used for buying carbohydrates like rice. This was possible only because Kuroiler provided sufficient marketable surplus to make it worthwhile for individuals to incur the extra cost and effort of accessing markets.

The Value Chain that binds it all together

Every year Keggfarms distributes about 10 million birds to 800,000 farmers located in some of the remotest parts of the country. The most credible aspect of this operation is that this chain supports a commodity serving the poorest in a financially sustainable manner without the support of any external agency. The key to its viability is of course the interdependence of agents within the chain. Each link depends on the other and it is in the interest of all to ensure the viability of others in the chain.

The network comprises hatcheries, mother units, dealers, and mobile vendors (*pheriwallas*). Except hatcheries, all other agents in the chain are independent entrepreneurs. The network is fairly strong and well coordinated but there is rather little technical input for

poultry management in this network. The dealers are given some training initially, but there is no formal system to upgrade their knowledge base. The Mother Units and *pheriwallas* usually have no formal training in poultry management. Dealers are the key agents providing technical backstopping when required. More than 70 percent agents in the chain reported giving drugs and medicines to the birds and about 10 percent providing vaccinations. This level of drug use without any training can adversely affect the health of the birds.

Despite the low level of formal technical input in the chain, the linkages between agents do enable some information flow from farmers to pheriwalla to dealers. The dealers then take this information back to the company as the market feedback. Upgrading the technical information of the agents can therefore be mutually beneficial. For example, in some cases it was reported that if a critical number of birds died in a region, the *pheriwallas* who might have sold the birds in that area stopped going there to avoid confronting the villagers. Appropriate back up support from Keggfarms in such cases can serve as an important confidence building measure and a source of identifying weaknesses in the chain.

To summarize, effective functioning of value chain is perhaps the most critical aspect of Kuroiler model that distinguishes it from other similar models. More important, however, the aspect of organizational structure that ensures effective functioning of this chain is its complete independence from any external support. Due to its market oriented nature, there is sufficient opportunity for each agent in the chain to generate adequate surplus. Close networking of agents ensures adequate information flow to prevent any serious market failures. Finally, since every one is paying for the goods and services they receive, there is sufficient pressure on delivery.

On the other hand, the aspects of these operations that have implications of public good nature are weak and deserve attention. For example, there is no monitoring of vaccination, mortality and the level of drug use in the chain. This has significant implications for reducing risk and containing losses in the chain. Given that the risk bearing ability of user households is extremely low, any manifestation of this inherent risk (in the form of disease outbreak, for example) can be destabilizing. Addressing this issue requires investment in skill building and training in poultry management, livelihood analysis, and quality assurance of various inputs used in the value chain.

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