

Benchmark survey of Rajapanichandra village in Rani Block of Kamrup District in Assam

D.K. Mazumder

Department of Agriculture Economics and Finance Management, Rangamati, Dhubri - 783376, Assam, India.

Corresponding author: dkmazumder6@gmail.com

Paper No. 218

Received: 6 January 2015

Accepted: 13 April 2015

ABSTRACT

Benchmark survey of Rajapanichandra in Rani Block of Kamrup district was undertaken during the month of August and September, 2013 with the purpose of adopting as a KVK village with emphases on popularizing poultry enterprise (*Vanraja* breed). To fulfill the objectives of the study, primary data was collected by personally interviewing the households along with a general survey of the entire village. The findings of the survey revealed that the farming system prevailing in the area was crop based with livestock and homestead as secondary activities. Moreover, the farming system practices were traditional and on subsistence basis and thus the output mostly fulfilled the domestic needs. About 98 percent of the households belonged to the *Bodo* (tribal) community and as a part of their socio-cultural and religious tradition were interested for rearing of poultry on a commercial basis.

Keywords: Benchmark survey, *Vanraja* breed, village adoption, constraint analysis, technological intervention.

Benchmark survey of an area is helpful for providing first hand information before implementation of any developmental programme. Survey of the area as well as inhabitants would help in collection of authentic information on various aspects like socio-economic conditions of the inhabitants, farming system practices, existing infrastructural facilities, land use pattern, natural resources available etc. The survey would also help in identifying the constraints which could be looked upon by programme implementation teams, funding and government agencies, etc.

KVK Kamrup had been implementing different programmes in the district and for the year 2012-13, it had decided to adopt a village with special emphasis on poultry enterprise (*Vanraja* breed). In this context, KVK Kamrup had conducted a bird's eye survey of two blocks i.e. Rani and Chayanika-Borduar in South Kamrup. This was followed by a detailed benchmark survey of Rajapanichandra village in Rani block.

Studies have revealed that commercial rearing of poultry on scientific management practices is

a highly remunerative enterprise which would help to increase production, income and generate employment opportunities (Mahanta and Deka, 2012). Moreover, it would help in better income redistribution among households and help in reducing rural income inequality (Birthal and Singh 1995).

Objectives

The major objective of the survey was to promote livestock centric livelihood option with emphasis on rearing of *vanraja* breed – a dual (egg and meat) purpose poultry breed that would help in economic empowerment of the farming households.

Methodology

Rajapanichandra village was selected for the present study. The list of households in the village was collected from the village headmen. These households were classified into three groups based on the size of holding viz. group I – (upto 1 ha), group II – (1.01to 2.00 ha) and group III (above 2

ha). For collection of information from individual households, a representative sample of 60 farmers was selected using the probability proportion to size technique. Survey was conducted during the months of August and September, 2013 by a team of KVK Kamrup scientists and data on socio-economic profile, existing resource profile, farming practices, constraints, etc. was collected using a pre-structured interview schedule. In addition, a general survey of the locality in order to know certain basic information on land, soil, vegetation, farming practices, , agro-climatic condition, irrigation potential were also carried out. The survey was adequately supported by secondary data collected from relevant published sources. The collected data were coded, tabulated followed by analysis.

The findings of the survey were as follows

Location

Geographically, Rajapanichanda village is situated on the south-western side of Kamrup district bordering Meghalaya state and agro climatically falls in the Lower Brahmaputra Valley Zone of Assam. The area is well connected by railways and roadways. National Highway No. 37 is adjacent to the area at a distance of 3 km. The village is about 3.5 km from KVK, Kamrup and 26 km from Guwahati city.

Agro-climatic conditions

The village Rajapanichandra is located in the humid and pre-humid climatic belt with an annual average rainfall of about 1600 mm (Anon., 2013a). The rainfall is unevenly distributed and the period from May – September accounts for the major portion of the rainfall received. The winter months extending from November – February is dry and cool and is conducive for cultivation of *rabi* crops. The maximum temperature reaches to about 38^o C in July- August and minimum falls to about 7^o C in 1st part of January (Anon., 2013a). The humidity of the area is more than 80 percent. The uneven distribution of rainfall sometimes causes extreme climatic conditions like drought, water logging that adversely affect the standing field crops leading to fall in production and productivity.

Soil type and topography

The texture of the soil type is alluvial and lateritic and acidic in reaction. The soil pH is in the range of 5.0 – 6.0. The topography of the area is medium land but on the southern side bordering Meghalaya state which is surrounded by hills, the area is gentle slopping from south to north. The water table is at a shallow depth i.e. about 10 feet to 12 feet and the water holding capacity of the soil is good.

Irrigation

There are no major nor minor irrigation projects and even STWs which is a common form of irrigation in the state was not found in the area perhaps due to lack of enthusiasm and effort on the majority of the farmers to go for double cropping. However, water from streams arising from adjoining hills was harvested by digging canals. The water is used for irrigating crops particularly in *rabi* season and also in *kharif* season during drought conditions.

Infrastructural facilities

The survey identified the existing infrastructural facilities in the area. To meet the education needs of the students, there exists primary, middle and high school in the area. For college level education, the eligible students avail in institutions located in nearby areas. There were no technical and post-graduate degree holders revealing that higher education was still a distant look for the inhabitants of the area. Other infrastructural facilities available in the village and nearby areas included – Public health care centre, veterinary dispensary, agro service center, banking and marketing facilities, National Research Centre for Pig, library, etc. Further, the survey of the area revealed that no households possessed tractors or power tillers and ploughing operations was done by either bullocks or by hiring tractor/power tiller from nearby localities.

Socio-economic profile

Population, family size and literacy

The population of the village was approximately 800 persons comprising 157 farm families. The caste composition indicated that the majority (98 percent) belonged to the *Bodo* community which is listed in the ST category. The average family size was five

and there was no considerable variation between the size-groups in respect of family size. The literacy level of the area was worked out at 76 and 63 percent for males and females respectively. However, it was found that the gender difference in education was not found in the upcoming generation probably on account of various incentives, governmental policies and programmes on education.

Farm size

Out of the 157 farm families in the village, the majority i.e. 82 percent of the households belonged to the marginal and small category and only 18 percent households had holding size above two hectares. The overall average farm size in the village was worked out as 0.98 hectares.

Income

A study of the income distribution revealed that 58 percent of households had annual family income in the range of ₹ 60000/- to ₹ 75000/-, 25 percent in the range of 75000 to ₹ 90000/- and 17 percent above ₹ 90000/-. Thus majority of the households fell in the low-income group (Anon., 2012-13b). The primary source of income was agriculture with livestock and homestead as secondary activities. There were few service holders in the village supporting their families. During the lean season farmers belonging to the small and landless categories were involved in off-farm activities to support their family income.

Women's involvement

One of the significant feature of the village was that the women folk were very much active and they were equally involved in all farming operation and decision making process. The women were also involved in other business activities and helped to supplement the family income. In most of the households, preparation of rice beer was a common activity used for both domestic needs like rituals, consumption by the family members and for selling and the activity was exclusively carried out by the women folk of the community. About 20 percent of the households depended upon selling of rice beer as a major source of income for the family. The marketing of the product was directly from home itself. However, this activity has brought an adverse effect on a section of the younger generation of the

area in the form of addiction. Another observation made during the period of study was that the life expectancy of adult male was low averaging 50 on account of rice beer addiction and thus, a number of widows were found in the area.

Agriculture and Horticulture

The economy of the people is pre-dominantly agrarian. Rice is the principal cereal crop in the area grown during the *kharif* season covering 90 percent of the gross cropped area. Rapeseed and pulses were grown in *rabi* season by only a few farmers. The scope of increasing cropping intensity during *rabi* season was limited due to dry and mild spell of winter and decrease in soil moisture. During 2011-12 KVK, Kamrup successfully carried out the technology showcasing programme on winter rice, variety *Ranjit* producing quality foundation seeds in a area of 30 hectares and consisting of 12 beneficiaries. Horticultural crops raised in the homestead included coconut, arecanut, bettlevine, banana, papaya, citrus, bamboo, vegetables etc. There were no orchards in the area indicating non-commercialization of horticulture. Moreover homestead gardens were not scientifically managed. The agriculture and horticulture practices followed were traditional without much of scientific innovation and hence the productivity of agriculture and horticulture crops was low. In 2004, a farmer of the area named *Shri Bahona Boro* was adopted by Horticultural Research Station, Kahikuchi for promotion of IFS model and he now a set example of a progressive farmer in the area.

Livestock and Fishery

Animals/birds maintained by farm families were mostly uneconomic in size and the method of rearing was traditional as backyard farming. The average number of cattle, goat and pig were in the range of 2-3 nos. whereas poultry and duck ranged from 3-8 nos. Bullocks were maintained by only a few farm families as because tractors and power tillers were used for ploughing and other farm operations. The different types of livestock/birds reared in the area were mostly indigenous breeds of cattle, bullocks, goats, pigs, poultry and ducks. The productivity of these birds and animals was low and hence the production of milk, eggs, etc. only fulfilled the household needs with negligible marketable surplus. The interview

of the farmers revealed that they were interested to go for commercialization particularly poultry and piggery perhaps due to their socio-cultural ethics and religious practices. The above finding was in conformity with the findings of Talukdar *et al.* (2013). Moreover, the arousal of interest in these two sectors may be due to programmes and incentives undertaken by KVK Kamrup in the recent past in the form of training on scientific rearing and management of livestock, periodic visits of KVK scientists and organizing exposure visits to different locations like College of Veterinary Science, AAU, Khanapara, Goat Research Station, Burnihat, NRC Pig, Rani and various demonstration units of KVK Kamrup.

The survey also revealed that the inhabitants of the area tried for commercialization in the past but without much success. It was mainly due to their inadequate knowledge of improved technology, poor economic condition and lack of proper guidance. In this context, further motivation and guidance through external intervention is needed for popularizing commercialization.

Though there was no fishery ponds in the area but the inhabitants of the area used to catch fish in water bodies found in low lying areas of the locality and also in the stream flowing adjacent to the southern side of the village. For catching fish they have their own innovative technique i.e. applying electric shock passing through an electric wire, one end of which is attached to a dried bamboo and the other end touching the water where the fish gets trapped.

Constraint analysis

At the time of survey, the farmers were interviewed to indicate the factors that had acted as constraints in their farm business. The constraints as perceived by the sample households are discussed as technological and socio-economic constraints in the following section.

It may be inferred from the above table that the major technological constraints were high cost of concentrate feed followed by inadequate knowledge on improved package of practices for crops and on scientific management of livestock / birds, non availability of quality seeds, planting materials and improved breeds of animals and birds, inadequate water and inadequate institutional assistance/

Table 1. Constraint analysis of sample households

Sl no	Constraints	No of respondents (N=60)	%
A	Technological		
1	High cost of concentrate feed.	57	95
2	Inadequate knowledge on improved package of practices for crops and on scientific management of livestock / birds.	54	90
3	Non availability of quality seeds, planting materials and improved breeds of animals and birds.	50	83
4	Inadequate water and lack of irrigation facilities.	40	66.67
5	Inadequate institutional assistance and subsidy.	37	62
B	Socio-economic		
1	Poor economic condition and low investment	50	83.33
2	Poor access to credit	48	80
3	Lack of infrastructural facilities like cold storage, inadequate space and inadequate market information	47	78
4	Inadequate extension services and departmental coordination	45	75
5	Shortage of electricity/load shedding	45	74

subsidy. Besides these, the poor economic condition of the farmers leading to low investment in farming, poor access to credit, lack of infrastructural facilities like cold storage, inadequate market information, inadequate extension services and shortage of electricity were the major socio-economic constraints of the surveyed households.

Technological interventions

Considering the limitations of the present study, the discussion on the technological interventions has been confined to the strategies to be adopted by KVK Kamrup for development of livestock (poultry) sector. The package of services to be initiated in the first stage included –

1. Awareness building workshop/discussion at the site for popularizing commercial poultry farming (*Vanraja* breed).
2. Capacity building through organizing training on different aspects of commercial poultry farming and providing advisory services.
3. To supply one day old *vanraja* chicks to farmers at subsidized rate by KVK Kamrup.
4. To establish linkages with line departments, financial institutions for credit and with identifying markets and channels for better marketing of products.
5. Promotion and production of low cost poultry feeds with locally available ingredients. This would reduce the cost of production which is otherwise incurred with feeds brought from other states at a high market value (Kumar *et al.*, 2007).

Conclusion

The primary objective of benchmark survey of Rajapanichandra was to collect detailed information of the area with the objective of adopting the village and implement suitable developmental programmes. The farming system prevailing in the area was crop based, winter rice being the dominant crop with livestock and homestead as secondary activities. The farming system practices was traditional and hence the production of crops, livestock and homestead activities could meet the home consumption needs only with little marketable surplus. About 98 percent of households belonged to *Boro* community listed as schedule tribe and as a part of their socio-cultural and religious tradition were interested to go for adoption

of livestock particularly poultry and piggery on a larger scale which they feel in the long run could be transformed into a commercial venture. The area is in close proximity to Guwahati city and nearby towns. Roads and communication to the above places are good and as such farmers would not have difficulty in marketing of their products.

In the context of the above, KVK Kamrup has taken initiative as a first step to adopt as a poultry (*Vanraja*) village with the expectation that the programme would be successful and ultimately improve the income and socio-economic condition of the farm households.

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