Research Article

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Homestead farms in Northern Kerala - Their basic characteristics and socio-economic status

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Abstract

A study on the crop diversity, farming practices followed, availability of credit and marketing facilities, constraints faced and economics of cultivation in homestead farms was undertaken in 815 homestead farms of four northern districts of Kerala (Kasaragod, Kannur, Kozhikkode and Malappuram) during August-October, 2002, using an interview schedule and Participatory Rural Appraisal techniques. The results indicated that the size of homestead farms ranged from 0.04 ha to 2.40 ha with an average of 0.54 ha and coconut based cropping system was the most predominant system followed by majority of farmers (98.0 per cent). In general, only a small percentage of farmers (6.5) were found to adopt various package of practices for crop production. Family labour alone was used in 56.0 per cent of the homestead farms, whereas in around 17.0 per cent of farms, only hired labour was used to carry out some kind of cultural operation. The sale of farm commodities was mostly through middlemen (68.4 per cent) thus making the marketing system most unprofitable. As the size of homestead farms increases, there is an increase in the investment made and the profit obtained on account of cultivation of more inter crops and inclusion of other enterprises. The net profit of small and medium sized homestead farms (< 0.5 ha and 0.51 to 1.0 ha) ranged from Rs. 4,815 to Rs. 8,050 and from Rs. 8,650 to Rs. 11,500 in the case of Malappuram and Kozhikkode districts, respectively. The trend in the case of large homestead farms (>1.0 ha) was different, wherein the net profit ranged from Rs. 14,650 in Kannur district to Rs. 18,975 in Malappuram district. High cost of cultivation, low availability of labour, lack of credit facility and availability of technical information, non-availability of inputs in time as well as storage and marketing facilities for commodities, non-availability of quality planting materials etc are the major constraints experienced by the farmers for successful maintenance of homestead farms.

Keywords: Homestead farms, farmer participatory approach, crop diversity, constraints

Introduction

Among various farm models of the world, homestead cultivation claims uniqueness and the practice of home gardens being followed in Kerala from time immemorial has been receiving an outstanding recognition the world over. Homestead farms of Kerala are typical that they surround the farmer's home mainly managed by the members of the farm family and are generally cultivated by a large number of crops and other plants along with or without a component of live stock and other subsidiary income generating activities for sustenance and for generation of additional income. The farmers take up intensive cultivation in their homesteads based on their perception and conventional wisdom. The choice of crops for cultivation is decided mainly by the preference of family members, resource availability and the socio economic environment. However, Jose and Shanmugaratnam (1993) opined that the recent trends in agrarian structure and the high market orientation exert pressures on the home garden and its sustainability is in

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question. The present study was undertaken to understand the basic characteristics, their socio-economic status and the constraints faced by the farmers in farming in the homestead farms of northern Kerala.

Materials and Methods

A detailed survey as a part of the "Analysis and Development of Homestead farms of Kerala & Andaman and Nicobar Islands -A farmer participatory approach" funded by the National Agricultural Technology Project of The Indian Council of Agricultural Research covering 815 homestead farms was undertaken by personally interviewing the farmers using a pre tested interview schedule. Out of the total 39 panchayats in Kasaragod district, 19 panchayats; out of 87 panchayats in Kannur district, 21 panchayats; out of 79 panchayats in Kozhikkode district, 19 panchayats and out of 99 panchayats in Malappuram district, 24 panchayats were selected for the study conducted during August-September, 2002.Participatory Rural Appraisal techniques such as Informal mapping to identify the physical resources as well as social and economic infrastructure; Resource mapping for collecting details of land features as well as Transect for understanding the crop diversity, farming practices followed, availability of credit and marketing facilities, constraints faced by the farmers, problems faced by the farmers, economics of cultivation in homestead farming and identification and planning for the development of natural resources in the farm were adopted for the survey.

Results and Discussion

a. General characteristics of homestead farms

Majority of the farmers (88.3 per cent) had agriculture as their main source of income, whereas, 8.0 per cent depended both on agriculture and other sources followed by 3.7 per cent earning their main income from other sources. The results indicated that the size of homestead farms ranged from 0.04 ha to 2.40 ha with an average of 0.54 ha. The size of the lion's share of the farms (62.4 per cent) of holdings was small (0.2 to 0.8 ha), as a probable consequence of high population density as opined by Nair and Krishnankutty (1984) and John and Nair (1999). The large sized holdings (>2.00 ha) constituted only 0.7 per cent. Around 99.0 per cent of the farmers cultivate crops in their own land; while one percent of farmers reported that they take land on lease and cultivate crops especially vegetable and banana. While the joint family system kept the size of the farm intact in the past, despite the increase in number of family members, the recent trend of subdivision has caused considerable reduction in holding size due to fragmentation.

The soil type is sandy in coastal lowland and laterite in highland and is mostly acidic with pH ranging from 5.10 to 6.10. The soil is low in available N and K and medium to high in P availability. More than 80.0 per cent of the homestead farms are having plain topography, whereas, 16.5 per cent farms had undulating topography and 3.5 per cent farms are in elevated or having hilly terrain.

b. Crop diversity

Considerable crop diversity was noticed in the case of crops cultivated and other plants present in homestead farms. One of the common factors influencing the diversity is the indigenous knowledge of the farmers about different species, their uses, compatibility, complimentary benefits of the species and various constraints encountered while growing them in the limited area available. Often farmers deliberately retained and managed numerous crops in their homestead farms. A variety of plants belonging to plantation crops (coconut, arecanut, rubber, cocoa, coffee); tuber crops (cassava, colocasia, amorphophallus, dioscorea etc); fruits; vegetables; spices; medicinal and flowering plants are present in the farms representing a high degree of crop combination and diversity. The number of species recorded under each category is listed in Table1. It could be seen that the maximum species was seen in the case of ornamental plants, followed by timber and miscellaneous trees. Considerable diversity in weed species was also observed.

Table 1. Crop diversity noticed in homestead farms of Northern Kerala

Category of plants/crops	No. of species recorded under each category
Medicinal plants	29
Fruit crops	28
Ornamental plants	34
Timber& other miscellaneous trees	31
Vegetables	19
Spices & condiments	10
Plantation crops	6
Tuber crops	7
Fodder plants	3
Common weeds	24

c. Farming practices

Coconut based cropping system was the most predominant system practiced (98.0 per cent) followed by one per cent each in arecanut and rubber based cropping systems. The density of various trees was found to go up as the size of the homestead farm decreased

giving a more crowded situation as indicated by John and Nair (1999) in southern Kerala. An enumeration of plant density of main crop (coconut) indicated that on an average about 220 coconut palms were seen to be maintained per ha whereas, the recommended plant population is only 175 palms/ha at a spacing of 7.5 x 7.5 m. From a recent study, Alexander and Peter (2005) also reported high plant population density of coconut in the homestead farms of central Kerala. Among the various crop categories cultivated in the homestead farms in the entire northern Kerala, tuber crops ranked first followed by fruits, vegetables, spices (black pepper, ginger, turmeric, vanilla, nutmeg, clove etc), plantation crops (coconut, arecanut, rubber etc), timber, fuel and fodder. Plantation crops are often considered as the basis of a farm family wealth and security due to its relative constancy of yield and a seasonality of production. These crops are also able to absorb the price fluctuation and offer reasonable income to the farmers at some point of its production cycle.

An assessment of the maintenance of animal husbandry component of the homestead farming revealed that rearing of animals or birds was undertaken as a complimentary enterprise. About two per cent of the farmers raised poultry birds as backyard system in their homesteads maintained mostly by the women members of the farm family. Other components of animal husbandry included goat, rabbit, chicken, duck and quail. While women are responsible for marketing some quantity of the surplus milk and eggs in the nearby households, male members sell milk to the milk societies. The system involving livestock rearing helps recycling of organic residues into the cropping system either by composting or through mulching. Comparatively poor cultivation of fodder crops by the farmers was seen probably due to the high dependence on non-conventional and concentrated feeds and oil cakes for feeding the cattle.

Various packages for crop production including agro techniques like basin management and mulching for coconut, general weeding and manure/fertilizer application as well as pest and disease management practices were adopted fully only by a small percentage of the farmers (6.5) and partially by 44.0 per cent, whereas the vast majority continued to leave their farms without adopting any cultural practices. The spatial arrangement of crops is irregular and appears very haphazard with trees/shrubs and food crops intimately mixed. Though vertically, many relatively distinct zones can be distinguished, high amount of shade was noticed in such homestead farms affecting the growth and yield of most of the crops.

Though majority (more than 80.0 per cent) of the farmers are aware of the importance of manure application, on an average only around 35.0 per cent of the homestead farmers surveyed apply organic manures, whereas 62.0 per cent of the farmers apply very small quantities of inorganic fertilizers, though not regularly.

The survey indicated that 56.0 per cent of the homestead farms use family labour alone, whereas in around 17.0 per cent of farms, only hired labour is used to carry out some kind of cultural operation. Both family and hired labour are used in about 50.0 per cent of the homestead farms. Harvesting of coconut and tapping of rubber require skilled labourers and hence usually not done by family members and such operations constitute the major share of labour requirement in such crop based cropping systems. In the case of cattle, the input cost towards the feed increases the cost of production.

d. Credit and marketing facilities

It was observed that 36.5 per cent of the farmers mainly approached co-operative societies for their requirement of credit for various purposes including crop husbandry. Agricultural credits were being arranged through co-operative banks (6.8 per cent) and milk marketing societies (3.0 per cent). However, many small farmers expressed the inadequacy of credit, as they do not have adequate assets, which would be acceptable to financial institutions as security for loans advanced by them. The sale of farm commodities produced over and above that required for consumption took place mostly through middlemen (68.4 per cent) thus making the marketing system most unprofitable. Establishing farmers' co-operative markets, regulated markets, providing storage facilities, arrangement for effective transport to markets offering higher prices and market intelligence could be suggested as suitable measures to overcome the exploitation by middlemen. Lack of facilities for timely marketing of perishable commodities like fruits, vegetables, flowers etc was pointed out to be the most important problem faced by many farmers (88 per cent).

e. Economics of homestead cultivation

As the most predominant system adopted by farmers (98 per cent) was coconut based cropping system involving cultivation of various inter/mixed crops as components, an attempt is made to analyse the data based on size of homestead farms. The basic data of economics of cultivation of homestead farms collected from different districts are given in Table 2. The economic analysis of

Table 2. Basic data of economics (Rs.) of homestead cultivation in different districts of Northern Kerala

Size of homestead (ha)	Name of the district											
	Kasaragod			Kannur			Malappuram			Kozhikkode		
	Total investment	Total return	Net profit	Total investment	Total return	Net profit	Total investment	Total return	Net profit	Total investment	Total return	Net profit
>1.0	41380	26650	14730	52400	37750	14650	39415	20440	18975	48025	31375	16650
0.51-1.0	19470	28920	9450	30450	40325	9875	22375	31025	8650	21350	32850	11500
<0.5	10780	18500	7720	8100	13850	5750	9835	14650	4815	12570	20650	8050

homestead farms revealed that the system, in general, was profitable. A perusal of the data indicates that as the size of homestead farms increases, there is an increase in the investment made and the profit obtained on account of cultivation of more inter crops and inclusion of other enterprises. The net profit of small and medium sized homestead farms (< 0.5 ha and 0.5 to 1.0 ha) ranged from Rs. 4,815 to Rs. 8,050 and from Rs. 8,650 to Rs. 11,500 in the case of Malappuram and Kozhikkode districts, respectively. The trend in the case of large homestead farms (>1.0 ha) was different, wherein the net profit ranged from Rs.14,650 in Kannur district to Rs.18,975 in Malappuram district. In general, the income generated from the homestead farms was sufficient to meet the home demands of majority of families. This is in accordance with the observations recorded by Salam and Sreekumar (1990). The value of the marketed produces mainly coconut, arecanut, black pepper and other intercrops accounted for about 54.0 per cent of the total returns, the remaining being the value of consumed produce.

f. Constraints faced by the farmers

The analysis of constraints in effective management of homestead farms is presented in Table 3. Majority (98.0 per cent) of farmers opined that cost of cultivation was high and the income realized was not in commensuration with the cost incurred. Availability of hired labour was low as expressed by 82.5 per cent and this was another main constraint experienced by the farmers in spite of family labour utilization in many agricultural operations. The non-availability of quality planting materials was considered to be one of the constraints in successful maintenance of homestead farms by about 72.75 per cent. Nisha and Rakesh (2003) from their studies also reported that this was the most important constraint faced by the majority of farmers (59.0 per cent). Some of the other constraints experienced by homestead farmers in low to medium category are: credit facility, availability of technical information, availability of inputs in time as well as storage and marketing facilities for commodities. The fragmented nature of farm holdings and lack of irrigation facilities are the other specific constraints expressed by the farmers in effective management of homestead farms and realization of higher yield and profit.

Table 3. Constraints experienced by the homestead farmers of Northern Kerala

Constraint	Percentage of farmers that perceived the constraint as		
	Low	Medium	High
Cost of cultivation	0.50	2.00	97.50
Availabilty of labour	82.50	14.00	3.50
Credit facility	48.75	45.25	6.00
Availability of technical information	41.50	52.75	5.75
Availability of manures and fertilizers in time	20.25	62.75	17.00
Availability of plant protection chemicals in time	15.00	71.50	13.50
Storage facilities for farm produces	43.25	29.75	27.00
Marketing facilities or low price for farm produces	48.25	39.50	12.25
Non-availability of quality planting materials	11.00	16.25	72.75
Fragmented or small size of holdings	1.00	15.75	83.25
Lack of irrigation facility	9.25	14.50	76.25

Conclusion

Homestead farming constitutes a means by which the farm family is able to maintain diverse self-subsistence production against the impulse to grow cash crops in monoculture resulting in the risk of crop failure or low price for the commodities. Though the farmers experience many constraints, it could be possible to co-ordinate and integrate all agencies related to farming for the betterment of the farmers. A proper restructuring of homestead farms through farmer participatory approach taking into consideration of resource base of farmers including capital, water, demand of a particular commodity and its marketing etc is very much essential to make the system more economically viable and self sustaining.

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