

Analysis of integrated farming systems prevalent in homestead agro forestry of Kerala, India

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SUMMARY

This study was undertaken with the principle objective of documenting the crop diversity in homesteads of Kerala along with uses of different plant species, multispecies farming models and the impact of these diverse cropping pattern on farmers profitability. 120 traditional homestead agroforestry farms were selected for collecting data. They were selected by multi-stage random sampling technique from three districts of Kerala viz., Kannur, Thrissur and Kollam representing Northern, Central and Southern parts respectively. High diversity of crop species ranging from 17-51 species were recorded in the field. The most preferred crop was coconut followed by banana, spices, vegetables etc. Among the crops plantations followed by spices contributed significantly towards the gross returns of the farmer. Integration of livestock showed positive and significant relationship with gross returns. Farmer's preferences varied with the utility of the crops. Based upon the study, the indicators of sustainability of the system, implications and suggestions of findings of the study for field extension work as well as for future research were listed.

Key words : Integrated farming, Homestead, Agro forestry, Kerala.

Agro forestry by virtue of its merits has now earned a distinct identity of its own and hardly needs any elucidation. The term agroforestry denotes land use systems consisting of a mixture of perennial and annuals and often also animals (Lundgreen and Raintree, 1983). It is an operational farm unit in which number of crops like plantation, spices, forest trees, fodder etc are grown in conjunction with livestock, poultry, piggery, goats, apiary, rabbit and pisciculture mainly for the purpose of satisfying the farmers basic needs. The components are so intimately mixed in horizontal and vertical strata as well as in time that a number of complex interactions exist between the soil, plants, livestock other components and environmental factors in the farmers plot. (Shehana et al. 1992) A major concern in agroforestry research is land use system that maintains (sustainability and stability) (Tabora, 1991). The interaction among the constituents, the crops, trees, animal and the human inhabitants are so complex and diverse not only across regions but even within single systems or broad agro ecological settings (Kumar et al., 1994). The productive and protective functions in homesteads are maintained through natural processes, which are not monitored or recorded. One of the common factors affecting the diversity is the indigenous knowledge of the people about the species, their uses, compatibility and complementary benefits of the species. (Salam et al. 1992). In the present study an effort has been made to document the crop diversity, animal diversity in home garden, their uses, its impact on profitability and to determine the indicators of sustainability of the system

MATERIALS AND METHODS

Study was conducted in Kerala (India) where

traditional homestead agro forestry is prevailing. Research design adopted for this study was of ex-post facto in nature as the phenomenon had already occurred. The entire state of Kerala was divided into three distinct geographical zones, namely northern, central and southern zone for the purpose of sampling. From each zone one district was selected randomly to form the study area. From each of the selected districts one taluk was randomly selected, further from each taluk, three panchayats were selected using random sampling technique.

Name of the district	Taluk	Panchayat
Cannanore	Cannanore	Kaliasseri Pappinisseri Palikunnu
Trichur	Trichur	Porathissery Vellookara Padiyur
Kollam	Kollam	Thrikkadavur Thrikarva and Perinad

Total population of study constituted of 120 Homestead farms of Kerala.

RESULTS AND DISCUSSION

Crop diversity in homesteads:

From Table 1 it is clear that the major crops associated with homestead system are Cocos nucifera (100%) Musa sp. (99%) Vegetables (98%), Magnifera indica (95%), Carica papaya (90%), Ocimum sanctum (85%), Piper nigrum (83%) Glyricidia sp. (83%), Areca catechu (79%), Artrocarpus heterophyllus (76%), Tamarindus indica (75%) etc.

Cocos nucifera eulogized, as 'Kalpavriksha' the tree of heaven is the most dominant plantation crop prevalent in the homesteads of Kerala. It is popularly known as a benevolent provider of all basic necessities, In addition,

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