Coconut based farming in the homesteads of Kerala

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Coconut has the status of a plantation crop worldwide. Unlike several countries, where coconut is grown in large gardens, Kerala has a unique feature of presence of coconut based home gardens, which have evolved in response to the pressure of shrinking land resource base coupled with high population density. According to the Ninth Agricultural Census of Kerala, the average size of an operational holding was 0.22 ha in 2010-11. This was against 0.24 ha in 2000-01. Also, out of the total holdings, the size group below one ha (marginal farmers) accounts for 96.33 per cent of the total number of holdings and the average size of the group is 0.13 ha (Department of Economics and Statistics, 2013). It is for these populous marginal homestead farmers that intensive land use practices like multitier cropping and integrated farming are becoming increasingly important.

An extensive study undertaken during 2010-13, in all the 23 agro ecological units (AEUs) spread across fourteen districts of Kerala, to identify the yield gap and present level of technology adoption in coconut in homesteads revealed that, among the AEUs, the yield gap (difference between average yield in the AEU and best farmer yield) varied from 30 nuts palm\(^{-1}\) year\(^{-1}\) (Southern high hills) to 162 nuts palm\(^{-1}\) year\(^{-1}\) (Wayanad central plateau). The extensive use of local varieties, failure to supply nutrients as per recommendations, widespread incidence of diseases and pests coupled with the low adoption of recommended plant protection measures were identified as the major reasons for the huge yield gap.

The rejuvenation and replanting programme has focused on the removal of senile and severely diseased palms accompanied by replacement with high yielding varieties. While the objective has been mainly improvement in the productivity, increasing the total production and income from the coconut based homesteads is yet to be addressed. Hence, a viable strategy for enhancing on-farm income is to integrate coconut rejuvenation programme with other income and employment generating activities. Coconut based cropping/farming systems, involving cultivation of compatible crops in the interspaces of coconut and integration with other enterprises like dairying offer considerable scope for increasing production and productivity per unit area, time and inputs by more efficient utilization of resources like sunlight, soil, water and labour. Since the land holdings of coconut farmers are very small, another approach for enhancing on farm income is by promoting small scale coconut based enterprises.

Successful coconut based integrated farming system models for marginal homesteads which can be scaled up have been developed by the Kerala Agricultural University (KAU). Success stories of selected coconut based homesteads being restructured into sustainable model farms through planned scientific interventions following a farmer participatory approach by KAU are also discussed in this paper. Such coconut based homesteads if scientifically managed will help to achieve the multiple objectives of promoting effective waste management, resource conservation, bioresource recycling and energy conservation, besides providing food, nutritional and livelihood security.