

## 015

**Problems and improvement potentials of Kandyan homegardens at Yatinuwara area**

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Kandyan homegardens are the most predominant upland cropping system which supposed to be highly adapted, diversified, economically and environmental viable land use system. Objectives of this study were to identify problems and improvement potentials to this important system of land management. Data were collected from randomly selected (n=65) homegardens in Yatinuwara District Secretariat division during 2006. A vegetation survey was conducted to evaluate the structure and composition of homegardens. A household survey was conducted by interviewing the members to identify tree use practices by family members, constraints and improvement potentials. Secondary data were also collected from Agrarian Service Centres, maps and reports.

Homegardens in the study area have maintained diverse on farm trees. They cultivating and using at least 138 species of which 36, 34, 24 and 6% comprised timber, medicinal plant, fruit tree and export agricultural crop species. There are 73, 193, 300 and 147, individuals of timber, fruit, medicinal and export agricultural crops plants/ha indicating high plant density per unit area. These species grown on homegardens have substantially contributed to meet the daily need of household, supplying mainly fruit, green vegetable, timber and fuelwood. Some of these species have medicinal value and also play an important role in soil conservation. This suggests that homegardens are important as a source of conserving agro-biodiversity, species, habitat and landscape protection. However, more than half of the homegardens of Yatinuwara area are 20-80 perches category which indicate land fragmentation. Thus, each land unit has to play a vital role with limited land availability. Therefore, sustainable management practices are very important to increase production to reach increasing demand due to increasing human population while maintaining the resource base. In satisfying necessary changes to homegardens, availability of quality planting material (only 22% had access to recommended planting material), height of fruit trees, poor soil management and labour scarcity were identified as major problems in Yatinuwara area. There are improvement potentials to homegardens by increasing the productivity of the existing system. It is possible even to increase the number of trees per homegardens by introducing new varieties. It is also possible to replace existing less productive individuals by certified planting material. In addition, management of soil can also be improved by introducing new techniques such as compost preparations with garbages and fallen leaves which require attitudinal changes of households. Implications of these are discussed with respect to food, nutritional and health security and income generation.

## 016

**Agro- forestry system to protect both the Sinharaja forest and the peripheral villages (a case study of the southern part of Sinharaja)**

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*Sinharaja*, a 'Tropical Wet Ever Green Rain Forest' situated between latitude 6° 21' - 6° 26' N and longitude 80° 31' - 80° 34' E in Sri Lanka is surrounded by more than 27 peripheral villages. The villagers have interacted with the forest for many years. The objective of this study is to verify the aptness of introducing the Agro-forestry System into these peripheral villages to protect both the forest and the villages. The villages situated in the southern part of *Sinharaja* namely, *Kosmulla*, *Thabalagama*, *Madugeta*, *Warukandeniya* and *Kollonthotuwa* were selected for primary-data collection. Participatory observation approach is basically used while adhering to the secondary and tertiary data as well. According to study there is a traditional yet unorganized agro-farming system among these villagers. So, many cultivated creepers varieties and tree species can be seen in the yards. Also, for years the villagers have used the forest for many purposes. Thus, when the villagers encroach forest the forest tends to decline. Also, due to mono- crop cultivation, especially tea, quality