

Assessment of agricultural biodiversity through participatory approach

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Abstract

Agricultural biodiversity provides food, animal feed, fuel woods, shelter, medicine and cultural requirements and the aesthetic beauty for the life style of a particular community. Hence, knowledge on on-farm agricultural biodiversity is important in many aspects to determine the level of management required on biological resources for the better utilization and conservation for future use. Assessment of the agricultural biodiversity of three villages of Thanamalvila Divisional Secretariat, Mahaweveva, Kahakurullanpelleessa and Sooriyaara in Sri Lanka were carried out using participatory tools such as village transect walks, diversity fairs, four cell analysis and community biodiversity registers during 2012, 2013 and 2014. These participatory tools could be effectively used for the quick assessment of on-farm agricultural biodiversity in the selected three villages. Simpson's index for diversity (> 0.7) indicated that considerable species and varietal diversity exist within three villages. Cowpea and Yard-long bean had the highest varietal diversity. According to four cell analysis, *Pinna* mung, *Kaha* mung, Foxtail millets and Proso millets were grown in few households and in small land area and has categorized as a threatened group. It was recommended to increase the cultivation area of rare and threatened category of crops by introducing diversity blocks and further selection of adaptable varieties through mother and baby trials to increase the varietal diversity.

Key words: Agricultural biodiversity, Community biodiversity register, Diversity fair, Four cell analysis