

DEVELOPMENT AND ENVIRONMENTAL DEGRADATION :  
A CASE STUDY OF CHANGING VILLAGE -  
AGROECOLOGICAL SYSTEM IN  
THE DRY ZONE OF SRI LANKA

Rohan Ulluwishewa  
Dept. of Geography, University of Sri Jayewardenepura

Despite the harsh environmental conditions, the agroecological systems in the Dry Zone villages could sustain the rural economy over centuries, conserving the productivity of the local resource base. This system included paddy farming, shifting cultivation, livestock husbandry, fishing, and forestry. While paddy was cultivated in the valley just below the irrigation reservoir, shifting cultivation was practised on adjacent uplands. Apart from the forest cover preserved on the watershed, trees were allowed to grow sparsely all over the cultivated soil. Fishing was conducted in irrigated paddy fields and in the irrigation system. While all these components of the village agroecological system collectively provided food and other basic needs, the ecological interactions between them largely contributed to conserve the natural regenerative capacity of the local resource base. Therefore, the village agroecological system in the Dry Zone has been self-sustainable.

However, most of the development efforts being made to develop the Dry Zone, i.e. large scale irrigation development projects, green revolution, farm mechanization, and crop diversification with cash crops etc., adversely affected the self-sustainability of the village agroecological system. While farm mechanization displaced the draught animals, the increased population pressure on land reduced the availability of grazing lands. Modern development efforts together with expanding cash crop cultivation caused destructive effects on the village jungle and the perennial tree cover on the cultivated soil. Furthermore, increased utilization of agro-chemicals adversely affected the fish culture in the irrigation system and in the flooded paddy fields. In consequence, each component of the village agroecological system has been gradually losing its supportive links with others, and dependence on external resources has been increased. Consequently the self-sustainability of the village agroecological system has ceased to exist.