

XII.A.2. Sustainable Agriculture: The Ecological, Economic and Institutional Aspects of Swidden Agriculture: Some Methodological Issues

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Encroachment on forest lands for cultivation occupies a central position in the debates on tropical deforestation. Traditionally such intervention into the forests has been for shifting cultivation (swidden). But in the last two decades encroachment for permanent cultivation has been gaining relatively greater speed. Shifting cultivation still covers a fairly significant part of forest lands in developing countries. It is claimed that shifting cultivation as a major contributor to deforestation, causes three major problems in the environmental front viz., climatic change due to desertification, loss of bio-diversity, and soil erosion. The study of shifting cultivation as an agent of deforestation is important because the change in natural balance has both direct and indirect impact on human life. Most often factors like poverty, population growth, migration into the forest, infrastructure development are cited as the important cause of deforestation. But such analysis always undermines the underlying institutions that manifests these factors. Property right structures, state administrations culture and different market and non-market forms of integration are some of the important institutional structures that have often been neglected while studying the role of shifting cultivation in deforestation. We may also commit the same logical error if we analyse these institutions only on the face of their appearance instead of understanding the forces that compel their existence. Hence it is essential to understand the genesis of the phenomena of shifting agriculture and its transformation as an institutional and ecological consequence. Every environmental and institutional setup has a chain of linkages in it, which can be traced. Instead of examining relationship between variables in these setup using deterministic models (which would necessarily fail to see these linkages), the processes should rather be examined in their historical, socio-economic and ecological contexts. Our attempt is focused in this direction.

Broadly the main objective of the paper is to improve over the conceptual scheme of understanding shifting cultivation as a part of the spectrum of land use in different farming systems. Doing so, the paper includes the conceptualisation of the problems associated with understanding shifting agriculture as an agent of deforestation, and consequently with loss of bio-diversity and soil erosion. It is argued that understanding a system of integration should not be confined to one dimension only (ecology in this case), particularly when it is involved with the livelihood system. Therefore, other important dimensions like economy and institutions, that are instrumental in shaping a system of integration have been brought into the discussion. Crude economic models - subsistence as well as commercialised economic framework fail to observe the complexities involved in human behaviour and its interaction with the fellow humans. The paper concludes with an analysis of some alternative models examined under different market

forms of integration and property right structures as well as various decision making processes in land use.