Intensification of shifting cultivation

Editorial

Shifting cultivation unsustainable?

Shifting cultivation using 'slash and burn' practices is often seen as unproductive and outmoded, destroying forest resources, and causing air pollution, soil erosion and floods. It is clear, forests are being destroyed at a terrifying rate. But are swidden farmers really responsible? What about logging and mining companies, large-scale plantations and ranches (p5) and the destructive impacts of ploughing and monoculture (p.12)?

Indigenous people have practised shifting cultivation or swidden agriculture, as it is also called, for centuries. There is considerable evidence showing extensive nomadic and even more intensive settled shifting cultivation can be sustainable and enhance bio- and agrodiversity. Indigenous people have rich reservoirs of site- and culture-specific knowledge and they use it to maintain a balance between cultivation and their forest's ecosystem.

Generalisation not possible

But, shifting cultivators with site-specific and ecology-sensitive knowledge are often heavily outnumbered by colonist farmers bringing different farming traditions and values. Population growth, land competition, the creation of plantations and nature reserves, and hostile government policies make it difficult to maintain long fallow periods and shifting cultivators are forced into more settled forms of agriculture. Many are unable to intensify land use in an ecologically sound way and adopt destructive practices to produce cash crops. Others decide to leave shifting cultivation and go outside the forest in search of work (Godbole & Sarnaik p.29). It is impossible to generalise about the sustainability or the unsustainability of shifting cultivation and situation specific approaches are needed to enhance the sustainable use of forests and forest margins.

Indigenous fallow management

Considerable energy has been invested in trying to intensify shifting cultivation. But as Garrity and Lai of ICRAF (p.5) complain, there are few examples of successful top-down technical approaches to stabilise and improve the productivity of shifting cultivation systems. However, compelling examples have been documented of shifting cultivators successfully managing local resources to intensify land use. Scientists have ignored the way shifting cultivators manage fallow land. Fallows were often seen as unproductive or unused areas and there was little understanding of their importance in the regeneration and intensification of shifting cultivation. In this issue (see p8, p10, p20 and p36), convincing examples of indigenous intensification using improved fallow management are discussed. In these examples, 'slash and burn' is little used in opening up new fields.

The Indigenous Fallow Management Network (p.5), initiated by ICRAF-Southeast Asia, has documented and analysed many cases and scientists are embarking on similar studies in other parts of the world. The international Consortium for Tropical Soil Cover and Organic Resources Exchange (TropSCORE) (p.6; 32) has identified many successful cases of ecological intensification. Bunch (p.7) concludes that it is high time the scientific approach to soil fertility management in the humid tropics will be revised. Experiences with analog agroforestry (p.14) support his opinion.

Analog agroforestry

Effective approaches to forest farming are being developed in many parts of the world on the basis of indigenous fallow management and the natural processes found in forest ecosystems. (see pps.12, 14, 17, 20). These experiences with 'analog (agro)forestry' demonstrate the potential of ecological soil and vegetation management to regenerate forests and increase their productivity in a sustainable way. Participatory methodologies (p.17& 24) are needed to develop site specific ways of applying these ecological approaches particularly in drier areas.

Livestock can play an important role in shifting cultivation. Improved fallow management can also be effective in intensifying livestock production in shifting cultivation as we see from the Laos example (p.26). These approaches to intensify land use probably only work in situations where ecological regeneration and intensification are absolute necessities and where they can provide attractive alternatives in terms of labour productivity and costs (White p.29). Today, rising fossil energy prices create economic and political conditions that make such ecological alternatives more attractive.

Value adding and marketing

Adding value to and marketing timber and non-timber forest products such as wild fruits, orchids, mushrooms (p.20) and herbal medicines (p.17) are ways in which shifting cultivators can earn money, especially if sustainable production can be guaranteed (p.12). But conditions for marketing forest products are often unfavourable (p23) and considerable policy reform and support from development organisations is often necessary. Market information, communication facilities, storage, processing, credit and training in the skills of managing small and micro enterprises are particularly important here.

Political and cultural processes

However, intensification means more than ecological vegetation, soil management and improving market opportunities. Poorly defined land use rights (p.8), lack of political recognition for the rights, skills, and knowledge of indigenous people as well as a lack of self-confidence and cultural conservatism are all serious constraints. Rice (p.20) describes the self-confident and independent approach of the Ikalahan in the Philippines to sustainable land use and cultural self-expression. Also Erni (p.8) and Scheewe (p.29) report on the pride of indigenous people who have succeeded in intensifying shifting cultivation in a sustainable way using their own indigenous knowledge, values and skills. Modern education and urban migration erode indigenous cultures and knowledge. Therefore, the Ikalahan founded their own academy and started processing and marketing their forest products. They wanted to make it possible for their children to stay in their own villages and culture if they choose. Raintree (p.19) reports on the difficult process of helping culturally conservative communities to innovate and renew their culture and shifting cultivation.

But it is not only shifting cultivators who have to make a mental shift. If the sustainable use of forest land is to develop further, researchers, policy makers, colonist farmers and consumers will also have to change their approach.

Coen Reijntjes