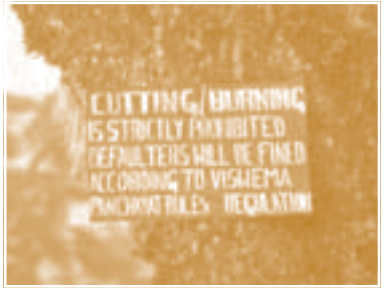
COLLABORATIVE WATERSHED MANAGEMENT

Watershed degradation can be prevented and degraded watersheds restored by appropriate watershed management. Modern watershed management was born during the twentieth century as a technical practice, largely based on major hydraulic engineering and forestry interventions. However, experience has shown that technical measures alone are not enough to address watershed problems.

Owing to the pivotal role of human population in watershed health and balance, local livelihoods are a major issue in sustainable watershed management. Conservation agriculture has to be encouraged. Alternative income-generating activities should be promoted to divert the pressure on land resources. These socio-economic interventions require awareness raising and capacity building at different levels — farmers, extension staff, administrators, etc. In some contexts, education, health, social security, ethnicity and land rights issues are also closely related to watershed management. Although water and runoff are the main focus of watershed management, most experts nowadays agree that relevant programmes need to be embedded in broader sustainable development processes.

Watershed management requires the participation of different stakeholders, such as forest users, farmers, landholders, local government and line agencies. As watershed management always has economic and social costs, consensus on the sharing of these costs should be reached. Negotiation, mediation and compromise within the local political arena are an essential part of watershed management practice. They are best addressed through a



Top: Agricultural terracing has shaped the steep landscape of the Cinque Terre watersheds, Italy
Centre: Panchayat (local government) sign prohibiting timbering and fuelwood collection on common land, India
Bottom: Discussing watershed management activities in a Bhusunde Khola village, Nepal

Opposite page: Farmers digging terraces with hand tools in a watershed management programme in Sichuan Province, China

KEY TERMS

Collaborative management – also called joint management – embeds the management of natural resources in local livelihoods, culture and governance. In collaborative management, stakeholders negotiate, define and guarantee among themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources.

Upstream/downstream linkages are the environmental, socio-economic and cultural flows, synergies, exchanges and conflicts between the upper and lower parts of a watershed.

Above: GIS experts assessing the situation on the ground, Azerbaijan
Above/right: Community forestry extension for watershed protection in Ecuador

Opposite page/top: Harvesting an upstream forest in Nepal
Opposite page/bottom: Downstream farming in Bhusunde Khola watershed, Nepal

collaborative approach in which technical resource people, high-level decision-makers, local administrators and local stakeholders share the responsibility of assessing the local situation and undertaking the necessary action.

One of the main goals of collaborative watershed management is to ensure balanced and sustainable upstream/downstream linkages. For instance, upland forest use (which is often vital for local people) must be made compatible with the need for continued provision of essential environmental services, such as landslide protection, erosion control, and regulation of discharge and water quality in lowland irrigated areas. Experience suggests that balanced upstream/downstream linkages are achieved when policies are able to buffer the socio-economic disadvantage generally affecting upland people, and lowland stakeholders are willing to pay for upstream environmental services.