

Community-based integrated natural resource management: policy options and areas of intervention

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Introduction: Local level community based organizations for natural resource management have emerged as primary development institutions in Nepal. Community forest user groups (CFUGs) and water users associations (WUAs) have evolved into local level democratic institutions. Farmer Managed Irrigation System can be viewed as example of local communities proving their capacities in establishing a successful institution for collective benefits (Pradhan and Bandaragoda 1997). Similarly, after the legal provision to decentralize forest management in 1980s, CFUGs have evolved as strong and formal local level institutions that account not only for the protection of forests but also for various developmental activities in villages (Soussan *et al* 1995; Soussan 1998).

While the situation on ground for developmental prospects through community based institutions look optimistic, the overall national scenario imparts a bleak picture. The Millennium Development Goal Report 2006 probes the country's development performance and stresses that conflict remains a major problem, along with glaring issues of exclusion and discrimination. The report underscores the country's overall dramatic progress in cutting poverty from 42 percent in 1996 to 31 percent in 2004. This development, however, was not equitable, and the intensification of violence and the political instability have taken a heavy toll on the economy and the people (HMG Nepal/National Planning Commission and United Nations Development Programme, 2005). Conflict severely jeopardized livelihoods of agriculture-based population through destruction of forests, water systems, agricultural fields and other natural resources. The activities of CFUs were severely curtailed due to restrictions imposed on entry to forests by the government and due to security threats from the rebel groups. The population displaced by the conflict tended to encroach on forest areas, which undermined not only the

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productivity of the forests that were being regenerated but also disrupted the community social fabric that instrumented the process of regeneration efforts. This paper presents the results of an action research project conducted in Begnas Basin and finds that community actions, planning, organizing capacity and functionality are still possible in such conflict situations for undertaking new and corrective environmental-policy making tasks.

Begnas Basin and Natural Resource Management Institutions:

Begnas Basin is a micro-basin of the Seti River, one of the major tributaries of Gandaki River System, with an area of 3406 ha, which may be subdivided into 1838.5 ha of mountainous upper watershed and 1567.5 ha of downstream valley floor, which is virtually a wide flatland. Begnas Lake lies at the interface of the two subdivisions. In 1988, the reservoir area of the lake was increased from its original size of 266 ha to 300 ha by constructing a 540 m long and 6.9 m high earth fill dam. This basin is undergoing rapid land use changes due to new market pressures in the region and due to constructions of irrigation systems, urbanization, and delineation of community forest areas.

The upper watershed has considerable forest cover, while the valley floor has only a marginal forest cover and is dominated by cultivated land. The upper watershed communities are relatively more dependent on the forest for firewood, fodder, timber, leaf-litter, leaves, fruits, etc., than the valley floor people who have greater access to alternative energy. Forests in the past were badly degraded due to heavy pressure for the extraction of various forest products; however in the subsequent years, community forestry program contributed tremendously in regenerating and re-stocking the forests in the watershed. Several CFUGs have been managing forest areas in the watershed. The main sources of water for human activities in the Begnas Basin are rainfall, natural gullies or rivers, springs, and the Begnas Lake, and the main usages of water are domestic consumptions, irrigation, fisheries, and recreations (boating and tourism). There are irrigation users groups, boaters' association, fishers' group, mothers' groups and youth clubs. The upper watershed has a total of 15 farmer managed irrigation systems (FMIS) and the valley floor area has the Begnas Irrigation System (BIS) Water Users' Association (WUA).

Process of creating common platform for integrated natural resource management: The participatory action research in Begnas Basin involved a series of four steps for creating a common platform for integrated natural resource management:

A) Resource and livelihood assessment: The first step of this research revealed that forest and water resources had significant livelihood impacts at household level, especially for the poor, in the form of increased availability of irrigation water and increased availability of fodder, litter and timber, and that the participation of poorer households in the forest management was increasing. CFUGs were involved in community development through use of their funds for employment generation and community cohesion by investing in drinking water, irrigation, temples and other activities that benefited poor households.

The research also found that cash and subsistence and non-market incomes formed an essential component of livelihoods. For small landholders or poor farmers, cash incomes came from working as wage labourers on neighboring farms: through contract farming, share-cropping, or off-farm seasonal labour works. For poor farmers, off-farm activities were alternative means of livelihoods and played a major coping strategy during crises.

Looked at from food security perspective, more than one-quarter of the households had food sufficiency for more than nine months, of which about half of them had year round food sufficiency. To the contrast, less than one-quarter of the households had food sufficiency of less than three months; these households were mostly poor who either rented nearby farmlands of richer households or worked as farm labours to earn their living.

The benefit sharing was more equitable among the forest users compared to the water users, as the benefit share of a forest user member was tied to the contribution made by the member, whereas the benefit share among water users was tied to the ownership of land and the contribution to management was not given importance. The management and decision making process was more egalitarian among the forest users. A large gap, however still existed in the success of both institutions in gender equality. Both institutions also lacked a coordinated effort for the management of natural resources, as each one was sector focused. There existed intra and inter institutional conflict between them. Those natural resources that fell into more than one political administrative unit (VDC or DDC) created conflicts between and among the communities. It appeared that involvement of local elected institutions could help to prevent and resolve such conflicts. Irrigation users could benefit more from the experience of forest users in the areas of protection of user rights, resource mobilization and benefit sharing. Likewise, the forest users could benefit from the experiences of irrigation users in resource management with

external intervention and in interaction with outside agencies. Appropriate integration of the functions of the both types of institutions could provide a common platform for better natural resource management by bringing them together for collective planning and decision-making.

B) Stakeholders and network analysis: Discussion with key persons and community institution representatives and brainstorming among the external facilitator groups including the government officials formed the second step of the research, which helped the research team identify locally-relevant stakeholder groups for creating a platform for integrated natural resource management. Stakeholder analysis, combined with the situational analysis and livelihood assessment, was more like a scoping phase for the research team to build rapport with community institutions in the Basin and to raise awareness among them for integrated natural resource management.

C) Consensus building: In the above steps, feedbacks were continuously elicited from local communities, government bodies, and relevant local users groups. Although many stakeholders could not immediately capture the concept of integrated natural resources management or the need of the same, people did come together to develop a common understanding of their problems and potential solutions. In the third step of the research, the researchers teamed up with local community institutions and organized workshops at the site and also at the district and national levels to share the results of the research with local stakeholder groups. These participatory workshops resulted in substantive consensus building and understanding among stakeholder groups for the initiation of creation of a common integrated platform.

D) Participatory action planning: After the above consensus building step, the representatives of CFUGs, WUAs, and other community institutions gathered over an interactive discussion forum and discussed about the development of a collective action for integrated natural resource management at the local level. The whole discussion was facilitated with the help of a local resource person from a local non-governmental organization called 'SORUP.' This discussion forum constituted an ad hoc committee of 13 members to devise the action plan for Begnas Basin management, to register the committee with the appropriate government agency, and to base its activities on a written constitution. This initiative for the creation of a common platform appeared to be a good starting point for community-led resource management interventions and for developing local institutions for integrated natural resource management.

Process of adaptive learning mechanism: The above example put forth by the action research in Begnas Basin suggests that institutional organizing capacity for integrated natural resource management (INRM) is considerably high, even during a period of severe conflict, if adaptations of existing institutions are undertaken. Although the process of creating knowledge and understanding local resource management in Begnas Basin took a longer time than anticipated due to the heightened conflict situation that curtailed the research staff's mobility and due to the need of organizing a much wider consultative process at local level for ensuring that the concept was generally understood by the stakeholders, but this loss of time was compensated when the communities took ownership of the process and the community institutions became the vehicles for pushing the INRM concept forward among local stakeholders. This made the process faster and presented a convenient mode for the research team to initiate policy dialogue between the local and central level decision-makers.

External environment affects INRM: Management of natural resources is impacted heavily by external factors such as political, environmental, social, technological and economic, which lead to changes in livelihood options and INRM strategies. Begnas basin has been impacted by the decade-long armed conflict, mainly by the increased out-migration of youth, which led to labour shortage and a declining trend in livestock keeping and farming practices. Agriculture has been replaced by the international and domestic remittances as the primary livelihood activity of many poor households.

Community mobilization: Mobilization of communities for resource management has been a strong component in the villages of Begnas Basin. But, conflicts arising due to absence of fair benefit sharing mechanism from natural resource management seem to be increasing, which is creating a social divide in many cases. For example, the construction of Begnas dam and additional irrigation canals has led to conflicts between head and tail-end users in downstream villages. The tail-end users that received adequate irrigation water from the source, *Khudi Khola*, now believe that water diversion due to creation of additional irrigation canals in the headwaters has caused less water flow in their irrigation canals. Similarly, in the upstream villages, the conflict over irrigation water from, *Dudh khola*, has created a social divide between two adjacent communities.

Infrastructure development: The construction of Begnas dam seems to have had both positive and negative impacts in the area. While

downstream communities benefited from better availability of irrigation water, some upstream communities lost their low-lying fertile lands. Developmental infrastructures such as road, telephone, and mobile services are becoming increasingly accessible to the communities in Begnas Basin, but unchecked infrastructure growth can bring about livelihood diversification and challenges to the basin's integrity in near future.

Poverty reduction: The PRSP, a three-year interim plan, pursues short to medium term targets of promoting labour-intensive employment opportunities by improving access of poor to land, credit, infrastructure, and technology. On the other hand, the Millennium Development Goal (MDG) pursues long-term targets of comprehensive sectoral interventions with provisioning of goods, services, and infrastructure. In this context, the INRM process can be a good link between the two plans and can bring a synergic strategy to accelerate economic growth as targeted by PRSP, through sustainable mechanisms such as localized community based strategies as envisioned by MDG. The other ways INRM can contribute to poverty reduction is to increase food production through integrated natural resource management, which may reduce the proportion of people who suffer from hunger.

Policy implications: This action research has presented strong evidences that implementation of INRM is possible at watershed/basin level by engaging community institutions and that INRM can significantly contribute to the goal of attaining food security in many of Nepal's impoverished areas. The results of the research point towards the following policy implications.

Many community-based organizations are well institutionalised in Nepal's watershed and they can be mobilized for the implementation of INRM; the entry points could be community forest user groups and water user associations. At any time during the INRM process, the strength of local multi-sectoral planning capacity cannot be bypassed or undermined.

The rapidity with which a common platform for INRM could be created in the Begnas Basin suggests that a simple but consultative process can generate interest and capacity for INRM initiatives at local level. Such a process can also ensure that there is minimal impact from the external environment, especially the decelerating forces such as civil strife. However, the result of the process is not sufficient to predict the sustainability of the platforms. Much more efforts, consultations, resource

requirement and continuous management of policy dialogues would be the prerequisite for a complete cycle of the INRM process.

As regards to the arenas for further policy reform, it has to be considered that only multi-dimensional approach to poverty reduction would add value to the intervention options that are available at watershed/basin level. Multi-dimensional interventions like INRM are more likely to focus on wider issues of social exclusion and thus may result in a better understanding of the causes of poverty and therefore of possible solutions. In country like Nepal where social, economic, cultural, political and ecological causes of poverty are inextricably inter-linked, INRM implementation at basin level could help to make interventions that can deliver more equitable developmental results by addressing an articulated definition of poverty and not just the economic poverty.

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