Elements of Social Learning Approach in Managing Forest as a Common Property:
A Perspective from the Anthropology of Natural Resources Management from a Hill Village of Eastern Nepal

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1.0 Prelude

The paper has two-fold objectives as follows: (i) furnish briefly the conceptual understanding of the anthropology of natural resources management vis-à-vis the theoretical underpinnings for managing the 'commons', and (ii) present an analytical discussion on the experience of the evolution of the elements of social learning approach for the sustained management of forest as a 'commons'—the function of the process of participatory action research.

2.0 Anthropology of Natural Resources Management: A Conceptual Understanding

Ubiquitous is the academic acceptance of the fact that the hallmark of anthropology is holism, that is, the study of man in his totality. And it is also the truism that man is a culture-building animal. Man develops the culture to regulate the relationships between and among the individuals and groups in the society and to have adaptation with the immediate environmental system replete with the diverse natural resources required for the production of goods necessary for his survival.

Given the fact that man lives in the society, he has developed and continues to develop the organizational and institutional mechanisms, both being the ingredients of human culture, to procure goods from the environmental system, distribute them equitably in the community and manage the environment sustainably in a collaborative way with the adoption of social learning approach . It can be argued that anthropology of natural resources management has to focus on these vital aspects of human culture. Understandably, one should not for-

get that a natural resource has a cultural definition, that is, a natural entity cannot be called a resource if it is not exploited and utilized for the satisfaction of the human needs.

American anthropologist John W. Bennett has made substantive contribution to the anthropology of natural resources management. Bennett (1996:46-47) writes that, "anthropologists use the term "culture" to refer to distinctive life-styles associated with particular groups of people. In this usage, each "culture" might be considered to have its own pattern of adaptation to the physical environment. These could, in turn, be classified into types or stages of adaptation based on major subsistence patterns: hunting and gathering, pastoralism, settled agriculture, and so on…Within the social sciences, at least, three important dimensions need study: the cultural, the institutional, and behavioral. The first of these defines values and expectations concerning resources and environment evolving in any population with relative social unity; the second, the means and ends of key activities; and the third, the distinctive patterns of individual need-satisfaction and coping mechanisms… One must know about institutions and precedents in order to determine why people do what they do in particular times and places." He also argues that the concept of adaptation is central to the human use of the physical environment. He defines adaptation as the change in modes of behavior designed to manage or improve the lot of the individual and the group. Interestingly, he points that any change in adaptive patterns in the group usually involves a collective decision. That is, adaptation at the group level is coincident with social action, interaction, and dynamics of social organization and change. He also emphasizes on the importance of the social values, institutions, and traditions in regulating the environment.

E. Croll and D. Parkin (1992) have emphasized on the cultural understanding of the environment. In other words, they have recog-

nized the traditional skills of resource management. They hold the opinion that the western scientists can also learn a lot about the indigenous science of natural resource management and folk wisdom or people's cosmology or the wisdom of the indigenous cosmology from the Third World. Tim Ingold (1992) also discusses the culture and the perception of the environment or cognitivism or cognized model of the environment (the environment perceived by the people who act in it and guides their action). Ingold basically holds the opinion that culture is a framework not for perceiving the world but for interpreting it, to oneself and others.

Fikret Berkes and M. Taghi Farvar discuss about the resource management systems. Borrowing from the works of the number of scholars, they (1989:3-11) argue that, "renewed interest in traditional management systems stems partly from the past failures of the development projects, and the search for viable and sustainable alternatives to current models of resources. The renewed interest is partly due to a new-found pride in traditional values and institutions, both in the Third World and in the west. Most cultures- certainly most of those in the Third World countries- emphasize responsibility to the community, rather than the unbridled individualism glorified in some western industrial cultures. Communalism is an important mode of thinking and of managing resources throughout the world…The subject of the traditional management and common property is interdisciplinary, cutting across several fields…Since common property systems provide, in effect, long-term and grassroots institutions, these systems are the most important candidates for popular participation in development decision-making… Institutions seen as necessary for development planning cannot be created anew. In areas earmarked for development projects, the local people cannot be divorced from the social structures of which they are a part. The logical approach for development planners is to deal intelligently with existing community structures, including those for handling production and resource management issues…"

Donald A. Messerschmidt, an American anthropologist, has conducted a lot of researches on the resource management of Nepal. He (1995) argues that we have much to learn from the people. Their customary knowledge and folk science have much to offer in the construction of scientifically sound but humanistically-oriented theories and strategies for action. He discusses the human resource management conventions in Nepal and adds that established systems of community control and use-rights for forest resources and communal forest properties do exist in Nepal. A number of other scholars working in the regime of the natural resource management suggest to focus on social control /means of enforcement rules, natural resource tenure, possibility of conservation through indigenous knowledge, etc.

As an anthropologist, I would argue that adaptation has to be the central focus of the anthropology of natural resources management. When new problems arise or when the old patterns of resource management do not work, then new institutional patterns and organizational mechanisms are initiated or the old ones are reformed/adapted as per the need by the community of resource users in a collaborative/interactive and consensual way. I would further argue that indigenous/traditional systems of resource management are instituted, developed and sustained through the social learning process—a process that needs to be focused by the anthropologists working in the regime of natural resource management.

3.0 Common Property Resource Regime and Social Learning Approach: A Perspective

First of all, I would like to dwell summarily on the conceptual groundings of common property regime and social learning approach (both being the foci of the anthropology of natural resources management) to link them later to the empirical evidences adduced from a community forest user group.

3.1 Common Property Resource Regime

It would be academically valid to begin with the conceptual understanding on the "common property resources". A galaxy of the schol-

ars working in this regime have contributed to clarifying and deepening its understanding. No individual has the exclusive property right on the common property resources which are accessible to the community living in a particular geographic area. Margaret A. McKean (1998:28) writes that, " common property regimes might more comfortably be described as institutional arrangements for the co-operative (shared, joint, collective) use, management, and sometimes ownership of natural resources...Common property regime refers to a particular property-right arrangement in which a group of resource users share rights and duties toward a resource. These terms, therefore, refer to social institutions, and not to any inherent natural or physical qualities of a resource (i.e. common-pool resources which have two traits, viz. exclusion problem and subtractability)." Anthropologists have also attempted to define the "common property". American anthropologist John Bennett (1991:3) writes that, "common property means the group has a collective responsibility for resources, which tends to guarantee care and conservation; the austerity ethic means that consumption pressures tend to be low, removing major stimulus to resource abuse". Australian anthropologist R. J. Fisher (1991:3) states, "Common property resources are defined as property shared by a specified group of people with specified rights as opposed to open access resources (open to anybody without restriction)".

Ever since the publication of the article entitled "The Tragedy of the Commons" by Garrett Hardin, in 19968, theoretical debates on the regime of common property began to be discerned very glaringly in the academic domain. He argues in this article that the individuals are primarily concerned with the maximization of their share of a resource that eventually results in ruin. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a 'commons' brings ruin to all. However, Hardin forgets the importance of institutional arrangements in providing a framework within

which economic behavior occurs. He also de-emphasizes that individuals have also the capacity of social learning. In other words, he forgets to state that the user communities can discuss and develop rules and collaborative strategies for the sustainable use of the natural resources.

Anna Knox and Ruth Meinzen-Dick (2001:7) argue that, "managed common property institutions are often appropriate for landscape level resources and involve different combinations of property rights and collective action institutions depending on ecological and socio- economic conditions. Because they restrict access to a limited group of users, managed common property arrangements better assure that the benefits of investments in resources are confined to the investors. This is particularly important when resources are scarce in relation to the population that relies on them. By contrast, unmanaged common property or "openness" unleashes incentives for users to capture maximum private benefits with minimum investment. Common property arrangements also allow members to monitor use among the group, thereby dissuading them for taking more or investing less than their agreed share. At the same time, to be effective, common property regimes must be able to exclude outsiders…"

More convincingly, Fikret Berkes and M. Taghi (1989: 7-9), rejecting the western scientific resource management view emphasized by Garrett Hardin, put forward the philosophical basis of the traditional view. They argue that the traditional view emphasizes that, "common property should be restricted to communally-owned resources for which there exists communal arrangement for the exclusion of the non- users and for allocation among co-owners." They further argue that resource users can, and in fact, do co-operate. Valuable natural resources are almost never open-access but are managed under traditional rules governing use. They also make a critical distinction between "open-access resources" and "common property". They argue that "open –access" is a free-for-all, while "common prop-

erty" represents a well-defined set of institutional arrangements concerning who may make use of a resource, who may not use of a resource, and rules governing how the accepted user shall conduct themselves. They also focus that community resources are managed in accordance with community-based norms and rules. They also argue that livelihood security, access equity and conflict resolution, mode of production, resource conservation and ecological sustainability are the five critical rules of common property in local communities.

S.Y. Ciriacy- Wantrup and R.C Bishop (1975) emphasize that common property is not "everybody's property." They argue that potential resource users who are not the members of the group of co-equal owners are excluded. The concept has no meaning without this feature. Elinor Ostrom, an American social scientist, in her book "Governing the Commons: The Evolution of Institutions for Collective Action"(1996), has empirically proffered the framework of analysis of self-organizing and self-governing common property resources. She accentuates the enduring, self-governing common-pool resource (i.e a natural resource system) institutions. She basically discusses the "design principle" by which she means an essential element or condition that helps to account for the success of these institutions in sustaining the common pool resources (CPRs) and gaining the compliance of generation after generation of appropriators to the rules in use. Though she does not argue that the design principles are necessary conditions for achieving the institutional robustness in CPR setting, she has provided a long list of 8 design principles. These comprise: (i) clearly defined boundaries; (ii) congruence between appropriation and provision rules and local conditions; (iii) collective choice arrangements (including modification of operational rules); (iv) monitoring; (v) graduated sanctions (depending on the seriousness and context of the offense); (vi) conflict-resolution mechanisms; (vii) minimal recognition of the rights to organize, and (viii) nested enterprises (for CPRs that are parts of larger systems).

The regime of CPR emphasizes on reciprocity, co-operation and communitarism for the sustained use of natural resources. The institutions have an instrumental role in the management of these resources.

3.2 Social Learning Approach

Social learning takes place in a community of people and it is also valid in the regime of natural resources management including the forest. This is so primarily because they are managed collaboratively where social learning can contribute to more dynamic mutual understanding. In this regard, L.E. Buck, E Wollenberg and D. Edmunds write (2001:2-5) that ,"joint learning acknowledges that interest groups bring different knowledge (including the values, capacities, perspectives, methods of learning, stores of the historical experiences) to the collaborative process. This knowledge and experience can be an asset to problem solving if shared, a detriment if ignored. Joint or social learning also fosters perceptions of interdependence and mutual appreciations. As such, it facilitates working toward agreed-upon goals, generating confidence in further efforts in collaboration. The emphasis on learning also helps stakeholders address the dynamism of social and environmental systems" They also view that social learning in natural resource management is a continuous dialogue and deliberation among the scientists, planners, managers and users to explore problems and their solution. They have also identified four dimensions of social learning in collaborative forest management. These include conflict mitigation and political decision-making, innovation and problem- solving, communication and relationship-building, and community or organizational building. For them, organizational self-reflection is very important. Social learning improves collaboration in natural resources management, fosters institutional adaptiveness, better collaboration between local stakeholders and institutions, and ecological sustainability. Discussing the role of social learning in the management of common property resources, Nontokozo Nemarundwe (2001:85-105), writes that, "Social learn-

ing theory becomes relevant in this context as it can enrich the CPR resource approaches to institutional analysis. It provides insights about how institutions can evolve to deal with changing circumstances (social and environmental)... An adaptive or learning approach enables an iterative approach to dealing with uncertainty that minimizes risks based on matching actions to the information available. The social learning framework highlights the importance of group learning for collaborative natural resource management: Meaningful interaction and communication between individuals and groups (including different local level institutions) are central to the social learning process... A social learning approach helps us to address two of the principal shortcomings of current theories on local institutions. First, it adds needed emphasis on the importance of collaboration among different local institutions. Second, it provides insights on how local institutions can adapt to changing environmental and social conditions. As such, if most of the challenges discussed above can be addressed, a social learning approach has great potential to promote more effective collaboration among potential local institutions, and ultimately, more sustainable forest management."

Cao Guangia and Zhang Lianmin (2001:111) have also analyzed the understanding of pluralism and social learning in community-based resource management. By discussing the conceptual learning, they write that collaborative management involves social learning. Actors involved in resource management learn together about ecosystems and about institutional innovations and reconfigurations that support effective learning. The learning approach leads to an improved understanding or relationships among the status of the natural resources, institutions governing human activity that affect the status of the natural resource and learning systems for improving the technical innovational capacity for managing the natural resource. Bishnu Uprety, a Nepali social scientist, while discussing the potential for the community forestry programme in Nepal to address equity concerns, also emphasizes on social learning. He (2001: 190-99) states that, "social learning is an approach that enables people to

assess past events jointly, to modify their accustomed behavior and to develop new forms of adaptive behavior. It promotes interactions among stakeholders who have more different interests, beliefs, values, knowledge systems, management styles and perspectives... Equitable access of disadvantaged groups of people to resources and their influence in policy formulation can be increased through facilitated social learning." Mark Addleson (2002:1) also states that, "organizational learning is the process of gaining knowledge and developing skills which empower us to act effectively within social institutions... It is a view which stresses that organizing is a social activity and that organizations exist through collaboration. A learning organization builds collaborative relationships in order to draw strength from the diverse knowledge, experience, capacities, and ways of doing things that people and communities have and use." Thus, a number of scholars working in the common property regime have emphasized on social learning approach for the sustainable management of natural common pool resources. Explicit is the recognition of conscious joint learning for the social, institutional, economic and environmental sustainability vis-à-vis common pool resources. Critical reflection is required for social learning.

4.0 An Analysis and Discussion of the Empirical Case Study

The section below succinctly presents the analysis and discussion of the empirical evidences on the evolution of the elements of social learning for the sustainability of the forest resources as the common property resources—a function of the participatory action research (PAR) of 18 months ??? beginning from February, 2001 to August, 2002.

4.1 The Study Locale, the Community and the Forest Management

Prior to the participatory action research (PAR) in February, 2001, extensive background study had been conducted in ward number 12 of Khadbari municipality of Sankhuwasabha hill district in the eastern part of Nepal. The study had focused on Manakamana community forest user group (CFUG). There were a total of 164 households

with 879 user population during the period of PAR, that is, between February, 2001 and August, 2003. The area of forest was 132 hectares. The forest was handed over to the community forest user group (CFUG) in May, 1993 by the District Forest Office (DFO). There was the heterogeneity of caste/ethnic groups. The main caste/ethnic groups comprise *Brahmins, Chettrsi, Tamangs, Rais, Magars, Gurungs, Limbus, Newars Majhs and Kumals* .

The forest was natural and the key tree species included *Sal (Shorea robusta)*, *Chilaune (Schima Castanopsis)*, *Botdhaairo (Lagerstomia Parviflora)*, *etc.* With respect to the social capital, there was little trust and closeness between and among the users of various wealth and caste/ethnic groups. All groups were not involved in decision – making process. Some elite group of people monopolized most of the discussions/decisions which other users could not object in front of them. The members of the group had the low sense of responsibility—low level of social capital. There were three categories of goals of CFUG mixed together: (i) strategic management goals such as to use the forest product on rotational basis, phase-wise development of forest as per the need of the users and sustainable use of resources; (ii) protection-oriented goals such as to control the grazing and other irregularities, to protect forest from fire and (iii) general goals such as to increase the forest capacity and conserve the environment. The background study conducted revealed that these goals were partially achieved.

The members of the executive committee and users had a weak understanding and ownership of the constitution and operational plans— a function of the excessive involvement of forest technician for crafting them and limited or no mobilization of the users for contributing to them through enhanced internal collaboration. And there was the weak implementation of it. It was found that majority of the functionaries of the committee and the general users were unaware of their rights and responsibilities. In fact, the objectives of the constitution, if meticulously reviewed, looked very interesting from the

sociological perspective. One of the social objectives of constitution was to empower poor and backward people to induce change in social structure. The other objective was to launch the income generating activities for developing sources of income at the village level. The other two objectives were focused on systematic management of forest and equitable distribution of forest products and conservation of wildlife and biological diversity. These novel objectives were understood only by a handful of active committee members. But t hey did not have any answer how they would empower the poor and backward people and how they would induce change in social structure. Presumably, the first objective was crafted by the forest technician without consulting the users.

The fora/institutional arrangements, prior to the PAR, were the main committee, general assembly and *Toles* (a cluster of houses in an area). The general assembly used to select/elect the functionaries and members of the main committee. Users of each *Tole* constituted a *Tole* committee under co-ordinatorship of the *Tole* leader. There was a system of holding the general assembly twice a year (not exceeding the six months' interval). Though a number decisions used to be made during the general assembly, there was no system of the prioritization of the problems/issues and subsequent systematic formulation of the action plan. And while making the decisions during the general assembly, no agenda were collected from from the different *Toles*. There was very limited or no communication from the committee to the CFUG members as individuals and/or as internal stakeholder groups. The executive committee also did not have the culture of preparing the agenda in advance to be proposed before the general assembly. And all this led to the haphazard discussion. Since the general assembly was always dominated by a few members of the committee or the chairperson and secretary, there was very limited input from the CFUG members or internal stakeholder groups to the committee. The meetings were generally facilitated by the chairperson/secretary and occasionally by invited meso level stakeholders such as representatives of neighboring CFUG, range post staff

and the representatives of the district chapter of Federation of Community Forest Users, Nepal (FFCOFUN). But due to the lack of participatory facilitation skill, everybody used to speak at the same time during the discussion of debatable issue. By and large, the elites dominated the discussions. General users used to be passive in their discussions.

The participation of women and marginalized ethnic/caste group households was minimal. They also did not have their say in the decision-making process. In the past, the general assembly used to be occasionally postponed—a function of the limited communication among the internal stakeholders (*Toles*, interest groups, wealth and gender groups, etc) and lack of quorum. Despite this fact, the annual work plan (i.e., the implementable decisions made by the general assembly) was largely guided by the operational plan, which was valid for five years. The self-monitoring exercise of the actions implemented was also not done systematically to make the CFUG level assessment. More specifically, they had neither the vision of the ideal future nor the culture of the prioritization of the issues for the preparation of action plan and its implementation. They had not understood the real importance of the self-monitoring, which had negative bearing on the macro-level CFUG performance.. After the first self-assessment, they had to make action plan based on the result of first self-monitoring which they did not do. They did not learn from their mistakes. They again followed the same process and activities without any refinements. After the second self-monitoring, they got chance to observe the self-monitoring in another PAR site sponsored by Asian Development and implemented by the Center for International Forestry Research (CIFOR). They realized from it that their process was not appropriate and they needed further refinements.

The information flow process in the CFUG was very weak. CFUG used to send individual invitation letters to every household for the participation in the annual assembly, but other information related to knowledge, skill and attitude development was not being dissemi-

nated. The information regarding forest product distribution was disseminated through notices and *Tole* co-ordinators to different settlements. None of these processes were established in a systematic way to ensure the users were well informed. Male users did not disseminate the information to their family members, which was received from the committee meeting or assembly. Within the committee, there effective interaction between the users and committee members **was** entirely lacking.

4.2 Participatory Action Research Intervention

The fundamental objective of the participatory action research (PAR) is to learn together with the beneficiary community for inducing changes or improvements (such as social, cultural, institutional, organizational, economic, etc). In the case of the present study, an action research team of three persons, in collaboration with the executive committee of Manakamana CFUG, made the following interventions to learn together with the users and rectify the weaknesses identified during the background study conducted to initiate the PAR. The ultimate goal was to empower the user community for the sustained forest management. The activities of PAR comprised the following: (i) facilitation of the participatory self- monitoring ; (ii) organizing awareness-raising programmes (on forest act, laws, their own constitution and operational plan, and institutional and organizational arrangements); (iii) organizing facilitation skill training; (iv) organizing silvicultural management training; (v) organizing leadership and empowerment training; (vi) organizing exposure tours for joint learning; (vii) organizing the quiz contests on community forestry, and (viii) developing the elements of collective/ joint / social learning for the sustained management of forest as a community property resource. And this paper primarily focuses on the elements of social learning collaboratively developed during the 18 –month period of PAR.

4.3 Elements of Social Learning for the Ustainability of the Forest as a CPR.

This section presents the analysis and discussion on a number of elements of social learning for the institutional adaptation for the sustained management of forest as a 'commons'. During the period of PAR, the research team, in collaboration with the forest users, identified and learned a number of components of social learning for the sustainability of the forest resources. These comprised the intention and experimentation, effective flow of information, refinements and innovations, social transformation and co-creation of knowledge, consideration of relationship between human/natural system, perceiving ideal vision , critical reflection of past , dealing with uncertainties/risks , effective sharing among stakeholders, involvement of stakeholders in decision –making, joint implementation of actions, and effective conflict management. By and large, the primary emphasis of analysis has been on adaptation – a focus of the anthropology of natural resources management.

4.3.1 Intention of Forest Users and their Experimentation

One of the first elements of social learning was the "intention of forest users and experimentation". Their "intention" helped them to attain the knowledge with a purpose in mind in advance or prior to the execution of an action and "experimentation" was a "trail" of any possible intervention which was implemented on a larger scale depending upon its success.. The fieldwork yielded the impressionistic data that the users of Manakamana CFUG had the intention to learn and also experimented. The users of Manakamana did have the "explicit learning questions" after the researchers did the facilitation of the main participatory self-monitoring workshop held in February 2001. Even though they had undergone two self-monitoring exercises prior to the action research intervention, they had not fully understood the approach and importance. So once the researchers started the facilitation and shared the idea on the right approach of doing the self-monitoring, they started asking questions among themselves at the beginning. For instance, should not there be the relationship

between the prioritization of the weak areas and action plan? Should not we revisit the earlier self-assessment process?, etc. Then, with facilitation of the researchers, the users did practice the main self-monitoring process by doing the visioning of the ideal future, identifying the weak areas/issues, prioritizing them and developing action plan for the implementation.

Because of the relative weakness in the institutional development regime identified during the self-monitoring period facilitated by the researchers, the research team organized a "learning tour" for the users. They were interested for shared learning for institutional strengthening. They were interested to see the management system of the successful CFUGs in Kaski district of Western Development Region of Nepal. Mainly, the purpose of the learning tour was to contribute to institutional development and sustainability of the income-generating activities (IGA) initiated by the CFUG. The members wanted to gain more knowledge on the possible options of the IGA with the assumption that such knowledge would contribute to uplift the economic status of the poor CFUG members. Institutional development is also an indicator of the sustainability of the forest management practice and hence, the CFUG members were interested to see the institutional strengthening process and outcomes. They visited four relatively successful CFUGs in Kaski district. The participants of the "learning tour" from the Manakamana CFUG learned a number of lessons as follows:

a. Enhanced level of institutional development
One of CFUGs visited was successful in institutional development and forest management. The rules laid by the constitution were strictly complied with by the users and the action plan formulated under the operational plan was always implemented by the users. The leadership of the CFUG was also democratic in the process of decision-making. It was always effortful in ensuring the equitable distribution of the benefits derived from the forest. It had good relationship with various external stakeholders. It had also won the national award

called "*Ganesh Man Singh Rastriya Puraskar*" which has an amount of Rs. 50,000 for its better management and improved institutional system in a laudable manner. It was also planning to establish the award from its fund to be given to its best neighboring CFUG for the better and sustained management of forest resources.

Another CFUG visited was also institutionally successful which had approved 12 years' operational plan. It had also very good relationship with other organizations. It had explored the relationship with a NGO and established the biogas plant in each house of the CFUG members. Such support was contributing to protect the forest because biogas was used for cooking. Similarly, they invested the money for income generation activities. The participants of the tour learned a lot about the institutional development of the CFUGs visited.

b. Development of management system
The participants also had an opportunity for shared learning about the systematic and better forest management system during their "learning tour". Two of the visited CFUG s had a practice of regular meeting and assembly. Similarly, they had transparency in community forest (CF) management activities. One of them had plantation area with mixed plant for income generating purpose. Similarly, another CFUG had been managing the natural as well as the planted forest .The group was regularly practicing the thinning, pruning and clearing of the forest. They had invited technical persons from the DFO office prior to the initiation of silvicultural operations in the forest. And they had taken advice to apply it in their forest. It also co-ordinated with other Non Governmental Organization (NGOs) for forest management. The participants had an opportunity to learn from two CFUGs about the *modus operandi* of the income generation activities by mobilizing the CF fund. Mostly, the visited CFUGs invested their fund for livestock-raising, vegetable production and running the small groceries.

c. Advanced forest-patrolling system

The participants also learnt about the new patrolling system from two CFUGs. It was known as *Lauro* system (rotation of stick), in the local parlance. Each household was involved for the patrolling in the forest on a rotational basis. The CFUG had a stick as a symbol of patrolling. Each user household had to take the stick and patrol in the forest and then was required to give the stick to next user household in the neighborhood. The rotation used to continue until the completion of the turn of each household. It was learnt that this system helped to increase the "ownership feeling" among the CFUG members.

d. Women empowerment

One of the CFUGs visited was completely run by the women .All the committee members of the CFUG were women. It was found out that the conscious women made the community barren land into a community forest which was occupied by a group of affluent people claiming to be the "landless". And one of the conscious women from the community raised the voice against the land grabbers and she also mobilized other women of the community for the plantation and protection of this area. The community women asked the support from the DFO staff and registered the area as a community forest. The DFO staff on the forest management activities trained the women. The area of the forest was three hectares. The women members were regularly involved in the plantation although the proportion of the surviving plants was low. During the period of the learning tour, the CFUG members were getting benefit from the CF to some extent. Mostly, they had started collecting some fuel-wood and grass form the CF. They had also constructed the temple and kept one person to take care of the temple as well as the forest to protect it from illegal activities of the outsiders. It was found out during the discussion that the male members did not help the women at the beginning .Some of them tried to hinder their activities but the women continued their effort regularly to develop the CF and succeeded in establishing as a women-managed community forest. Males, though opposed women's activities at the beginning, became supportive at the later stage. The

participants of the tour learned how women alone can manage the forest. Particularly, the women participants were more impressed by looking at the audacious effort of the women folk.

The internal stakeholders of Manakamana also had the intention to change the leadership of the committee and so did they.The intention of the change was to see whether or not a new leadership could steer the direction of the CFUG on the right track. Analogously, the members of the *Tole* committees and their co-ordinators had also been changed to see the functioning of the new leadership. The main committee decided to divide the responsibilities among its members with the anticipation that each member/functionary would contribute to the effective activity implementation. And the general assembly also started forming the action groups for the effective implementation of the specific forest management activity. For example, there had been the action groups for the resolution of encroachment problem, assistance to the *Tole* committee for the equitable distribution of products, construction of the wall of CFUG building, etc. Similarly, the facilitation skills training conducted as intervention helped some of the committee members and users to develop their skills on facilitation for conducting the workshops. The general assembly decided to use Rs. 12,000 from the CFUG fund for the income generation activity (IGA) of poor households on "trial basis".

There was one action group constituted for the resolution of the community forestland encroachment that consisted of some encroachers at the beginning. The presence of the encroachers in the committee was the prime factor of the non-function of this action group. This realization led to the reconstitution of the committee by sacking the forest encroachers. And this group worked effectively to resolve the conflict about land issues. This action group decided eight cases of cutting trees in suspected areas (private or CF). Before cutting trees in such areas, the users were required to write application to this action group and it started making decisions whether the tree was in the private or CF area by looking at the evidences and the users had

to follow the decision. If anyone did not comply with the decisions made, he/she would be fined as per the decision made by this action group. During the period of action research, three cases had been filed who did not comply with the decision made by this group and they were fined for their illegal extraction of trees. The main committee constituted in February 2002 decided to permit the forest products within five meters of the boundary of users' private land. They had argued that these trees had been contributing to less production of the food-grains and monkey and other wild animals also damaged their food-grains in the field due to the growing of the trees in their claimed private area. Permission granted to the users to cut trees would compensate their loss incurred from crop depredation by wild animals and low productivity principally triggered by the shade of trees. But the meeting of CF land encroachment monitoring committee did not support this decision and decided to allow cutting trees only within three meters of the boundary of private land of the users. Besides taking action against CF land encroachment, monitoring committee reported the illegal extraction of timber from the disputed land (of the private owners and CF). It also collected smaller quantities of unclaimed timber in the forest. The main committee had also agreed the decisions made by the land encroachment monitoring committee. The users had also learned to plan only after the prioritization of the weak area. There was also the realization among the users about the weaknesses of the operational plan (e.g. forest inventory technique was unscientific, forest product distribution system was inequitable, etc.).

The users had also learned that their increased awareness could put pressure on the functionaries of the committee for maintaining the financial transparency. For example, the women users, after the participation in awareness- raising and empowerment training, pressurized the secretary of the committee to return the misappropriated Rs. 39,000. Until he returned the amount, he was not allowed to convene the general assembly and this pressure worked perfectly. In fact, the action research intervention contributed to increase the transparency

in the financial matters of the committee — a regular analysis and reflection with respect to the activities implemented. The committee members and the general users started monitoring the each and every implemented activity.

4.3.2 Effective Communication Flow of Information and Transfer of Knowledge and Skills

"Effective communication flow of information", another element of social learning, can be defined as "the two-way but critical flow of institutional/organizational information between the committees/action groups and the general users" and "transfer of knowledge and skills" (a part of the same element) is the sharing of "the learned ideas/techniques and capabilities" between and among the internal stakeholders. After the action research interventions, there had been the regularity in the meetings and assemblies as specified/required by the constitution (i.e. monthly meeting of the committee and half-yearly meeting of the general assembly). *Tole* committee meetings were held as per the need. These all meetings had become the effective fora for the communication flow of information between and among the diverse internal stakeholders. There had also been the considerable degree of the institutional strengthening through the involvement of users from various wealth, caste/ethnic, and gender groups in the decision-making processes. For example, in the two general assemblies after the action research, a total of 209 user households (out of 164 households) and 25 committee members (out of 26 in two assemblies) had participated in the decision-making process. Unlike the pre-action research period, there had been the increased involvement of users for the implementation of action. In other words, every user was aware of the action proposed and contributed to its implementation as per the need. There had been the contribution by the enhanced communication to the institutionalization of the process of getting the action plan implemented. The users had also the enhanced sharing of their ideas about sustained forest management with neighboring CFUGs and other district level stakeholders such as DFID-funded livelihood forestry project (LFP) , municipality,

FECOFUN, DFO staffs, etc. These district level stakeholders had been involved in the facilitation process in the different organizational activities (e.g. general assemblies, committee meetings, etc.) and action research interventions such as self-monitoring exercise, awareness/empowerment trainings/workshops, quiz contest, etc. During the period of facilitation, they had transferred relevant knowledge and skills to the users about the institutional arrangements and forest management activities. To a lesser extent, the facilitation by the researchers had helped the Range Post level four monthly meeting as a forum of learning and sharing the forest management experiences. The participation of users in various research intervention activities had contributed to increase awareness on community forest-related policy, activities and management approach (through the transfer of knowledge by the researchers). The users who had participated in the action research and other district level trainings/workshops had also started sharing their knowledge and ideas among other internal stakeholders—a function of the increased awareness.

4.3.3 Leaning as the Fundamental Basis for Refinements and Innovations

More simplistically, "learning as the fundamental basis for refinements and innovation", another element of social learning can be defined as "knowledge acquired through experiential learning and sharing can work as the foundation stone for improving the community forest activities and introducing the new ones". The main participatory self-monitoring workshop facilitated by the action researchers in February 2001 created a learning environment for internal stakeholders to understand the very process and importance of self-monitoring and immediately, they started refining the process through visioning of self-monitoring and immediately, they started refining the process through visioning of an ideal future, identification of the weak areas (to be improved upon), prioritization of the weak areas, and formulation of action plan. The users also had learned from the action research interventions that institutional development was equally

important. Therefore, they had already revamped the main committee and *Tole* committees by including the women. The number of women in the executive committee had been increased from three to five. Likewise, the number of women in the *Tole* co-ordination committee had been increased from zero to nine (out of 30 members). Given the fact that the "trial" of the IGA had been successful, the general assembly (as stated above) had already decided to increase the amount from Rs. 12,000 to Rs. 40,000 of which 25,000 was provided by action researchers as the "seed capital" for its expansion. The users had also realized that the existing pattern of the distribution of forest products was not equitable (mainly the timber). Therefore, they had the responsibility of helping the *Tole* committees for assessing the needs of the user households. Similarly, the interaction with action researchers and other outside stakeholders had helped the CFUG members to learn that working through the formation of action groups was more effective way of implementing the planned activities. The user members of each *Tole* had contributed to the self-monitoring exercise as a planning tool.

4.3.4 Transformation and Co-creation of Knowledge

Another equally important element of social learning is "transformation" which means the "learning with the potential of inducing the changes/alterations in the user group for forest management processes and the knowledge for change is collectively created". In the process, each individual user had the role to contribute to create the knowledge in the social group (i.e. co-creation of knowledge). After the action research interventions, there was the regularity of the monthly committee meetings and half-yearly general assembly meetings where the members and users shared their ideas/issues frequently and made solid joint decisions for inducing changes with respect to the forest resource management. Knowing that change occurs only through the joint effort (a function of research intervention), 40 Manakamana CFUG members did participate in a rally organized by FECOFUN to protest the proposed restrictive clauses in the Forest Act (which, if passed, would curtail the authority of all CFUGs). The

facilitation of the main participatory self-monitoring workshop by the action researchers gave the idea to the CFUG that the decisions had to be collectively made and there should be joint commitment for joint action. This was exactly followed by the members of the CFUG in identifying the weak areas, prioritizing them and formulating action plans for improving the weak areas. As indicated earlier on, they had also collectively discussed and learned that working through the action groups was an effective way of organizational functioning and it was being practiced to induce the changes in the community. Similarly, the users had not assessed their previous action plan thinking that it was not necessary because they had already prepared the action plan from those indicators. Later, with the discussion of action researchers, they realized the necessity of assessing the action plan and gave continuity to those activities also in their next action plan.

4.3.5 Consideration of Relationship within and Between Human/Natural System

Another element of social learning approach is the consideration of relationship within and between human/natural system. We use the term 'systems analysis' to describe analysis that seeks to contribute towards an understanding of the viability and dynamic of key sub-components of the 'system' at each site and the interplay of these sub-systems as they influence the viability and the dynamic of the entire system. A "systems approach" offers us advantages in terms of understanding the complex dynamics at play at any of our research sites. Our use of the term "systems analysis' can be characterized by the use of approaches such as participatory system analysis. Systems are generally thought of as assemblages of parts that are connected together in an organized way to achieve some objectives. A crucial issue that has prompted the development of systems thinking and hence systems science is the recognition that when different components are coupled together, the whole may exhibit behaviors that are not predictable from examining the behaviors of the individual components in isolation — these behaviors or properties are

called emergent properties or behaviors. Analysis is the process of examining in detail the structure or behavior of something (Center for International Forestry Research, 2000).

When this theoretical consideration was taken in mind and carefully applied in the context of Manakamana CFUG, one could discern the understanding of the "systems approach" in the forest management practices. During the general assembly meeting held in September 2002, a decision was made by the users banning the felling of the green trees for the fuel-wood (a function of the availability of the sufficient quantities of dried and fallen trees). In other words, the users knew that the green trees should not be felled down for fuel-wood if there was the sufficient availability of fallen and dried trees. They had understood the importance of sustained utilization of forest resources. The general assembly had also made a decision for the plantation in the barren land for future use and maintenance of the ecological balance. They had the system of protecting the forest through employment of *Ban Heralu* (Forest Watcher) and collective effort of users. The users had been working as per the operational plan, which had focused on forest protection and sustained use, community forest development through enrichment plantation, social development work, meeting out punishment against the violations of the operational plan, etc. Given the fact that there was some degree of increased awareness about the operational plan among the users, there were already fewer illegal activities within the forest system. The users had also contributed to the community development activities .For example, they had provided timber to local school for repair and maintenance free of cost which provided the venue for CFUG general assembly and other meetings and workshops.

4.3.6 Reflection and Visioning

Similarly, "reflection" and "visioning" are also important elements of social learning approach. "Reflection", by definition, is "careful thought about any institutional/social aspect of CFUG and forest management activity/process over a period of time". And "vision-

ing" is the "institutional practice of thinking about or planning the future of forest management with great imagination and intelligence". During the main participatory self-monitoring workshop facilitated by the action researchers, the user participants did the reflection upon the two previous self-monitoring exercises (done prior to the onset of action research) and found out that they were not properly practiced. As a consequence of this reflection, they, first of all, did the visioning exercise. They developed five vision statements for the next ten years and these comprised: (i) sustainable forest management; (ii) income generation and equitable distribution of forest resources; (iii) group management/institutional development; (iv) effective flow of information/enhanced communication and (v) community development. Subsequent to the formulation of the vision statements, 20 problems/weak areas were identified and six of them were prioritized for their address in the first self-monitoring assessment after action research. Finally, action plan was formulated for the address of these six issues. In fact, there was the commencement of the system of addressing prioritized issues as per the visioning of an ideal future.

The users had started to analyze more the past and current trends of natural resource use and make plans based on the collective reflection and discussion. They were of the opinion that the timber had to be extracted as per the actual need without affecting the potential of the forest biome. In other words, most users started to understand that if the forest products were extracted in an unrestricted way against the spirit of operational plan, the forest ecosystem would be substantially degraded in 10 years' time.

4.3.7 Dealing with Uncertainties/ Risks

Dealing with the "uncertainties/risks" is another element of social learning approach. "Effective dealing with uncertainties/risks" is the "institutional capacity of the CFUG for solving the unanticipated problems and natural disasters in a collaborative way". To a lesser extent, the Manakamana CFUG had developed the institutional ca-

pability in dealing with uncertainties/risks. For example, the users regularly contributed to the construction of fire-line to prevent forest fire from being spread. This was a long practice in the community. The various intervention strategies/activities of the action research had also increased the awareness of the users about their constitution, operational plan and community forestry rules/regulation and such awareness would definitely help to avert the uncertainties/ risks in the future with respect to the forest resource management (because the knowledge of the users could be used in solving the problems). In fact, the forest encroachment monitoring committee and forest product distribution monitoring committee had been organized as per the decisions of the general assembly to avert the potential risks/uncertainties.

In fact, the above analytical discussion clearly demonstrate that the changes in the community forestry approaches, institutional arrangements and processes during the period of PAR had been instrumental in inducing the changes in the degree of adaptiveness. It should be acknowledged that only a limited number of activities had been conducted for the CFUG for the intentional learning and 'trial' for learning is also of limited scale. Though the communication system had improved, there was still no well-developed culture of sharing the information between and among the members of the user households.

4.3.8 Effective Sharing among Stakeholders

"Effective sharing among stakeholders", being an important element of collaborativeness, is the "process of disseminating the ideas, information and experiences between and among the users in such a way that would produce better results with respect to the institutional development and sustained forest management". Given the fact that there was regularity of the meetings of committee, general assembly and *Tole* co-odination committee, the sharing between and among the functionaries and members of the committee, between committee and general users of diverse social standing and between the *Tole* committee and *Tole* users as well as between *Tole* commit-

tee and main committee had substantially increased over the 18 months of the PAR. In fact, mechanism of communication within the CFUG had improved from *Tole* to the main committee and vice versa which was very weak prior to the action research intervention. In all the meetings, there had been discussions on forest-related issues, progress of the CFUG, problems of the users, type of trainings needed, collaboration, fund mobilization, building construction, agenda for future, etc. In fact, the earlier gap of communication between the committee and users had been bridged with the strengthening and revitalization of *Tole* co-ordination committee.

In addition to the effective sharing among the stakeholders, the sharing and communication between Manakamana CFUG and other outside stakeholders had also been gradually improving. There was the regular holding of the four monthly meeting of 36 CFUGs at the range post level where there was sharing and learning between and among themselves. With the suggestions and feedback of the action researchers, the external stakeholders at the range post level had been trying to make this forum as a "learning forum". The DFO staff, LFP staff, and representatives of the neighboring CFUG and FECOFUN had also participated in the general assembly meetings and shared their skills, knowledge and ideas about the community forest and institutional development by playing the role of the facilitators in the self-assessment processes, quiz contest, etc. In fact, the idea of IGA was received by the CFUG through sharing from a neighboring CFUG.

4.3.9 Involvement of Stakeholders in Decision-making

Another element of the social learning approach is the involvement of stakeholders in the decision-making. "Involvement of stakeholders in decision-making" means "participation of diverse stakeholders in the meetings to contribute to making the institutional decisions with potential implications on the well-being and sustainability of forest resources". The action research process had the positive impact on the process of decision-making. In other words, the decision-making processes started to be increasingly participatory. Dur-

ing the action research period, there had been 23 committee meetings (held more due to the necessity) and four meetings of general assembly. The committee meetings made more decisions with respect to the CFUG building (planning, work division among the members and search of financial resources), forest land encroachment, expansion of IGA, and conduct of action research activities. The majority of the members of the committee including women were present in the meetings and did participate actively. The general assembly meetings primarily made the decisions for the formation of the action groups (e.g. for control of encroachment). The trend of participation also increased. For instance, there were a total of 66 user household representatives in the general assembly prior to the action research. But this figure increased to 209 in the general assembly during the period of research. Prior to the action research, out of the 66 user representatives being present in the general assembly, nine were females and this figure increased to 48 in the general assembly during the period of research. Even the men and women of low economic categories and marginalized ethnic communities such as *Majhis/Kumals* also started to participate in the institutional processes/activities - - function of the catalyzation by the action researchers. The stakeholders also started to play more active role in the decision-making process. For example, in one of the general assembly meetings of the CFUG after the action research, the women put tremendous pressure on the secretary of the committee to return Rs. 39,000 to the CFUG account that was misappropriated by him. The different types of stakeholders (poor, medium and rich people, women and men and marginalized ethnic/caste people) started to express their views openly in the meetings - - a function of the action research catalyzation process.

4.3.10 Joint Implementation of Action

Another element of social learning is the joint implementation of action by the stakeholders. "Joint implementation of actions" is "collective contribution of stakeholders for the execution of the joint decisions". Ever since the first self-monitoring workshop facilitated

by the action researchers, the users had shown a propensity to implement the actions jointly. During this workshop, and action plan was consensually approved. Of the six prioritized issues, one was the construction of the CFUG's office building and every household was required to contribute free labor for leveling the land for the CFUG building, transporting stones (by tractor), timber and corrugated sheet and giving the finishing touches of the completed building. The users had given time to participate in the action research interventions/ activities for raising their awareness about community forestry policy and contents of operational plan and constitution of CFUG, and developing their skills in self-monitoring and enhancing their leadership qualities. The users had also started encouraging the women to participate in community forest management processes. As indicated earlier, women's representation in the main committee and *Tole* co-ordination committee had also increased. All these achievements were the functions of the joint contributions of users during the course of the joint implementation of the jointly agreed action plan. As before, the users had also been contributing financial resources to the committee. The relatively better-off and medium level member households contributed Rs. 40 as levy per year and the poor households were required to pay Rs. 20 only. The levy was paid as per the criteria developed by the users during general assembly meeting prior to the action research. Households had to be compulsorily present for the silvicultural operations and fire-line construction activities and the absentee was charged Rs. 50 to meet the day's labor cost per person. Until the end of the action research, the CFUG had not been able to distribute the forest products equitably (i.e. timber and it was moving towards its equitable distribution). The glaring example was that of the formation of the "Forest Product Distribution Monitoring Committee" which had started to help the *Tole* co-ordination committee for assessing the actual timber need of the each household.

4.3.11 Effective Conflict Management

Managing conflict effectively is another important element of social learning approach. "Effective conflict management" is a "process of

resolving the both overt and covert conflict by adopting an appropriate approach of reconciling the competing interests through arriving at a solution which is acceptable to both the conflicting partiers". Ever since the beginning of the action research interventions, the CFUG, by and large, had been more effortful in managing/resolving the conflicts within it. The *Tole* meetings began to resolve most *Tole* level conflicts. If they were unresolved, they were brought to the main committee meetings. And still if they were unresolved, they were finally brought to the meeting of the general assembly. Unlike before, no conflict was reported to the DFO after the commencement action research. The formation of the 'Forestland Encroachment Monitoring Committee" as an action group was for reducing the conflict between the CFUG and encroachers. There had also been the dissatisfaction among the users apropos of the inequitable distribution of timber, which might trigger conflict at any time. As stated above, the formation of an action group called "Forest Product Distribution Monitoring Committee" was also instrumental in reducing the conflicts.

Gradually, there had also been the demonstration of the leadership qualities by the various stakeholders. For example, about half of the members of the main committee were new who were providing the leadership to the community of users. The regular interaction of the researchers with the users and their awareness-raising activities/strategies had been the principal factors behind the community steps taken for resolving the local conflicts.

5.0   Conclusions

Based on empirical evidences presented above, we can conclude that the community of resource users has the potential of collaborative learning for the rectification of the institutional weaknesses embedded with the objective of managing the forests in a sustainable way. Ubiquitous is the fact that the sustainability of the resource use is contingent on the relative strengths of the users' organizations and the institutions governing the conservation, exploitation and use of

the 'commons'. The findings presented in the paper are demonstrative of the fact that the weaknesses of the organizational and institutional arrangements can be overcome through the collaborative learning. Once the target beneficiary is involved in the action research right from the very beginning, learning takes place in the cyclical process aiming at improving the organizational and institutional dimensions. Unequivocally, the process of facilitation/ catalyzation has also the significant role in inducing the changes in these domains. The anthropology of natural resources management has to focus on the process of adaptation for the sustained management of the commons. And this is possible through the mobilization of the users for the full compliance with the basic principles of the institutional design and operational rules. Such mobilization is possible through the development of the active internal leadership. Nonetheless, the role of the catalysts is no less important in inducing the adaptive management of the resources.

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