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# Livelihoods Outcomes

STUDY AND ANALYSIS OF CHANGES IN THE LIVELIHOODS  
OF BOTTLENECK LEVEL COMMUNITY FOREST USERS, TAL

WWF Nepal

May 2008



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**WWF Nepal and Sustainable Livelihoods:** By working in collaboration with different level partners such as national, local, and civil societies and raising their active and meaningful participation in the field of conservation this office aims to bring about sustainable improvement in local people's livelihoods through the means of conservation. For this purpose it has been applying the methods of sustainable livelihoods in its various aspects of conservation management, plan formulation, implementation, monitoring and evaluation. In this connection the Nepal-based office of this Fund has prepared a strategic document for mainstreaming the various tools and approaches of sustainable livelihoods. In it WWF Nepal aims to achieve the following objectives by accepting the basic objectives of conservation as the guidelines:

- Increased household food security through improved and productive livestock, NTFP production and value addition processes
- Increased household income level through sustainable use of natural resource
- Increased household coping capacity
- Increased local employment opportunities
- Enhanced social and human capital
- Improved morbidity and sanitation status
- Reduced livelihoods vulnerability
- Ensured social inclusion mainstreaming
- Ensured good governance mainstreaming
- Increased equal access to information, communication and education



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## Preface



WWF Nepal has been working in the field of conservation in Nepal since 1967. It started with the conservation of the endangered species. However, in the 1980s it adopted the Integrated Conservation and Development Approach (ICDP) and has been raising the local inhabitants' participation by providing development services. At that time the main thrust of this approach was on minimizing the challenges to biodiversity caused by the exploitation of the natural resources to the brink of extinction. Although these efforts brought about some improvements, the complexities of livelihoods and poverty could not be interpreted in simple, meaningful and comprehensive terms.

In the 1990s, the site specific level conservation transformed to Landscape level conservation. The Terai Arc Landscape Program and the Sacred Himalayan Landscape Program are the examples of such landscape level programs. Among the various corridors and bottlenecks identified under the Terai Arc Landscape Program the highly valuable and considered to be a milestone is the Lamahi Bottleneck, where the program has, for the last six years been working side by side with the Community Forest Users' Groups through the local Community Forest Coordination Committee.

Since 2002, WWF Nepal has formally adopted the Sustainable Livelihoods Approach. Acknowledging this concept as an integral aspect of the program it has been used to expose the interrelationship between conservation and livelihoods and to elucidate the inherent issues in simple terms. We are confident that it will show how to study, analyze and communicate the amount of changes that could be brought about in the living standard of the local users; of the those deprived of the access to the benefits of conservation and development; the extent to which the resources, tools, skills and enthusiasm of the partners could be mobilized; and the amount of improvement that could be brought about in the capacity of those local user groups from the ongoing conservation efforts; and finally it will also provide forceful conclusions.

This booklet, "Livelihoods Outcomes: Study and Analysis of Changes in the Livelihoods of Bottleneck-level Community Forest Users" is a reward from the joint commitment and collaboration between WWF Nepal-Terai Arc Landscape Program and Lamahi Community Forest Coordination Committee, and other dedicated employees and volunteering officers. I wish to mention here that the result-oriented feedback, comments, suggestions and guidance offered by the local user group executives and the participants of the Sustainable Livelihoods Mainstreaming and Capacity Building Orientation Workshop have contributed to the completion of this Study and to the preparation of this report.

I wish to thank all donors and partners USAID Nepal, Ministry of Foreign Affairs, Finland (WWF Finland), Save the Tiger Fund (STF), National Fish and Wildlife Foundation (NFWF), United States Fish and Wildlife Services (USFWS), WWF-UK, WWF-US and WWF Germany for their contribution of technical and financial support to implement TAL Program. I also wish to thank all those who remained engaged in and made a significant contribution in managing and organizing of this entire study assignment. I am confident that the findings arrived at this report prepared in the course of this study will, on the one hand, provide effective baseline indicators to the Terai Arc Landscape Program, and on the other hand, provide fresh nourishment concerning the changes that have taken place in those groups. This will also prove to be a key reference material in the formulation of future landscape-level and bottleneck-level livelihood plans.

A handwritten signature in black ink, appearing to read 'Anil Manandhar', written in a cursive style.

Anil Manandhar  
Country Representative  
WWF Nepal

## Acknowledgements



I wish to express my sincere gratitude to WWF Nepal for providing me the opportunity to complete the study on the changes that have come about in the sustainable livelihood-based outcomes of the inhabitants of the Lamahi Bottleneck Area under the Terai Arc Landscape Program. I wish to express my heartfelt gratitude to Mr. Anil Manandhar, Country Representative of WWF Nepal for providing me the invaluable opportunity of completing this bottleneck level change assessment. Similarly, I wish to express my heartfelt gratitude to Dr Ghanashyam Gurung, Director of the Conservation Program; Dr Sabita Thapa, Program Manager; Shubhas Lohani, Senior Program Officer WWF-US, Eastern Himalayas; Santosh Mani Nepal, Coordinator, Policy and Special Programs; Ravi Pratap Singh, Operation Manager; Sanjib Chaudhary, Communications Officer. I would like to give special thank to Dhan Rai, Senior Program Manager, and Rajendra Gurung, Senior Program Officer, Planning and Evaluation, Tilak Dhakal, Project Co-Manager from Western Regional Program Office for their valuable suggestions. I sincerely thank all the other colleagues associated with this program including the participants in different discussion programs and the representatives of the program group. Similarly, I wish to express my gratitude to Shree Kiran Bhandari, Chairperson, Lamahi Community Forest Coordination Committee, and other executives, Shree Gokarna Poudel, Shree Durga Subedi, and Shree Tikaram Chaudhary for their valuable support. Likewise, I wish to express my sincere gratitude to all the participants of the Livelihoods Interaction Workshop coming from the 29 community forest areas and to all the community forest guards who took part in the interview, for their useful suggestions and comments. I tender my heartfelt thanks to all the data collectors for this study and to Shree Bhaskardev Chaudhary, the Data Collection Supervisor. I also express my sincere gratitude to Shree Anand Chaudhary and Shree Manoj Chaudhary, Field Assistants, the Terai Arc Landscape Program for their valuable assistance at various levels in the form and format editing, survey, discussion and primary compilation of statistics and thus making this Study a success. I, hereby would like to acknowledge that Mr. T. N. Ghimire has contributed intensively by translating the original document into English and further helped in editing and proof-reading the translated and updated version. I am confident that this study report will provide necessary indicators for pondering over the issues concerned with the understanding of the living standard of the local users, with the users' institutional capacity and the changes that have taken place in that, with the policy matters and social inclusiveness, and with conservation and use of the community forest. Necessary baseline indicators in this field will specially be made available for any plan and program formulation concerning livelihoods in the coming days, while necessary livelihood indicators will be made available by taking the second phase of the Terai Arc Landscape Program as the complementary base year. This report will also certainly be of benefit and guidance to the various government and non-government organizations and community-based organizations that are active in this field. Finally, I will always be awaiting necessary suggestions, creative and critical comments from the readers in order to enhance this booklet for still better quality, usefulness and readability.

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## Abbreviations

CFUG	Community Forest Users' Group
CF	Community Forest
CFCC	Community Forest Coordination Committee
CEPF	Critical Ecosystem Partnership Fund
GIS	Geographical Information System
VDC	Village Development Committee
NF	National Forest
PF	Private Forest
FG	Forest Guard
BS	Bikram Sambat (Nepali era)
HH	Household/s

## Summary

"Sustainable conservation is not possible unless and until the minimum livelihood requirements of the users of this area are met and they feel that their children are socially, economically, culturally and politically secure" is our a learning conclusion. This analytical report on the achievements in livelihood has presented weighty conclusions with analytical data on how changes in the livelihoods of the local users have been taking place through the conservation programs in the Lamahi bottleneck area under the Terai Arc Landscape. The Sustainable Livelihoods Approach framework has been applied as the basic tool, while all the community forest users' groups affiliated to the Lamahi Coordination Committee have been taken as the field of study. The goal of this study-cum-analysis is focused on communicating to the partners the conclusions regarding the kinds of transformations that have taken place in the various aspects the livelihoods of the inhabitants of this bottleneck area during the past five years and on laying bare the interrelationship between conservation and livelihoods by means of the available data. The presented study with analysis is based on WWF Nepal's own work experience and available resources. This report has also presented the work procedure and the activities adopted in the past. By mentioning the proven and practicable recommendations as the conclusions this presented report has encompassed the subject matter. Among the conclusions are those, with supporting examples, for providing support to conservation, activities for improving livelihoods, the selection of entry points, good governance, evaluation of institutional capacity, policy analysis, advocacy, and finally for identifying the aspects to be covered in the monitoring and evaluation functions. Those recommendations have also cautioned against excluding anybody from using the resources that are being conserved by community forest users. Similarly, the study has concluded by highlighting the importance of social inclusiveness; transparency; social justice; accountability; participation; and the ownership, proper use and control over the resources; the equitable distribution of their rewards; the capacity enhancement for those tasks.

After analyzing in the same manner recommendations have been made for the institutional evaluation of the community forest users' groups, the sustainability of the work being implemented by them, the capacity enhancement of such organizations, regular evaluations and reviews. The outcomes of the analytical study have conclusively been presented as the baseline indicators which are believed to serve as the bottleneck-level model baseline indicators for the next phase of the plan. After analyzing the dynamics and structural and social aspects (e.g. the castes and tribes, ethnic groups, Dalit and excluded ones, women, most marginalized groups, and the distressed ones) conclusions have been presented in this report as to who and which group of this area gained or lost the fruits of the endeavors put in the conservation and livelihoods in the past. At the same time it has been suggested that the resultant statistics (from the social structure and diversity aspects) be managed at the local level to commission strategies that can enable the representatives of the consumer groups to be actively engaged in the monitoring of that. According to analyzed results, some significant improvement on livelihoods could be found. More than one fourth of the households (HHs) using energy efficient devices and 20% of total biogas are attached with toilets. Likewise, about 70 per cent of HHs have at least six month food sufficiency, and 84 per cent HHs have access to improved drinking water. More than one third of HHs members have obtained at least one capacity building or skills based trainings. In essence, it can be said that more than 1,4387 community forest users HHs are involved in managing sustainably more than 75 per cent of bottleneck forest through 31 CFUGs, which comprise over 400 executive committee members including women and indigenous people. A majority of community HHs are able to install toilet attached biogas plants which reduce workload of women and children significantly, reduce grazing pressure on forests and the reduce the occurrence of water and airborne diseases. In the end, the conclusions and recommendations of this study have shown the way to the strategic feedback to WWF Nepal and its partners for the kinds of issues that need to be addressed in this development and conservation programs for livelihoods. Similarly, in order to make the past achievements sustainable, broad-based and gainful, the issues of the users' livelihood, capacities, the activities to be done for that and the state of the necessary resources etc. as the important aspect, a strong base has been presented for the mainstreaming of the different levels of the plan for their sustainable conservation.

### a) Terai Arc Landscape Program-TAL

For the conservation of the forests, land and bodies of water of the Terai and Chure Hills and to secure the biodiversity, economic status and social and cultural integrity of that area WWF Nepal, in collaboration with the Government of Nepal, and its partners have been implementing the Terai Arc Landscape Program since July 2001 in the districts of Kailali, Kanchanpur, Banke, Bardia, Dang, Kapilvastu, Rupandehi, Nawalparasi, Chitawan, Parsa, Bara, Rautahat, Palpa and Makwanpur. From mid-Nepal to far-west Nepal the TAL covers an area of 23,129 square kilometers.

The TAL Program covers 14 districts from Rautahat to Kanchanpur on the Nepal side of the Terai. Home to biological diversity, this area also has settlements of castes and tribes and ethnic groups with diverse cultures and languages. Of economic significance as regards production, this area is especially important for natural resources like forests, rivers, productive soil, wetlands, creatures, animals and birds. This is also a safe habitat for some key species like the Asian elephant, one-horned rhinoceros, Royal Bengal Tiger and so on which are threatened with extinction from the face of the earth and are on the list of the endangered species. The TAL has directly or indirectly been providing dividends of livelihood and opportunities to the 6.7 million people living in this area. While agriculture is the main occupation of the inhabitants of this area a majority (57 % of them have taken up the livestock raising business<sup>1</sup>. Most of the strategies of livelihood adopted by the inhabitants

here are directly or indirectly dependant on forest resource and the opportunities created by that.

The burning challenges of livelihood at present are the conflict of the recent past and its adverse effect on the conservation activities, containing the pressure of the growing population in the Terai, biological diversity, maintaining a balance between the sources of livelihood. Similarly among the other challenges are the biodiversity; capacity for resource management; capacity for converting the dividends accrued from conservation activities into other resources; opportunities for improved livelihoods, the livelihood policies, decisions, plans, program strategies, monitoring, evaluation; their qualitative impact on livelihood, conservation, and analyses of the inter-relationships between livelihoods; and so on. Therefore among the natural resources forest is also an important one. For its sustainable conservation (management and use) and also for the issues involved in the livelihoods of the families who are directly and indirectly dependant on it if concern could not be raised right now surely tough challenges will have to be faced in gaining the achievements envisioned by this program.

### b) Community Forestry Coordination Committee and its Institutional Role

The Community Forest Users' Coordination Committee, formed especially with the objective of promoting the common interests of the community forest users' groups at the range-post bottleneck or corridor levels, is a non-profit, service-oriented, locally registered, representative

<sup>1</sup> The Terai Arc Landscape Nepal, Strategic Plan (from 2060 to 2070, Master Strategic Document, The Forest and Land Conservation Ministry, 2060, Kathmandu.





organization of geographically defined groups. In main it plays the role of coordinator between the users and concerned units for forming new groups and carries out functions like providing constitutional support to the groups for constitutionality, accounts management, conducting trainings on common interest matters, raising resources for conducting programs for meeting the basic needs of the users by coordinating with external organizations, making proper use of the resources, and helping to bring about institutional uniformity.

### c) Sustainable Livelihood: Definition

As mentioned in its Sustainable Livelihoods Guidance Sheet<sup>2</sup>, 1999 DFID, the Department for International Development the definition of Sustainable Livelihood is : " A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base"

### d) Livelihood Issues in TAL

WWF Nepal Program has been providing financial and technical assistance to the Terai Arc

#### BOX 1: The Main Livelihood Strategies identified in the TAL

- Agriculture, Farming
- Livestock raising
- Unskilled Labour, Wage-earning Labour
- Share-cropping on others' fields, hired land farming, half-crop sharing , seasonal migration
- Collection and sale of wetland-based food grains
- Collection and sale of timber and non-timber products
- Animal herders (Haruwa, Charuwa) cattle grazing and wage-based herdsman

Source: Livelihoods Study Survey, WWF Nepal Program, 2001, Kathmandu

#### BOX 2: Main Livelihood Issues identified in the TAL

- A. Diseases to which livestock are susceptible
- B. Losses/damages from wild animals (crops, human, physical assets and livestock)
- C. Increase in healthcare costs
- D. Being deprived of land ownership
- E. Social injustices, deprivations
- F. Ownership over community assets
- G. Social discrimination
- H. Limited access to sources of livelihood
- I. Diminishing returns from available natural resources

Source: Livelihood Study Survey, WWF Nepal, 2001,

Landscape Program that is being implemented by the Government of Nepal through its Ministry of Forest. Being the main technical and financial service provider in this connection, WWF Nepal has since 2001 been carrying out policy-related study, research, mutual discussion, review of past efforts, evaluation, determining new strategies and collaborating with the various organizations and agencies engaged in similar activities by focusing on the key factors of livelihoods, guiding principles and the questions of livelihoods in this area. For this program the Government of Nepal has comprehensively identified the diverse factors that are inherent in the destruction of biological diversity, and being concerned about how such factors could be counteracted through collaboration has even announced its Terai Arc Landscape Strategy



**BOX 3: Pro-livelihood Activities**

- Alternative energy: small scale micro-hydro, improved cooking stove, solar energy, solar lamp, back boiler, bio-gas
- Social gender-inclusive and rights-oriented programs
- Institutional partnership development, coordination and empowerment
- Livelihood opportunities: based on Forestry, Agriculture, Non-agriculture, Tourism and Non-timber forest product
- Good governance in natural resources management and conservation
- Communication, education, capacity enhancement/development
- Freshwater resources conservation, proper/judicious use and conservation of wetlands
- Reducing climate change and freshwater hazards
- Community and buffer-zone area forest management
- Conservation of extinct and endangered species
- Reducing conflict between communities and living beings
- Sustainable forest management
- Small finances, easily available loans and saving schemes

Source: Livelihood Study Survey, WWF Nepal, 2001, Kathmandu

Plan. The Tenth 5-year Plan, Nepal Biodiversity Strategy and the stakes indicated in the Millennium Development Goals have also been incorporated in it. In order to identify the strategies for sustainable forestry management and also for the livelihoods of most of the inhabitants of this area and the risks as well as the questions of livelihoods, the TAL Program has at different times coordinated with the local consultants, partners/shareholders and the concerned organizations and agencies, and after weighing which ones could be the questions, stakes and risks in the livelihoods of the inhabitants of this area, and then making public the outcomes from that has also been formulating the strategies, work plan and plan structure on the basis of those outcomes. According to the outcomes derived from the above studies the issues involved in the livelihoods of the people now living in the TAL area and the strategies of

livelihoods adopted by them have already been identified and such matters have directly and indirectly impacted on the resources of biodiversity of that area.

**C) Efforts for Livelihood Improvement**

Based on the above questions and strategies of livelihoods and in order to address them the TAL Program has formulated extensive TAL Implementation Plan and TAL Business Plan<sup>3</sup> entailing various activities and endeavors. For this purpose WWF Nepal has also been providing the necessary assistance, both financial and technical.

In addition the TAL Program has been creating necessary resources for the local users to cope with the hazards to their livelihood and developing skills for livelihood in a systematic manner and implementing them (See Box # 3). As a result the local users are being able to transform the profits derived from biodiversity conservation to other essential resources in a fair manner.

**D. Conservation and Sustainable Livelihood Linkages**

In order to meet the objective of bringing about a remarkable improvement in the livelihoods of the local communities the profile Conservation and Livelihoods Linkage Conceptual Framework has been prepared by addressing the strategies through various direct and indirect programs and by carrying out sustainable management of biodiversity enlisting the cooperation of the local communities and addressing the factors specially identified by the TAL Program.

With the objective of mainstreaming those same issues of livelihoods with the exercises (different working plans, strategy plans etc) the Sustainable Livelihoods - A Sustainable Livelihoods Mainstreaming Strategy<sup>4</sup>, with the technical assistance of WWF U K, has been published and according to which programs are being carried out.

<sup>3</sup> Terai Arc Landscape, Strategy Plan (2060-2970), Comprehensive Strategic Document, Forest and Soil Conservation Ministry, 2060, Kathmandu

<sup>4</sup> WWF Nepal Program: Sustainable Livelihoods - A Sustainable Livelihoods Mainstreaming Strategy

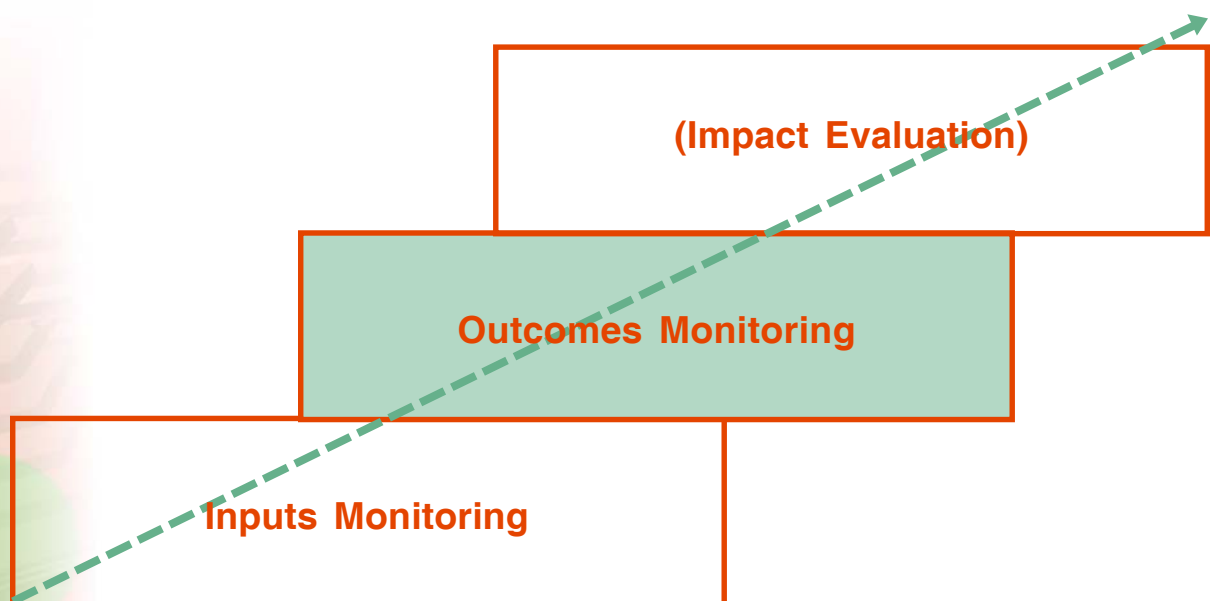
## 2 Objective

It is already seven years since World Wildlife Fund Nepal has been working in the Lamahi bottleneck under the TAL Program. It is not even that during this period different kinds of studies, surveys and analyses were not carried out. Since all of them were carried out for achieving some specific objectives of preparing livelihoods baseline indicators mainly to determine the kinds of changes that have taken place in the households affiliated to that community forest; the effectiveness of the program; the opinions held by the users, local partners and beneficiaries regarding the program; and of preparing bottleneck level livelihoods baseline indicators required for the next five years (for the second

phase of the TAL). Still the specified objectives of the Study have been articulated in the following points:

- Disseminating the conclusions reached from the evaluation of the changes that had come about in the entire aspects of the livelihoods of the inhabitants of the Lamahi bottleneck within the scope of the TAL to the partners.
- To prepare livelihoods complementary baseline indicators to elaborate the second phase of the TAL Program.
- Institutional development of the methods for sustainable livelihoods and putting them to practical use in the monitoring and evaluating functions.

**Graph No 1. Hierarchy of Outcome Monitoring**

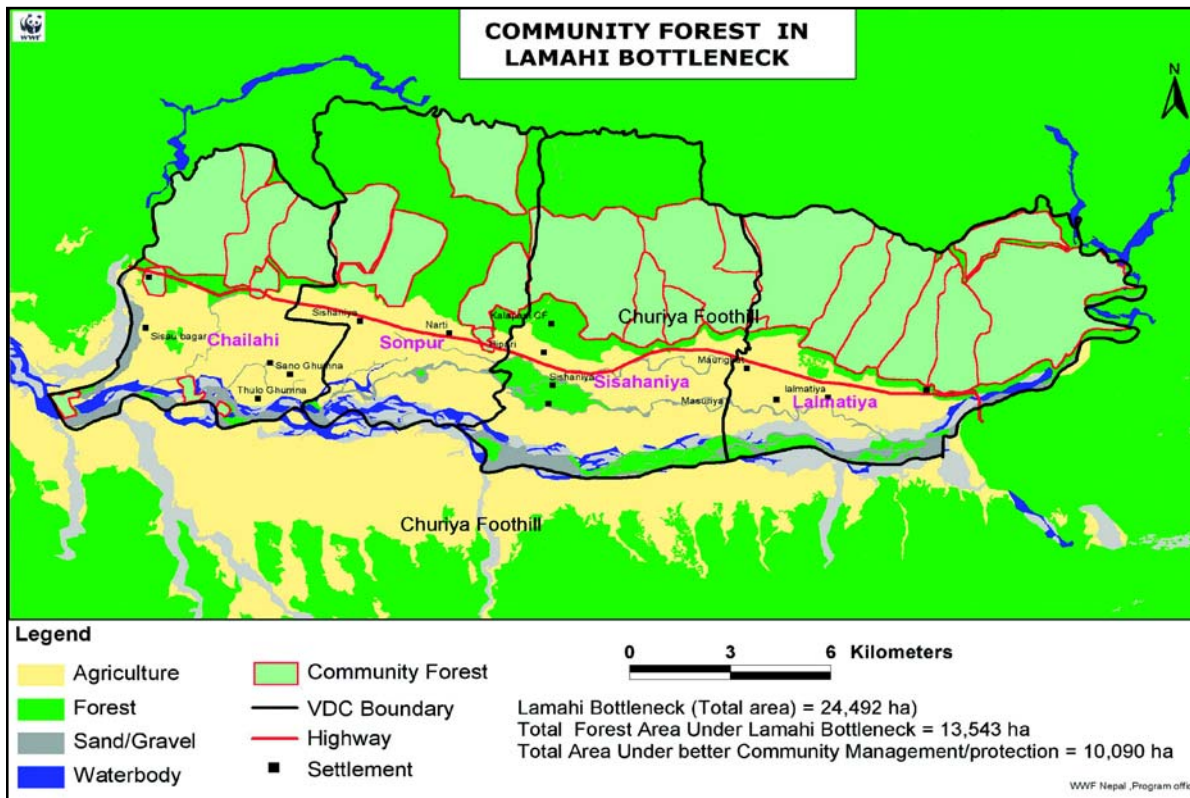


# 3

## Scope of Study

The Study was conducted by taking the 29 different community forest users' groups lying within the Lamahi bottleneck area in Dang district among the 14 different districts covered by the TAL Program as the field of study. Thorough interviews were conducted with those 29 community forest users' groups, their staff and forest guards and with the users under them and at the same time reports/information/data were collected and site inspections were carried out. In this way this Study was carried out, analyzed and conclusions arrived

at focusing on all the community forests under those coordinating committees that were interviewed while the collection of the necessary institutional information was made from the coordination committees and also by taking own past experience as the basis.



# 4

## Methods/Resources and Tools

Different methods, tools and techniques have been adopted for this Study. The measurement of the concepts held by the local users is attempted to be made with different game systems and exercises. Conclusions have been drawn by applying certain procedures on the locally available different sources of livelihoods, the strategies adopted by the local people for livelihoods, and the various hazards encountered in that field. Keeping in view the nature of the data collection the tools applied were also adequate both quality-wise and quantity-wise. The mobilization of the youth for this task has also been significant (see Boxes 4, 5, and 6).

On the basis of random sampling 1,430 households (13.8 %) were selected so as to represent all the clusters out of the cluster-based samplings of 10,387 households of the 72 clusters of 29 community forest users' groups in

### BOX 4 : Methods/Techniques

- Purposive sampling for cluster selection
- Random sampling for household selection
- Household survey questionnaire
- Institutional survey questionnaire
- Focus Group Discussion
- Transect walks and on-site observation
- Key informant interviews

the Lamahi Community Forest Coordination Committee. The data/information collectors were unlikely to have preconceived notions or prejudices about these selected households. For this work on-site orientation training and tools were arranged for a local team of 7 including 6 persons of whom 2 were women with a minimum qualification of SLC and a Supervisor for their quality control and provide support in filling up of the institutional forms. Moreover, in order to further refine this work, two Program Assistants from the TAL Program and the Livelihoods Specialist from WWF Nepal, Kathmandu were also involved in it. The survey was conducted for 8 days continuously in September 2006. The data enumerators were all local people. The list of the clusters were prepared on the advice of the local people including Shree Gokarna Poudel, a member of the Community Forest Coordination Committee and organizer of the Committee for Alternative Energy and Shree Tikaram Chowdhary, the Office Secretary of that committee. The conducting of the study-cum-survey was fixed after holding discussions with



**BOX 5: Tools**

- HH survey Form
- Institutional Survey Form
- Asset Measurement
- Issue mapping
- Ranking and Prioritization
- Photographic Monitoring
- Monitoring and learning game

**BOX 6: Involved Human Resources**

- Local enumerators including two women - 6
- Supervisor -1
- TAL Field Assistants - 2
- Livelihoods Specialist (WWF NP) - 1

the officials of the local coordination committees, concerned community forest users, participants of the sustainable livelihood-orientation workshop, people from the concerned VDCs, and collaborating with the Community Forest Coordination Committee in collecting necessary data from the concerned community forests and

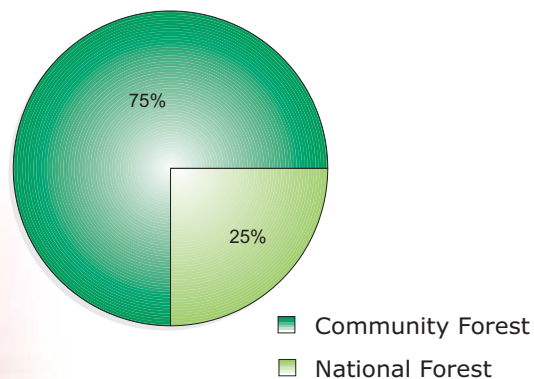
clusters, and arranging contact venues, and so on. For the interviews and data collection and institutional community forest questionnaire and household forms were prepared incorporating the community forest and conservation matters and institutional management issues. The structure of the questionnaire was prepared in accordance with the criteria of the description of the bases for household survey and the definitions given in the living standard survey 2003/4. While the biodiversity indicators used are from the past study and survey and as described in the strategy plan of WWF Nepal (2001-2005). The initial data collected were processed at the TAL, Dhangadhi while the thorough analyses and report writing were done at the Fund's office in Kathmandu.



## 5.1 Institutional Outcomes

Through its 29 regular community forest users' group members this Narti range post-level Community Forest Coordination Committee has been managing 10,090 (75 %) hectares out of the 13,543 of the forest areas in the Lamahi bottleneck under this TAL Program. Within that area 10,387 households have been actively participating and benefiting from the opportunities.

**Chart 2:** The extent of the community managed bottleneck forest in Lamahi



The heads of 1,430 households were interviewed in course of the study. Out of these informants 54.4 % were men and 45.6 % women. As for the castes and tribes 64.8 % belonged to the indigenous tribes. That most of them belonged to the Tharu Chaudhary tribe is obvious from the list of the informants. Similarly 35.2 % of the informants belonged to other tribes.

- Out of the many community forest users' groups affiliated with the above Coordination Committee, 4 community forests are found to have already been registered and handed over in 2050 BS, and their management by the communities begun.

In terms of size among these community forests the Shanti Community Forest Users' Group is found to occupy the largest area of 1,486 hectares and within which 1,007 households appear to have joined as members. For its extensive area this community forest has deployed 3 community forest guards (Ban Heralu) and maintained regular watch over the area. Similarly with a total area of 3 hectares and 38 households the Milan Women's Community Forest is the





smallest. No forest guard has been deployed in this community forest. On the whole the average area of community forest per household appears to be 0.97 hectares. This distribution according to the community forest is considered to be sound according to environmentalists

- Among the community forest users' groups affiliated with the Lamahi Community Forest Coordination Committee 76 % of the community forest users' groups have their own office buildings while the remaining 24 % don't. Regarding the structural condition of the private buildings of those 76 % of the community forest users' groups 51.8 % of the community forests have strong RCC buildings while the remaining 24.2 % have ordinary, not so strong buildings. It reflects the investment from the incomes of most of the community forest users' groups, the availability of voluntary labor, and the sensitiveness of the local people of that place regarding the infrastructure required for conservation purpose. But regarding the institutional and management skills of the community forest officials and staff and arrangement of the necessary tools and equipment it can be guessed that perhaps no attention has been paid.
- In the same way for their normal functioning and guarding the forests most of the community forest users' groups have been found to have hired other employees. Going



by the findings of the above survey 79.3 % of the community forest users' groups have recruited several categories of salaried staff whereas 20.7 % have not been able to recruit any category of staff. Similarly among all the community forest users' groups who recruit employees 79.3 % have all hired forest guards while 37.9 % of the total community forests have recruited forest guards and also secretaries for doing the other necessary office tasks. From this it can be gathered that their institutional earnings have gone up, they feel their responsibility, and are accountable to their user members.

- If the statement and the nature of the earnings of the community forest in the last 3 years are to be observed the wages of the community guards of the higher income group appear better than those of the lesser earning community forests, and they are also receiving their wages regularly. Similarly it is seen that the community forests also have better physical infrastructure, most of them also have reinforced buildings, and also have the toilet and drinking water facilities. For these reasons they are seen to be facing less of the management difficulties like the effectiveness of the program; the protection of the forest guards, official papers; furniture; and specified venues for contacting the users.

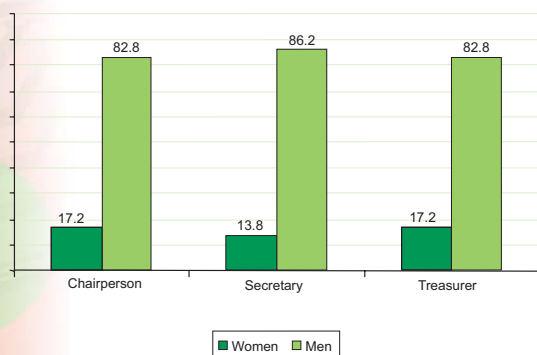


- Similarly it was gathered in course of the on-site observation and discussions with the persons concerned with the management that in comparison with the indicators of the others the indicators of the forest guards working for the community forests having high earnings are also better. For example, they send all their children to the local school, some of them even to 'boarding' schools, their houses are also either reinforced or at least well maintained.
- It was seen that in comparison with the others the forest guards working for the community forests having high earnings have their own land holdings, however small that may be, to produce enough to meet at least 4/5 months' food requirements while even those who did not own landholdings are also found to be engaged in some side business related to forestry. Even if working as wage earners and laborers they are found to be engaged in activities which are even more based on the forest resources. Despite all this they told in course of the discussion that the forest guards having high earnings had neither taken any technical training nor even got any opportunity to acquire any formal analysis knowledge about that. Another fact that could be observed from the study-cum-analysis was that most of them still do not have any toilet

facility . In course of the discussion it was also learned that for their loan and borrowing needs also they meet them from external sources.

- If the extent to which the various community forest users' groups are sensitive towards the daily livelihood needs of their members almost half of the community forest users' groups are found to be laying more stress on conservation than on sustainable use. Out of the total community forests 52 % neither herd their cattle for grazing nor allow others to herd theirs while only 48 % have set aside grazing grounds. It shows that most of the community forests have not yet set aside grazing lands in community forest although they have

**Box 3: Women representation in community forest users' groups**





employed forest guards while the finding of this same Study shows on an average each house raising 3 cows/buffaloes and 3 sheep/goats while it has also shown that almost 55 % of the households herd their livestock to the forest area for grazing. From this it can be deduced that at the policy level of most of the community forests such families have not been able to have their representation because the fact is obvious that CFUG management executive committees have not been able to be sensitive to the landless subsistence families.

- Watching the situation regarding the collection of firewood from the community forests most of the community forests appear to have given the permission to their users for firewood. While 27.6 % of the total community forests appear to have restricted this activity out of the 72.4 % of the community forests which have permitted this 6.9 % community forests have permitted firewood collection on a daily basis. In this manner, the collecting of firewood appears to be allowed once a week by 34.5 % and at least once a month by 31.03 %.
- If the structural representation of the castes, tribes, ethnic groups and the Dalit community in the community forest users' groups is to be looked at the indigenous Tharu inhabitants are predominant. From the above findings among all the senior positions like Chairperson,



Secretary and Treasurer in the community forest users' groups, 44.8 % of the Chairperson's posts, 55.2 % of the Secretary's post, and 55.2 % of the Treasurer's posts have representations from the ethnic groups.

- The numbers of the working committees of all the community forest users' groups are also not uniform. That makes it difficult to say for sure the exact percentages of the women, distressed groups and Dalit communities representing the working committees altogether. The working communities are found to be formed with 21 members at the most and 9 at the least. The personnel in the working committees appear to be taken on in consideration of the positions and the earnings of the community forests rather than that of the human resource requirements, as even community forests occupying vast areas have small working committees.
- Most of the community forest users have adopted the values and principles of good governance. Accordingly it is observed that most of the user groups (79.3 %) publicise and declare their annual income and expenditure maintain transparency and have been announcing to the users the institutional income/expenditure, plan, evaluation, and implementation activities with transparency. Some community forest users and groups



have been facing some technical problems like inability to submit the forest operation plan (FOP) in time to the District Forest Office, inability to demarcate the community forest properly and technically, inability to enforce punishments, fines etc effectively, and so on. Therefore it is felt that it has been difficult to follow the ideals of good governance.

- Upon analyzing the institutional earnings of the community forest users' groups coupled with measuring the frequency of the answers given in this connection almost 75.9 % of the source of income of the community forests is found to be the levy on the firewood collection while about more than half have pointed out the levy on fodder grass collection. The other main sources of incomes are found to be wood, timber, medicinal herbs collection, house rental, fine, gift and donation.
- Considering the proportion of reinvestments of their incomes made by the community forest users and also their priorities in the past one year, most of the community forest users are found to have ploughed back 53.14 % on livelihoods and physical infrastructure, mainly on office building; drinking water; employees for office; forest guards' expenditure; along with community service, religious and social temples, shrines and roadside resting platforms; irrigation; bus station; school repair and maintenance; road improvement; public drinking water small scale industry; and so on; and on the other hand even among them least amount is found to have been ploughed back on alternative energy, users' capacity building, conservation awareness about community forest, informal education, and so on. However they have invested well in saving the community forests, nursery management, forest conservation and management, and so on
- A lot of diversity is found to be there in the problems of community forest and conservation that the community forest users

have been facing and which have been occurring repeatedly in the past. Among the problems being faced by most of the community forest users the encroachment on and illegal activities in the community forests was especially pointed out as the biggest. Likewise among the other major problems faced by the user groups are also the demarcation of the community forests; inability to get the working plan approved in time; and sometimes the reality of their inability to secure public participation; dearth of resources and skilled manpower are also additional problems being faced by the user groups.

### 5.2 Household Level Outcomes

- Other interesting kinds of outcomes have also emerged from the above survey, one of them being that among the households from which data were collected the number of houses which are not members of any user committee/group etc was only 5.3% of the total. Similarly such houses were also found which had joined 9 different groups and committees while the number of organizations and agencies that were associated with 2 to 4 different houses remained large (63.9 %). This indicates that whilst they are doing their domestic chores and earning their daily bread, changes have also been gradually taking place in their social management role. Their joining the maximum number of user groups also shows that on the one hand they are eager to keep themselves organized within the structure of the social safety network, and on the other hand they are equally conscious of the benefits to be derived from joint efforts. Upon analyzing the number of households undergoing different kinds of training in management and income generation it is found that 65.2 % of the households do not appear to have taken any sort of income generation or livelihood-oriented training while



members from one same house are found to have participated in various trainings 35 times, and the number of those who had taken trainings 2 to 4 times was found to be 13.2 %. Some houses are also found where they did not know if any person from there had taken any training or not. Going by the distribution analysis of the households that had received trainings the opportunities for training, orientation and capacity building do not appear to be proportionately distributed. While some have got repeated opportunities many houses do not know anything about this. Consequently both the above two facts show that although the number of families joining the groups (CBOs and the like) is large the number of those participating in opportunities like training is negligible. This Study highlights the fact that the opportunities for training and capacity building have not been distributed proportionately and equitably.

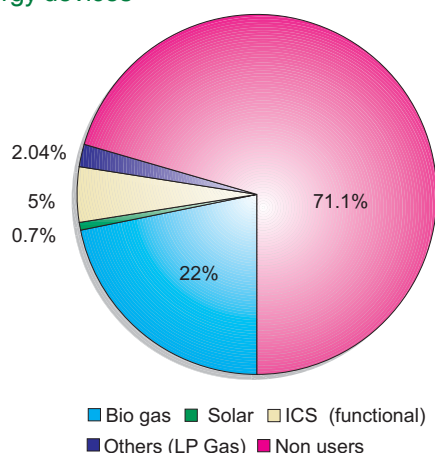
- Upon analyzing the situation of the use of alternative energy 71.1 % of the households were not found to have used any kind of alternative energy. The remaining 28.9 % houses have been using alternative energy, out of which 22 % households have been using biogas. Of all the users of alternative



energy 20 % households have installed biogas toilets while 5 % households have been using improved cooking stove on a regular basis. Similarly 0.7 % households were found to be using solar energy. From this it is seen that the number of those using improved cooking stove is the least whereas the users of modern gas (LPG) were remarkably many (2.04 %). It reflects the change that has caught up with the people's lifestyle and the priority they give to the use of fuel.

- Regarding the users of firewood 10.9 % of all the households go daily to fetch firewood, while 34.2 % of the households go once a week and 26.2 % of the households go to fetch firewood hardly once a month or seldom, and the remaining 11.5 % of the households say that they either don't have to fetch firewood or their need is so limited that they can meet it from their own land or that they don't have to depend on external sources. Reanalyzing the above statistics from the source angle, 8.1 % of the households reported that they fetch it from other sources, from across the border and elsewhere besides from their own community forests, while 2.22 % of the households refused to reply. It shows the facts that most of the houses still depend on community forests and other sources

**Chart 4 : Status of the use of alternative energy devices**



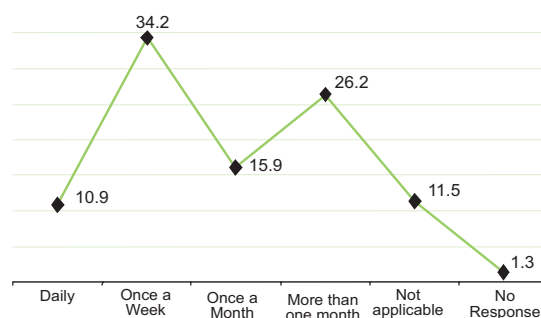


which they didn't want to disclose, and that their daily requirements of firewood could not be met from the sources of most of the community forests.

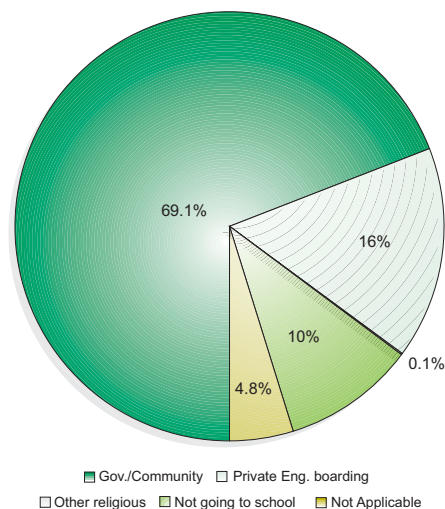
- Regarding the collection and use of fodder grass 16.2 % of the households fetch it from community forests and 24.9 % from their own sources, 0.4 % only from national forests and 17.6 % households from various sources like community forests, national forest, private forest and elsewhere. Although 29 % of the households fetch fodder grass on a regular basis they did not want to disclose the formal sources and just said 'other sources', while 11.8 % of the households reported that they did not need fodder grass.
- In course of the discussion with the target groups it could also be gathered that productive and unproductive livelihood-

oriented farmers willingly or unwillingly rear animals for manure and ploughing, and since that is required on a daily basis they are suffering from its shortage. (See Livelihoods Issues Analysis Chart). This is also substantiated by the fact that most of the farmer users refusing to disclose the sources of their fodder grass. As every house has an average of six domestic animals and the demand for fodder grass cannot be adequately met from the community forest and private sources it is found that they are hard pressed for time and that livestock rearing is a risky

**Chart 5 : Situation regarding firewood collection (and use) from community forests**



**Chart 6 : Situation regarding access to education**





undertaking. Similarly from the point of view of rearing domestic animals 12 % of all the houses have not reared any cattle or sheep/ goat while the remaining 88 % have reared some kind or other of herbivores. To analyze the pasture arrangement for their reared animals 48.67 % of the households graze their animals while 39.30 % keep tethered ones. On the average 3 sheep/goats and 3 cows/ buffaloes are found to be reared per house.

- As portrayed in Chart # 6, of the households studied in that area 16 % send their children to private and boarding schools, 69.1 % to government-run schools, whereas 10 % of the houses don't send their children to any school although they have children of school going age, and as for the remaining 4.9 % houses they didn't have any children of school going age, as shown by the statistics. It is unfortunate that the children from those 10 % households are being deprived of education when the other economic and social factors do not justify that nor is there any lack of urban-oriented government schools. This fact makes one specially apprehend that perhaps the *kamlahari-harua-charua* systems\* and child labor are in practice. (\* Bonded labour family, tiller on annual wages, and herder on daily wages respectively)
- The structure of the houses built in this bottleneck area also confirms that with the passage of time remarkable changes have taken place in the living standard of people. Among all the households in that bottleneck area 22 % have reinforced concrete cement pillars and cemented walls while 12.6 % have generally reinforced houses. Similarly 38.6 % of the houses are subsistent-level huts. The remaining unreported local public buildings are being occupied on regular or temporary bases. Thus even if 72 % of the houses are not reinforced they are ordinarily quite safe and if the biogas program reach out to these houses for the remaining 28 % of the households the



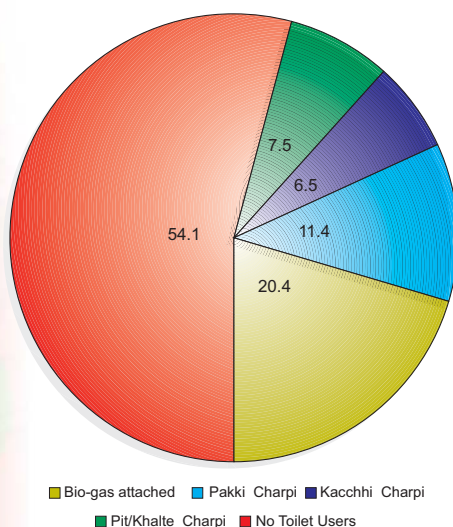
community forests could be adequate enough source for quite some time. Therefore these facts warrant special attention while making and deciding upon strategies in the future.

- Regarding the nature of the sources of drinking water of almost all the households in this area it is tube wells that are found to be sunk while in some cases spring, brook, stream, well and pond are also found. It is described as improved source rather than as safe in the report booklet on Nepal Living Standard Survey Report. But this statistic has been studied and analyzed here more from the angle of ownership than from that of the source of drinking water because having own water tap or tube well is an indicator of prosperity and from the point of cleanliness also it is/they are less polluted and less hazardous. This was observed while determining the bases for prosperity categorization in this same area. Therefore it has been taken as a basis, it being important for this study to be analyzed from the ownership angle. The Study has shown that 50.9 % households have their private drinking water while 36 % households use the public water sources. Similarly 9.54 % use their neighbors' drinking water sources while the rest use the open sources.
- As shown in Chart # 7, analyzing from the low-



cost toilet facility and sanitation angle, 3.3 % of the houses use generally safe toilets while 20.4 % of all the houses have reinforced toilets attached with biogas. 11.4 % houses have reinforced toilets but which are not attached with biogas. Likewise 6.5 % houses, although not reinforced, use safe toilets while 7.5 % use unsafe dugout toilets, but the paradox is 54.1 % of the houses don't use any kind of toilets. One bright aspect of this study

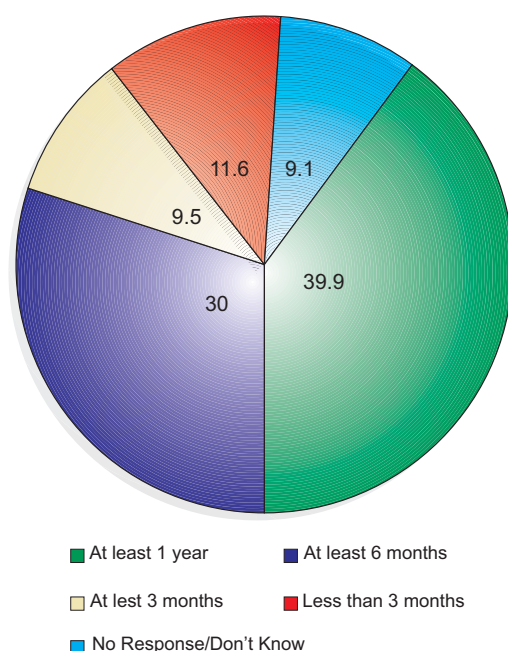
**Chart 7 : Status of houses having toilet facility**



shows 20 % households have biogas-attached toilets. From this it can be guessed that they have installed biogas.

- Analyzing the taking of loans for meeting domestic needs, 77.9 % houses generally borrow from various sources while the remaining 22.1 % said they did not need any loan. Among all the houses included for study 19.7 % reported borrowing from institutional sources like bank, cooperative organization, and official saving & credit organization, while 34.1 % households reported borrowing from homogenous group, committee, user group, TAL Program, saving & credit program operated under different plans, and so on, whereas 24.1 % of the households reported borrowing from unofficial sources, local merchants/money lenders at still stiffer rates of interest. It shows that despite there being developed consumer culture, urban-oriented villages, and easily accessible markets generally credits are being taken more for livelihood and to keep up with the cultural

**Chart 8: Food sufficiency status**



practices than for productive purposes. This was learned in course of the discussions with the targeted group.

- Upon studying and analyzing the situation from the angle of homegrown food grains (Chart # 8), 39.9 % families can support themselves for the whole year with their produce and regular income, 30 % families can support themselves for at least 6 months while 9.48% families could do so for at least 3 months. In the same process 11.6 % households were found unable to support themselves with their own produce and earning even for 3 months. To this question 9.1 % houses did not wish to reply. It is definitely worrisome that almost two-thirds of the households are at risk as far as food security is concerned and this fact indicates that their livelihood is at risk

## 5.3 Perception Measurement of Livelihoods Changes

### A. Perception measurement of livelihood vulnerability

According to the information gathered from the local inhabitants in course of the discussions with the targeted groups and the on-site transect walk, both human induced and nature induced vulnerability to livelihood has significantly increased in that Lamahi area in the last decade and it is seen that if that trend is not addressed and stemmed in time it can usher negative results in the near future. In the recent years even worse than the usual natural hazards in this area have been the problems of climate change and consumption culture because of the changes in people's living standard and behavior using polythene, *chow chow* wrapper, alcohol packet,

#### Box 7: Livelihoods issues identified in Lamahi Bottleneck Area

- Forest fire
- Reduced production of paddy and wheat due to increasing use of plastic bags which get flown by runoff to field
- Excessive, unnecessary and indiscriminate use of fertilizers
- Increased negative effects of insecticides use, affecting taste
- Seasonal and prolonged unemployment, underemployment, and disguised unemployment
- Increased viral diseases like encephalitis, malaria, kala-azar, pneumonia etc.
- Improper animal sheds, indiscriminate use of dung, tethering cattle on roads thereby inviting accidents
- Excessive traffic pressure, increased vehicular accidents, even increased cattle accidents
- Increased brewing and consumption of alcohol, social feud and breakup
- Urbanization-induced increased theft, poaching, unemployment, infidelity, and social insecurity
- Difficulty in stopping unlawful pasturing and collection of forest wood, trees, fodder grass
- Temporary settlement and migration, pressure of migrants and conflict victims on local resources
- Erosion of cultivable land, flooding, landslide, flood water submerging cultivable land, silting
- Increased incidence of cattle's foot-and-mouth disease, wet season Saune epidemic etc
- Scarcity of sources for daily needs caused by unnecessary ban on fodder grass and firewood collection from and pasturing in community forests
- Increased incidence of goat, sheep and pig diseases
- Damage to crops by barking deer, boar, bear, porcupine, elephant
- Increased loss of goats and lambs due to increased population of local leopards
- Scarcity of small scale irrigation
- Decreased production of mustard and sarson, facing extinction, dependent families at risk
- Diseases attacking fruits, cash and non-seasonal vegetables
- Environmental impact on nearby forests and villages due to urbanization
- Blights of important trees due to insect attacks
- Erosion of cultivable areas by the Rapti river and torrential brooks
- Lack of market, haat or mart, price stabilization, warehouse, cold storage and cooperative
- Recurrence of water-borne disease like diarrhoea, worms, dysentery



**Table 1 : Classification and ranking of Livelihoods Issues**

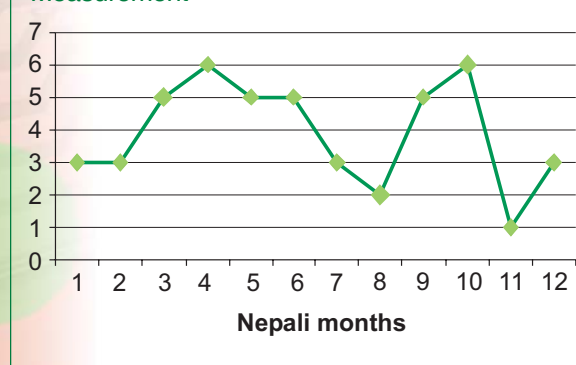
Identified Seasonal Livelihoods Issues	Months (Nepali : 1=Baisakh)											
	1	2	3	4	5	6	7	8	9	10	11	12
Crops disease prevalence (Wheat/Rice)												
Livestock disease (Saune) of Buffalo/Cow												
Livestock disease Goat/Sheep/Pig												
Lack of Green Grass												
Crop Depredation (ratuwa/elephant)												
Smuggling/Logging of Timber												
Most Unemployed /Leisure time												
Forest Fire												
Workload for Women (Excess)												
Disease Prevalence, diarrhoea, dysentery												

and at the same time artificial demands have been growing because of the rapid changes in town planning and developed transportation. Consequently it is clear that due to excessive use of fertilizers, insecticides and so on people's livelihoods, agricultural production and the quality of foodstuffs in the market are being adversely affected. The vulnerability to livelihoods as pointed by the participants in course of the discussion is tabulated (see Table # 1).

The analysed survey result of the livelihood issues in the box 7 and its reference list shows that there is hardly any possibility that the people and local communities cannot resolve them and

only vulnerability reduction measures can bring relief. The references/contexts were classified on the basis of the importance attributed by them and from among the references/contexts 10 were selected and incorporated in the table and after measuring their frequencies the outcome was analyzed. The details are shown in Table # 1.

A study of Chart # 9 shows that among the problems and hazards prioritized the most serious ones are seen to occur in the months of Sawan and Magh whereas the milder months are Mangsir and Fagun.. Upon probing why women's workload increases in Magh theirs and also that of their other family members' workload is found to increase because of the auspicious occasions like Maghiparva, weddings, Basantpanchami, Swasthanivrata and so on falling in that month. Similarly compared with other months Sawan is more problem-ridden because of the incidence/ occurrence of diarrhea, dysentery, elephant terror, Saune epidemic of cattle and so on. However if the above problems and hazards are classified and looked into (see Chart # 10) the root of the problem is found to lie in the domestic system in which women's workload and seasonal diseases of crops (paddy & wheat) are the main ones. From the other aspect it is noticed that the

**Chart 9 : Livelihoods Issues Frequency Measurement**


fall in the production of man's staple food is mainly due to hazards like pests and insects, excessive use of plastic, impact of urbanization, shortage of fertile soil and use of fertilizers resulting not only in reduced supply but also the subsistence framers and marginal farmers being unable to raise other resources with their own production, its direct effect being their adopting alternative coping strategies like encroachment upon the forest and fallow lands and being forced to migrate as a long term effect, as shown by the findings of the Study.

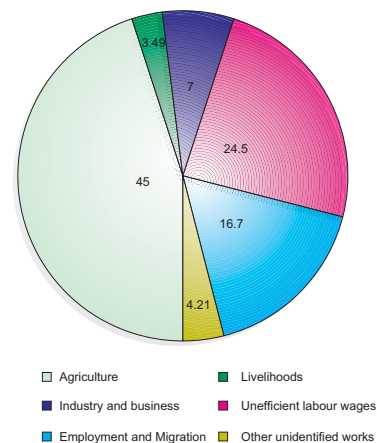
### B. Perceptions Measurement of Livelihoods Strategy

In course of the survey and discussions with the targeted groups and local people it was learned that in comparison with the previous years remarkable changes had taken place in the livelihood strategies adopted at present by people for their living. The facts were found that the numbers of people taking up non-agricultural professions and going for overseas employment had significantly increased. The list of the livelihood strategies pointed out by the participants also at the discussions is given in Box # 8. Taking the same list as the basis and

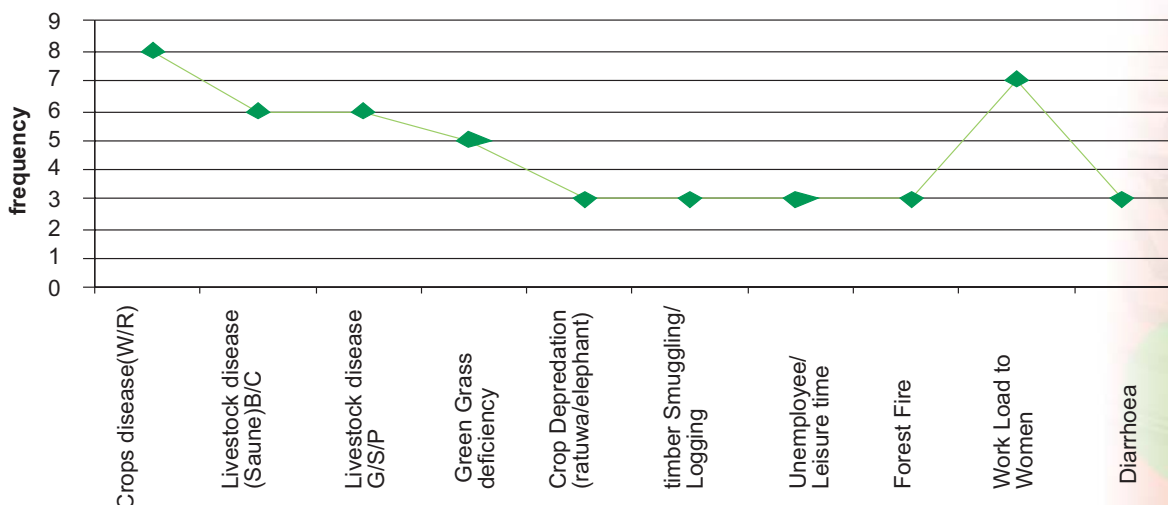
focusing on the activities to be started and the human resources it was prioritized and re-classified, which is given in Chart # 11.

As shown in Chart # 11 above, diversity is found in the livelihood strategies of the users of the Lamahi Bottleneck area and according to which the main strategy of 45% houses for their living is agriculture whereas for 3.49 % houses animal husbandry is the means of living. 6.5 % are engaged in business and industry while 24.5 % are engaged in business and industry while 24.5 %

**Chart 11 : Situation of identified Livelihoods Strategies**



**Chart 10 : Frequency Measurement of Livelihoods Issues**



### Box 8 : Locally Identified Livelihood Strategies

- Agriculture/farming
- Cash crop, non-seasonal vegetable farming
- Fruit farming and processing
- Retail shop, small scale industry and trade, and small business
- Unskilled wage and daily labor, farm labor
- Livestock, dairy business
- Goat keeping, pig keeping, sheep keeping, poultry
- Annual wage servant, pasturing laborer, pasturing on wage
- Carpentry, masonry, iron-smithy, painting (on semi-skilled basis)
- Fish farming and fishing
- Nursery management, seedling sale, seedling growing (nursery of fruit, cash crop, precious medicinal herbs, forest products and sale)
- Making Eleusine indica ('babio'), thatch, reed ('nigalo'), bamboo, cane, screw pine products and sale
- Health worker, private clinic, fee paying health center, fee paying veterinary center
- Going abroad, remittance, and employment
- Going to India, seasonal and under-employment, temporary employment
- Community and socio-culture leadership eg' 'agharía', 'bhalmansa', and priestly functions
- Politics, social service, local voluntary service, leader-like posturing ('netagiri')
- Rickshaw, vehicle business, driver and transport labor
- Medicinal herb and forest product farming, trade, and processing
- Hotel, lodge and mobile shops (Ghumti pasal)
- Bee-keeping, honey processing and sale
- Firewood collection and sale
- Smuggling timber, firewood, medicinal herbs and illegal sale

households earn their living by working as unskilled laborers, farm laborers, and so on. Similarly the occupation of 16 % houses is to go abroad and send remittance; doing service and other jobs while 4.11 % households demurred disclosing their occupations

An overall analysis of the abovementioned strategies of livelihoods shows that most of them are based on natural resources, especially agriculture and forest. A hidden reality is that most of the agriculture-based strategies of farmers are simply subsistence-oriented. In other words they have no savings from agriculture.

Therefore even to tide over a minor contingency or meet a small expenditure they either take loans at stiff interest rates or depend on the forest or similar other resources. Therefore they try to overcome the problem by placing heavier workload on women and children, sending the children to work as annual-wage laborers, pasturing laborers or domestic help; borrowing from money-lenders at high interest rates, and so on. For that reason from the outside although many people are seen to have adopted the agricultural occupation it is found to put unseen pressure on the resources of the forests and biodiversity.

The household survey finding also shows that their next main occupation is unskilled labor. Similarly, in course of the discussion it was learned that for the cash to meet even a very small need they have to fall back on natural resources or on money-lenders. That the main source of their cash earning is other than agriculture confirms that the occupation of agriculture is only for bare subsistence. From this it can be concluded that although for most of the people agriculture is the main occupation their supplementary occupation is wage labor. This confirms that it has put the livelihoods of most of the small farmers and users at risk and rendered them vulnerable. Therefore keeping in view the likely impact of their underemployed time on the resources of biodiversity the necessity is felt that the strategies of their livelihoods should be diversified by creating opportunities for income generation.

### C. Perceptions Measurement of Livelihood Resources

Looking at the position of the livelihood resources, considerable changes have appeared from before the commencement of the project to the present, especially in the social and cultural sectors great changes have been noticed and which were evaluated taking the following matters as indicators, e.g. spontaneous participation of



the users in conservation efforts, organizations and agencies, Mothers' Groups, saving & credit programs; women, farmers', users' groups, and income generating groups established and run for social and community interests. For achieving their set goals the distressed, ethnic and indigenous people, the downtrodden and marginalized ones, the groups deprived of the minimum social services and facilities, and so on are also found to be getting more and more united and organized. Similarly public/general auditing, presence at the CFUG's general assembly and annual meetings and their stakes in the issues concerning the community forests appear to be more meaningfully, forcefully included than in the past. Therefore, upon measuring these indicators in an integrated manner the changes that have taken place in the social resources have been remarkable.

According to the perceptual evaluation of the local users another changed resource for livelihood is the human resource. The essence that emerged from the discussions is that mainly in the past years the speed at which social and local organizations got formed due to the conflict gave them the opportunities to be involved with them and acquire different kinds of technical and political skills. In the process people put forward issues like their rights, struggle for survival, racial/national/caste identity, developing necessary skills for inter-harmony and so on. As a result of that people gave greater support to human resources as essential for livelihoods in this sector. Similarly the social mobilization and public awareness-oriented activities of the various organizations and agencies also remained restricted to assembling people, conducting training and seminars, and inculcating skills of leadership development. Similarly in the recent years support is found to have been extended at the private level to the operation and establishment of technical schools, organizations and agencies. Among the main indicators measured under this category (human capital)

#### Box 9 : Economic Resource Indicators

- Establishment, collection and operation of user groups' monetary fund and saving growth
- Increase in opportunities for income generation, enterprise, employment, production and processing based on forest products
- Business, industry, investment opportunity, raw material, setting up small scale industry, retail shop, trading mart, and so on
- Foreign earning, remittance, job, pension, local employment opportunity

#### Box 10 : Social and Cultural Resource Indicators

- People's spontaneous participation in development activities, forest conservation
- Establishment and operation of formal and informal groups and organizations, and providing services
- Local saving and credit mobilization groups, Ama Samuha (Mothers' Group)
- Representation and participation of Dalits, distressed and ethnic groups, women and deprived groups, and hearing of stakes
- Good governance, public hearing, and participation

#### Box 11 : Human Resource Indicators

- Training opportunities and trained people
- Local woman leaders and leadership development; literate, educated and trained Dalits and women
- Women and Dalit groups engaged in cash income, engaged as a form of underemployment, and cash generating activities
- Number and proportion of school going-age children, youths' participation in higher education, eco-clubs

#### Box 12 : Physical Resource Indicators

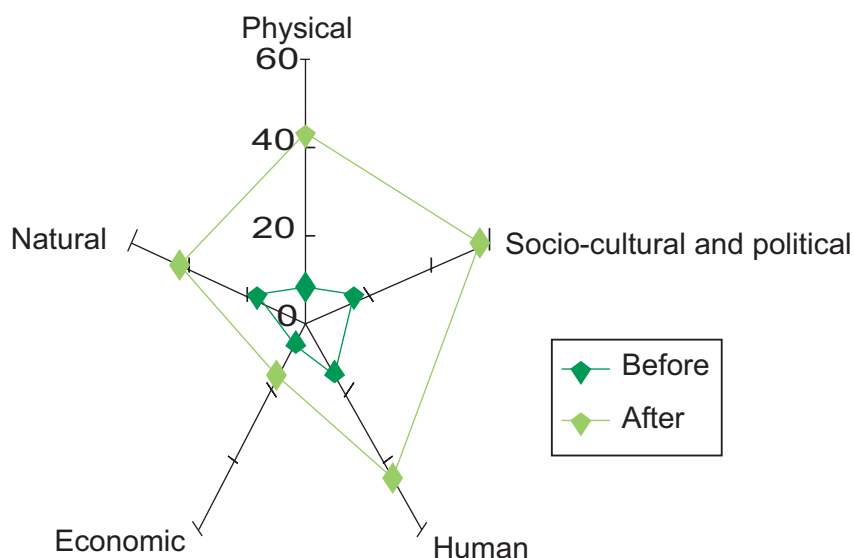
- Reinforced, cemented houses and cattle sheds
- Reinforced toilets
- Community infrastructure, roadside resting platforms, community buildings, schools, sewerage, graveled/coal-tarred roads, club buildings, care centers
- Means of alternative energy
- Private residential schools

### Box 13 : Natural Resources Indicators

- Nursery establishment, number of CFs, coverage, groups, participation in conservation activities
- Density of forests, coverage, growth in the greenness of private, national and community forests
- Observation of main species: elephant, deer, python, bear, leopard, boar etc
- Forests and nurseries under community management, availability of fodder grass, firewood, provision for pasturing

included training based on forest and other biological resources; persons who had acquired skills ; agriculture, health and other technical hands; literate women; women leaders and their presence in social activities, stake holding and their leadership in resource management; their presence in organizations and agencies in decisive roles and so on; and also houses sending children to school; the proportion of school going boys and girls, child labor, and so on. The indicators included in all these processes have been separately mentioned in Box # 9 to Box # 13.

**Chart 12 : Changes in Livelihood Resources**



This extensive study on the achievements in livelihoods shows that considerable changes have taken place in the living standard, day to day activities and the various aspects of the livelihoods of the local inhabitants of the Lamahi Bottleneck area, in other words, of the community forest users as a whole. As changes in the livelihoods most of them appear positive, but from the point of view of biodiversity some of these changes appear negative also. These changes can be attributed to various factors like the past political atmosphere; exercises at the professional, commercial, community-based, cultural, political and organizational levels for social security; along with the changing economic and political values and people's thoughts and behaviors; struggle for the resources for livelihoods and search for the wish to live; development of novel ideas; strategies for livelihoods; opportunities for livelihoods based on resources, mainly community forests; expansion of groups and organizations; professional, commercial and community service-oriented organizations and establishments started in the private sector; transport; market; privatization; extensive changes in communication; and so on. Therefore taking the resources of one and only one community forest and the ongoing involvements in that as the basis cannot be universally acceptable. Similarly as the external motivating factors like different programs, projects, social mobilization at the government and non-government levels, the value of authority-oriented concepts, rapid political awakening and so on have been equally contributive. Moreover, community forests,

coordination committees, users' federation, local level awareness-orientation programs, the commitment of the local leadership to conservation and promotion, and so on also have been helpful and remarkable to the same extent. Conclusively, the two main dimensions of the changes that have taken place in the livelihoods of the inhabitants of this area are the

- i) changes in institutional management capacity and
- ii) changes in people's wellbeing status. These can be outlined in the following points:

#### ■ Diversity in the Living Standards

Looking at the earning trends of the community forests in the past 3 years comparatively great changes have taken place in the prosperity of the users under those forests which have high earnings. Similarly the community forests with high earnings appear to have their other physical infrastructural aspects in a better shape, the office buildings of most of those community forests have reinforced toilets, drinking water facility and so on. For these reasons it is evident that the Program has been effective and that comparatively there were less management difficulties. The indicators of the community forests with still higher earnings also appear better than those of the others; compared to the others the Forest Guards (Ban heralu) serving the community forests with high earnings own their lands, however small, still enough to support for at least 4/5 months while even those with no land of their own are

also found to be carrying on, as a supplementary occupation, other small enterprises based on forest resources. Even if working as wage laborers they are found to be more engaged in forest resource-based activities. They are found to own their own houses, even if not reinforced, having the toilet and drinking water facilities, and land holdings, although quite small. Similarly the changes in the users' basic needs; biogas installation; convenient toilet construction, access to improved drinking water and education; opportunities for capacity building; representation and participation in groups, organizations and committees; diversity in supplementary strategies for livelihoods; and reduced dependence on the agricultural occupation, and so on are found to be the changes that have taken place in the livelihoods and living standard of the people of this area.

### ■ **Integrated Family Support and Social Harmony**

Another good feature that emerged from this study-survey is that the other family members of most of the Community Forest Guards (Ban Heralu) take turns on duty, when ill or under great pressure they were found to get relief. It clearly shows that the other members of the Community Forest Guards' families are glad about this work and that they are satisfied with the profits accruing from the community forests. If any tangible deeds are to be done for improvements in livelihoods those should not be for individual needs but for the whole house taken as a unit, and all the family members participating in the conservation efforts also make those efforts effective. The representatives of most of the houses are found to have got the opportunities for at least one of the skill development trainings and representation while it was learned in course of the discussions that the improvements noticed in the loan, credit and necessary social cooperation are because of the linkages with the CFUGs.

### ■ **Employment Opportunities and Means of Cash Earnings**

From the 29 community forests under their management 10,387 houses have been directly or indirectly deriving some opportunities and profits on a regular basis. 27 community Forest Guards and 11 office secretaries have got employment directly, while their nearly 200 dependants have got opportunities for their living out of that. This statistic also shows, as reported by them, that the employees serving the Community Forests have seen a big difference in their present life as compared with their past life. Opportunities for reducing underemployment have also been arising, mainly in livestock keeping, vegetable farming, goat keeping, forest-based employment, wage earning, and so on. Of late opportunities for processing mentha, cane bamboo, asparagus, wood-apple etc have also been helpful. In the same way changes in the people's opportunities for employment, whether short, part time or full time, have come about from the growing urbanization in Lamahi, Bhalubang and along the national highway; construction of cemented, pillarsystem houses; residential private schools; gravelling of the approach roads to the Community Forests; demand for fodder grass, 'babio' (*Eleusine indica*), and firewood; consumption of electricity from the national grid; biogas; and increasing number of people applying modern means of communication and energy (rice cooker, LP gas, VCD, Bike etc).

### ■ **Enhanced Social Prestige**

In course of the discussions most of the community forestry users groups and representatives of the user groups reported that through the opportunities created by their community forest management many people have begun to recognize them and also others like them; that they have got opportunities to interact with and be introduced to people from other offices; and that the reputation and

selfconfidence, especially among the community forestry users groups and women, have increased.

#### ■ **Desired Outputs from Minimum Investment**

The above statistics show that the Lamahi Community Forest Coordination Committee has been able to provide maximum livelihood and environmental services with minimum investment through the members associated with it. They have remained more sensitive to the institutional stabilization of the Community Forest than of the Forest User Groups.

Similarly, the maximum mobilization of the CF's earnings is found to be done for repeat forest stabilization and management, creating livelihood opportunities, developing partnerships and institutional empowerment; and in comparison with the investments made by other projects or the government it is considered to be remarkably low for the returns derived.

#### ■ **Social Inclusion**

The users of the community groups also could not remain untouched by the effects of the strategic changes that have taken place in the promotion and sustainable management of the community forests in this bottleneck area; the basic objectives and values of the TAL Program coupled with the changing sociopolitical challenges. This is the result of the representation issues of the different minority indigenous and Dalit groups raised by the local requirements, diversity-oriented social makeup and mixed social structure, and the efforts put in by the TAL Program for good governance, tools, techniques and vision mainstreamed in community forest management practices through different events such as public auditing, social auditing, women participation and representation in key positions and executive body, organizing public hearing and auditing etc. Today most of the user group structures have women, indigenous and ethnic people in the majority. However it is no situation for

complaisance because still the issues of the representation and participation of the Dalit class, equitable access to the distribution of the profits, empowerment of such minimal income groups, and equitable distribution of the opportunities pose future challenges.

Considering the present state of the findings of this Study and making a comparative analysis of the investment made by the community forestry users out of their earnings for improving the livelihoods of the local inhabitants it is found that 52 % of the investments have been made for various livelihood opportunities, physical infrastructure, social services, alternative energy, income generation, capacity building and conservation of the human resources. They are sensitive to the livelihood issues. The fundamental challenges for now are: For whom are these livelihood opportunities, To achieve which goals, How is it being passed on, For the needs of which groups, and Which group has been benefiting. An orderly system needs to be evolved for this. Through that transparency can be shown to the user group, as it is expected to show transparently that the groups looked down upon by the society and those deprived of the profits have benefited.

#### ■ **Contribution to Poverty Reduction Strategy - PRSP/MDG/Social Condition Measure (Sall Measures)**

Upon making a comparative study of the figures of the changes in achievements as shown by the study and analysis so far, certain features like the changes that have taken place in the users of the convenient toilets, biogas and improved cooking stove; access to education; participation of women and distressed groups in social mobilization; various opportunities for their empowerment; access to small scale finances, the number of those living in reinforced houses; access to improved drinking water; presence of food security etc; and in the social roles of the



indigenous people and women; institution of the values of good governance; opportunities for participation and representation in societies, groups and organizations etc; in the diversification the income generating resources have undergone; and the number of households sending their children to school, and so on give the feeling that support has certainly been lent to the poverty alleviation strategies adopted by Nepal (see Table # 2). As it is, characteristically the fundamental objectives are to bring about sustainable conservation of biodiversity, the meaningful and active participation of the local inhabitants, and the availing of its achievements, it has become oriented towards poverty alleviation strategies, thanks to the combined results of the activeness of the

local user committees, groups and users etc and the role of the TAL Program as a facilitator and the main provider of financial and technical assistance, and so on. In addition to that a thorough analysis and study yet remains to be done of the imperceptible contributions made by it, e.g. the contribution to health through the use of biogas and improved cooking stove, especially the changes in pneumonia, asthma and women's household chores; the benefits from the provision of convenient toilet and improved drinking water in controlling diarrhoea, high fever, worms, dysentery; the community and environmental health services provided by the community forests; the reduction of nature-caused hazards; the fund swell from institutional and individual capacity building.

**Table 2 : Indicators of Achievements Contributing to Poverty Alleviation and position of Lamahi Bottleneck**

Descriptions	Units	Result (%)	
		Lamahi	Nepal
<b>Health: (health, nutrition and sanitation)</b>			
% of HHs with food sufficiency greater than 6 months	HH	69.9	
% of Population with sustainable access to an improved water source	HH	96.1	
% of Population with improved toilet facility	HH	38.3	39
<b>Political Empowerment</b>			
% of HHs with legal access to forest resources	HH	10387	
Number of CBOs managing natural resources	CFUG	31	
% of indigenous people (IP) in CBO executive committee	Person	72.33	
% of Community Forest Executive Committee members who are female	Person	35.47	
% of women in key positions of CBO related to NRM- executive committee	Person	16	
% of HHs having legal access/involved in more than two CBOs/groups	HH	64.1	
<b>Education and Awareness</b>			
% of school aged children (6-16) regularly going to school	HH	90	
<b>Economic Well-being</b>			
% of bottleneck forest under sustainable management mode (CFUG)	Hector	75	
% of permanent households	HH	34.6	
% of HHs having of biogas plants	HH	22	
% of HHs with access to institutional credit	HH	54.1	
Revenue from conservation-based economic activity (FY)	NRS	3333120.35	(29 CFUG) FY 2061/62)
% HHs having income source from Remittances	HH	27.5	

### ■ **Evaluation of contributions made to non-forest sectors**

Of late the role of the user groups engaged in forest management is found to exceed the limits of forest management. The remarkable examples are, thanks to the presence of resource persons possessing various kinds of skills and expertise and the involvement of various castes and tribes, ethnic groups, Dalit and Madhesi groups, linguistic and other groups the earnings from the forest management are also being invested in temples, *gumbas* (monastic buildings), centers of religious faiths; welfare buildings and group capacity building; culture promotion for national/caste/community identification; school building; maintenance; construction; community building construction; travelers' waiting rooms; income generation; partnership in establishment of small scale industries; opportunities for capacity building; scholarship provision; various equipment being given to schools, clubs and others; capacity building for collecting resources for development constructions in coordination with different projects, communities, donor agencies and the concerned agencies of the Government of Nepal. Similarly the market management for local productions, small scale finance programs, cooperative arrangement, and so on can also be taken as other examples.

### ■ **Opportunity for social transformation**

Developments like social unity and the feeling of 'ours' rather than 'mine' over ownerships have come about, thanks to the exercises like involvement in community forest management that provides opportunities, including opportunities for capacity building and personality development; representing the society; identifying local strengths and exchanging skills, ideas, capacities and experiences between them; and despite all the differences of opinions vast changes in the availing of opportunities for social coordination

and livelihoods have been noticed. For example, the capacity of women, who had been lying dormant and dominated upon, is found to be reflected, however sporadically, in the working plans. Similarly the opportunities for livelihoods targeted for the Dalit and marginal farmers, youths' eco-clubs, and the participation in environment conservation should also be taken as examples of social transformation.

## C. Upcoming Challenges

### ■ **Means of Marginalized and Subsistence Livelihoods**

Since the food security of most of the community forest users (60 %) is not even for one year its impact on the community and national forests is bound to be there in the coming days. Therefore the strategies for and identification of the alternative sources of income, and maximum income out of minimum resources and main income from the available profits for supporting life appears to be agriculture, but the title over cultivable land being minimal or at the subsistence level their strategies for coping with livelihood are also full of diversity. Therefore, for their domestic food supply and secure livelihood it appears that priority should be placed on involving them in the vacant land and other non-timber products, small scale industries, and the medicinal herb cultivation and so on available in the forests which are being conserved by them. As it is now observed that the policy of some Community Forests are less for conservation and proper use than for saving and not using them, livelihoods of some users or marginalized farmers who are dependant on the forests for their daily needs are found to be vulnerable to being denied access to the nearby conserved community forest. This statistic is also confirmed by most of the respondents not wishing to disclose the sources of their fodder grass and firewood.

### ■ **Law Enforcement and Control of Illegal Logging, Poaching and Encroachment**

Upon analyzing the experiences of the local user group representatives, Forest Guards and committee executives their urgent challenge was their inability to provide timely, essential and effective service because of the shortage of necessary equipment like bicycle, torchlight, raincoat, jungle boots, *khukuri* or big sickle for protection, plastic rope, storage for confiscated goods, safe and organized *kanji* house [a temporary shed where stray animals are confined. The owners are fined before their respected animals are given back to them], searchlight and so on. Moreover, because of this transitional period and intense political situation it has become difficult for them to realize the imposed fines, execute punishments, make actions effective, and dare nab and testify against big log smugglers; and it was learned from the discussions that they have to confine their capacity to confiscating sickle and load carrying band 'namlo', issuing tickets and stopping pasturing of cattle.

### ■ **Workload on Women and Children**

An outcome of the discussions with the users and spot survey-study shows that the workload of women and children has increased. In addition to their regular work they have to face the challenges of their social and political roles, and almost 10 of the households with children of school going age being unable to send them to school does not show that theirs or their children's workload decreases. Although women's vulnerability and workload may appear to have decreased with the use of biogas, improved cooking stoves and toilet they reported at the discussions that in the changing circumstances their workload has increased

because of their involvement with many organizations and agencies; changes in their social roles; again and again having to attend meetings, trainings and workshops; women being sent to attend non-allowance paying workshops; having to feed cattle which are reared by every house; and having to participate in extra activities. Similarly, since there is no sharing of regular household chores also their workload remains as heavy as ever.

### ■ **Limited knowledge about Community Forestry, TAL Program, Goal, Biodiversity Conservation**

Although the survey statistics show most of the households being associated with many organizations and agencies very few of them have got opportunities for attending training seminars. Moreover, although there is some idea about it at the institutional level or with the group and committee office-bearers it is minimal at the household level. It is evident that most of the households need to be more aware about the role and responsibility of the coordination committee, the objectives and procedure of the TAL Program, the regulations governing community forests, good governance, and the citizens' rights, duties and roles. Therefore in this connection programs need to be conducted for providing education in conservation and raising awareness by using various modes of communication at the local level. An outcome of this Study shows that most of the users, Forest Guards and users' committee office bearers neither undergo any relevant technical training nor get any opportunity to acquire formal knowledge. Although many community forests have high incomes and investments it is felt that importance be given to developing the personality and capacity of their office bearers and Forest Guards.

### ■ **Food Deficit and Vulnerable Life**

That almost 60 % of the households cannot provide for the whole year and agriculture is the main occupation for the livelihood of almost 45.5 % households shows that their livelihood is subsistence-oriented and there is diversity in their strategies for livelihoods. As the employment opportunities for laborers who have marginal arable land, and who are dependent on farming, are not much they are compelled to migrate seasonally and to be attracted to non-farming jobs. The livelihood of most of such families who are dependent on farming is not risk-free, even to meet a small contingency they are found to take recourse to other means and so have to sell food grains, mortgage land, over-exploit natural resources or sell cattle. On the whole what it shows is that their capacity to cope with risks is very small. Therefore for 60 % of the households the produce from their land and their regular earnings don't suffice for the whole year's livelihood. Therefore in addition to this occupation they also have to take up other strategies of livelihood. Their productive land also being too small it is necessary to adopt measures for enhancing their working skills. As most of the inhabitants don't even have toilets in the house and they use the open ground for this purpose and some of them have ordinary and unsafe dugout toilets in the house it is obvious that they are leading a risky and harsh life. The daily life of the local inhabitants engaged in community forest conservation being itself unsafe it is felt that they are not being able to lead even a minimum quality of life that the community

derives. Therefore it is essential to implement measures to motivate them, include them in the target group and facilitate their participation.

### ■ **Disparity between Demand and Supply**

A comparative study and analysis of the available statistics shows that the per Forest Guard share of households is 412, per user house the average number of domestic animals is 6, and most of the user houses pasture their animals. But as for 'where' they don't wish to disclose. Almost 50 % of the communities' forests have not allocated land for cattle grazing either. Instead some community forests have totally banned cattle grazing. Although 16 % of the households have been fetching fodder grass regularly from external sources they didn't want to disclose the sources. About 28 % of the community forests have not even permitted fire wood collection from their forests. This substantiates that they are dependent on banned community forests, national forests and other nearby sources. This fact further shows that the demand and supply are mismatched and that the emphasis is more on saving than using properly. It is evident that this mismatch between demand and supply puts pressure on the other nearby community forests, national forests; aggravates social conflict and tension; and increases surreptitious fetching making it hard for the Forest Guards to control that. What they say confirms that among the biggest challenges having to face are unlawful grazing, surreptitious fetching and forest encroachment.

On the basis of the above summarized conclusions and the challenges pointed out it is suggested that the following functions be implemented.

- Carry out resource management and conflict management activities in community forest area.
- Establish entrepreneurship and enterprises based on forest, agriculture and non-timber products.
- Initiate integrated animal healthcare, development and management activities.
- Formulate strategy paper on identification of landscape-level human induced and nature induced risks and their mitigation.
- Landscape population management and development, extension of health and ecosystem-related programs.
- Extension of poverty alleviation activities (toilet, biogas, micro-finance services, empowerment, drinking water, health, education, small scale enterprise, income generation, policy reform, and good governance).
- Study-research activities: Efficacy of Improved Cooking Stove, Study of migrating species, urbanization and fluctuations in abundance of biodiversity.
- Full compliance with and establishment of the values of good governance procedure.
- Information and communication/publicity: Role of other development constructions made in community forest users' groups, contribution made to poverty alleviation and study of its leading role in social transformation, publicity of report Begin insect/worm management and development program.
- Provision of minimum equipment for Forest User Groups' empowerment and development of their efficiency/effectiveness.
- Priority to institutional cooperation, short term loan, biogas, high breed livestock keeping
- Corridor to partnership with high earning Community Forests
- Different levels of technical trainings to users, representatives and Forest User Groups for their working skills and capacity building
- Provision of institutional appointment letters to Forest Guards (Ban Heralu) and employees with specified job descriptions and responsibility.
- Priority to groups identified for Low cost toilet, fresh drinking water, and scholarship. to deprived children
- Allow users to avail of firewood and fodder grass for a fixed duration in order to reduce workload.
- Allow deprived groups to cultivate vacant arable land in concerned community forests.
- Provide technical knowledge and skill for biological monitoring to Forest Guards and community forest users' group representatives.
- Analysis of supplementary strategies for livelihoods and programs based on that.
- Evaluation and research of contribution reaching out from this area (source) to other sub-areas, e.g., survey of the incidence of pneumonia, diarrhoea disease and worming infestation in houses using biogas, safe toilets, drinking water and improved cooking stove.
- Economic opportunities for proper use of underemployment time and leisure time.



Table 3 : Social Condition Indicators (Lamahi Bottleneck)

S.No.	Headings	Units	Magnitude	Remarks
1. Finding Summary (General)				
1	No of CFUGs Involved with Lamahi CFCC	group	29*	75%
2	Hectare of Bottleneck forest in Lamahi	Hectare	13543	
3	Hectare of Forest under community management mode	Hectare	10090.45	
4	No of HHs involved with CFUG under Narti CFCC	HHs	10387	
5	Average hectare of community manage forest to per HHs	Hectare	0.97	
6	Average no of HHs (CF guard) with per Ban Heralu	HHs	412	
2. Finding Summary (Natural Resource/Conservation)				
1	% of HHs having access to alternative energy devices	%	28.9	
2	% of HHs having access to Bio-gas energy plants	%	22	
3	% of HHs having access to Bio-gas with attached toilet	%	20	
4	% of HHs having access to L.P Gas (modern stove)	%	2.04	
5	% of HHs having regular efficient use of ICS	%	5	
6	% of HHs fetching fuel wood (once a week)	%	34.2	
7	% of HHs fetching fuel wood (daily)	%	10.9	
8	No of average livestock (cow, buff, goat, sheep) /HH	No	6.1	
9	% of HHs grazing livestock daily	%	48.67	
10	% of HHs solely rely on CF for Grass/fodder source	%	16.2	
11	% of HHs have sufficient grass from their own pvt. source	%	24.9	
3. Finding Summary (Socio-economic)				
1	% of HHs having access to safe toilet facility	%	38.3	(personal source)
2	% of HHs having greater than six months food sufficiency	%	69.9	
3	% of HHs enrolled their school aged 6+ yrs ) children	%	90	
4	% of HHs enrolled their children in English B school	%	16	
5	% of HHs have Pakki House (Reinforced, RCC, zinc roof)	%	34.6	
6	% of HHs having access to improved drinking water	%	50.9	
7	% of HHs have obtained capacity building skills/training	%	33.06	
8	% of HHs have access to micro credit (formal sources)	%	34.1	
9	% of HHs have major income source from Remittance	%	27.5	
4. Finding Summary (Institutional)				
1	% of CFUGs having their own Office Building	%	51	
2	% of CFUGs having Pakki (RCC/Pillar) Office Building	%	79.3	
3	% of CFUGs having Ban Heralu (paid CF guards)	%	37.3	
4	% of CFUGs having own office clerk	%	48	
5	% of CFUGs having allocated grazing land	%	75.9	
6	% of CFUGs having grass as major income source	%	51.7	
7	% of CFUGs having fuel wood as major income source	%	37.9	
8	% of CFUGs having timber as major income source	%	72.4	
9	% of CFUGs allow users regular fuel wood collection			

S.No.	Headings	Units	Magnitude	Remarks
<b>5. Finding Summary (Social Inclusion and Good Governance)</b>				
1	% of HHs that have members to at least two CBOs	%	64.1	(52.14 for Dev)
2	% of CFUGs that have female as chairperson	%	17.2	
3	% of CFUGs that have female as secretary	%	13.8	
4	% of CFUGs that have female as Treasurer	%	17.2	
5	% of CFUGs that have Dalit/Indegenous people as chairperson	%	44.8	
6	% of CFUGs that have Dalit/Indegenous people as secretary	%	55.2	
7	% of CFUGs that have Dalit/Indegenous people as treasurer	%	55.2	
8	% of CFUGs that have opened own Bank Account	%	93.1	
9	% of CFUG that organized Public hearings (PAPH)	%	79.31	
10	% of CFUG's income invested in forest conservation (for Last FY)	47.86	1595255.4	
11	% of CFUG's income invested in users' skill and capacity building activities	0.04	1390	
12	% of CFUG's income invested in Alternative Energy	1.35	45000	
13	% of CFUG's income invested in Physical Assets	19.99	666223	
14	% of CFUG's income invested in Community Services	21.42	713987	
15	% of CFUG's income invested in entrepreneurship dev	9.34	311265	
				<b>3333120.35</b>

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