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Sustainable Livelihoods

Understanding the Changes in Livelihoods Assets with Locals:
A Case study from Kanchenjunga Conservation Area Project, Nepal



Study, Analysis and Presentation

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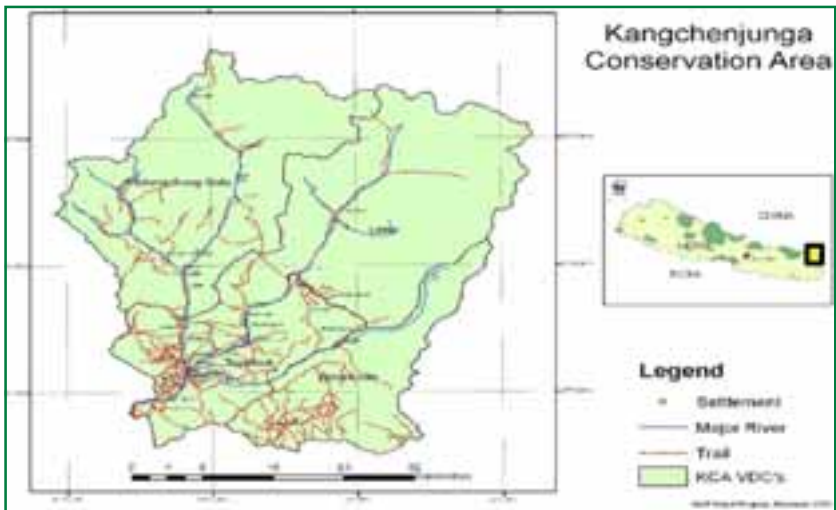
A Case study from Kanchenjunga Conservation Area Project, Nepal

Abstract: *The community based organizations in the upper mountain areas have a crucial role to play in conserving the natural resource base and its sustainable management. WWF Nepal's experience in capacity building and mobilization of local institutions for biodiversity resource management in Kangchenjunga Conservation Area shows positive results in changes of livelihoods resources for the local people. Besides conservation, local organizations have been gearing up in maintaining cultural integrity, enhancing people's capacity to transform natural resources into other alternative livelihoods resources and decreasing pressure on mountain biodiversity. Networks of such legitimate local institutions at different level and their participatory working nature would be a key to success in building livelihoods opportunities for people living in the upper mountain areas of Nepal. In this paper the authors attempt to explore the linkages between conservation and livelihoods through understanding livelihoods and changes in livelihoods assets. Similarly, the author also aims to document WWF Nepal's experiences in working with local institutions to transform and generate livelihoods resources-based economic opportunities and their linkages to conservation through biodiversity conservation in the Upper mountain areas of Nepal.*

1. Introduction

Kanchenjunga Conservation Area Project (KCAP) is an Integrated Conservation and Development Project (ICDP) implemented by the Department of National Parks and Wildlife Conservation (DNPWC) in Kangchenjunga Conservation Area (KCA) since 1998 with the technical and financial support of WWF Nepal. The major donors are WWF UK, MacArthur Foundation, Kadoorie Agricultural Aid Association and Darwin Initiative. For the past eight years WWF Nepal has worked in partnership with the local communities in KCA on local initiatives. From the inception of the KCAP, progress monitoring was confined to collecting information on the number of implemented activities and preparing a summary cumulative report. However, there is little understanding about changes in community perceptions, their attitudinal and behavioural changes towards conservation over time and how communities themselves define changes in their livelihoods, natural resources and quality of lives and environmental services. These changes have been accounted for only from an outsider's perspective. This is the first time that WWF Nepal used a new approach, a livelihoods perspective, in understanding local community perceptions about the changes in the quality of their lives as well as in the quality of environmental services. The findings of this effort reveal the facts about KCAP's efforts in enhancing people's livelihoods in the following areas: community coping capacity, vulnerability reduction, change in people's

SOURCE: WWF Nepal



perceived benefits and importance of conservation and its linkages to livelihoods. To explore the perceptions, a *Comparative Impact Assessment* was conducted using a Sustainable Livelihoods Approach.

2. Objective

The major objective behind asset change monitoring was to find out people's perceptions on changes in asset and their effect on the quality of life and natural resources available. Community understanding of livelihoods resources changes with the expectation that livelihoods benefits will be maximized and help to understand the linkage to address deprivation within conservation practices. However, some other expected outputs are as follows:

- Integrate tools and vision of sustainable livelihoods in program at inputs (policy, strategy, activity and resources) and outputs (impact, change in attitude and living status) level.
- To account for people's perceptions on asset changes and its impact on quality of life.

3. Methods/Tools

We used the Sustainable Livelihoods Approach (SLA) for assessing resource change in KCAP's coverage area. The workshop participants represented conservation area user committees (CAUCs) and user groups. Different relevant processes and participatory tools (see Box No.1) were applied to obtain information. Most of the informations obtained through this exercise are based on experiences, observations and perceptions internalized by the local communities. Similarly, all methods, tools and administration processes are linked with previously defined methodology. Each measuring and scoring indicator was defined by and agreed with participants. The group discussed on the measuring procedure, subject to be measured and how each change was to be valued. It was commonly agreed that five measuring indicators (see annex#2) for each resource should be measured. Similarly, the group again discussed about weighing and valuing scoring each resource. Indicator was scored based on discussions on the level of scores suited for each indicator. This method reduced dispute and encouraged a more accurate and appropriate weighing process based on common agreement. This also enabled a democratic process that ensured inclusion of all participants' opinions and agreement among themselves about the results and achievements of the project.



3.1 Process:

All participants (total of 48, among whom 20 were female and almost all were from local ethnic groups) divided into four different groups according to their respective VDCs (Lelep=1, Yamphudin=2, Tapethok=3 and Gola=4). Skill on weighing and scoring against the individual indicator was discussed and ensured whether they understood. One of the group members volunteered and filled out a sheet of paper under given information column. Before filling out the sheet, the participants were provided an orientation on the concept and definition of livelihoods resources, the role of resources in livelihoods framework and an energizer was also done to build rapport and open the minds of the participants for conceptualization. Further, this pentagon making game provided substantial opportunity to know each other. Further it showed participants what to measure and how to measure.

To validate the group discussion and find out its linkages with other resources and overall conservation goals, some other tools like Key informant interviews and specific group discussions were exercised. The rationale behind doing key informant interview was keeping in mind that residents could easily recall the situation of eight years ago and triangulate the delivered information and scored value. This exercise provided us very comprehensive and intensive information and sharing of the situation of that period. Only those people were selected who were actively involved at the early stages of the project. Perceived benefits analysis format was also administered to find out how people defined livelihoods and conservation benefits and how they justify themselves. The findings also shed light on the changes in resources and linkages to conservation that KCAP aimed in its Plan (See box#2)

Box No.1 Tools/methods used

- Focus Group Discussion, Presentation
- Learning Games
- Key Information Interview
- Ranking/Scoring and Prioritizing Format
- Weighing/Valuing Format
- Asset Analysis Format
- Perceived Benefits Analysis format



FIGURE: 1

Sustainable Livelihoods Assets: Participatory Perception Analysis Process

Step 8. Report Preparation and Sharing with Network

Step 7. Preliminary Asset Analysis: analysis of information, comments review and graph illustrations development

Step 6. Final Discussion: MoV, comments on remarks and Validation with each group cross-sectional regarding valued scores

Step 5. Group Discussion and Exercise: Value and scoring according to their on perception, how they define changes in asset and how to measures, maximum and minimum scores for asset changes and conclusion

Step 4. Decision and Common Understanding: Agreed on what to measure and orient how to measure according to measuring frame, Identified and make common agreement on indicators

Step 3. Setting Agenda: Discussion and setting agenda for discussion, what community would like to know about changes, categorizing in groups, how to measure, what would be the measuring factors?, discussion and brainstorming

Step 2. Rapport Buildings: entertaining games, issues discussion, free cross sectional discussion, understanding the scenario and knowing each other better

Step 1. Conceptual Orientation on SLA: What does it mean components, assets, vulnerability context, policy, institutions and process, outcomes, strategy, framework, influencing factor and role of SLA in conservation practices?

tilled house versus a thatched house and a wooden bridge versus steel-decked bridges as measuring evidence under physical resources. Similarly, presence of vegetations, volume of water in river and springs, observation of indicator species (Red Panda, Snow Leopard) and its faeces, habitat, fetching wood, grass and grazing; complain against frequently crops, livestock depredation etc were kept under the natural resources. The value judgement is based on their own observation, practice, group discussion solution and perceived benefits. The result is totally based on qualitative responses that narrowed down and reflected through commonly agreed criteria into quantitative forms. This agreed criteria and tentative indicators development become very useful and widened their understanding of how to value and score under specific criteria and indicators. atfP.

4. Limitations

It is the first time in KCAP that WWF NP used Sustainable Livelihoods Approach (tools) for impact assessment with own human resources. However, the following limitations are to be considered:

- *Limited Time (Group work, discussion and Validity)*
- *Self Assessment (Scoring and Valuation/weighing by Use)r*
- *Process-oriented (Tools/Techniques developed & used during training)*
- *Comparative analysis with Time Horizon (Before/After) Method*
- *Completely based on qualitative data (Verbal responses) that quantified based on participants weighing score*

5. Results

5.1 Physical Resources:

Physical resources were categorised in different forms but the group concluded focusing only five measuring indicators for impact and changes. Since there are other organizations/programs (Remote Area Development Committee, Mechi Hill Development Program, District Development Committee, DFID/Community Support Program) who have also contributed to community, especially in physical asset building, it is very difficult and rigorous to distinguish that only KCAP contributed to change in physical resources as well as makes an impact on people livelihoods. But the significant role of KCAP cannot be ignored. The major inputs in this category were infrastructures (e.g. road, community house, bridges, alternative energy devices, toilets, drinking waters, day care centre, school improvement,

Health Post renovation, house improvement, NTFP collection centre, monastery, improvement and furnishing of conservation area user committee buildings). According to the users of these physical assets, the major outcomes of use and implementation of those assets according to them, resulted in reducing changes of vulnerability, time saving and improved access to other resources. For example, improvement/conversion of a wooden bridge to a steel-decked bridge reduced people's vulnerability and the consumption of timber, saved time and increased frequency, mobility and access to surrounding forest and species with heavy loads and number of people at one time while walking on bridge. All these inputs increased users' efficiency and created opportunity to increase their well being intangibly. Community managed physical resources contributed to conservation and more efficient use of natural resources. Similarly, the time saving devices and infrastructures enabled women to take on socio-political and community managing role. Moreover, the end effect of this assets building provided the opportunity for generating household and institutional income, securing of household and institutional property and re-use in community mobilization. All these benefits and opportunities eventually led to reducing vulnerability of the locals, including target groups defined by the project.

If we observe the findings of physical assets, there are significant changes in use and management of alternative energy devices and community infrastructures. The majority of households are using these services, which saved their time and resources and contributed to building social assets and conservation practices. This is also proved by other triangulation outputs "*perception*" and "*perceived benefits analysis results*". Similarly, installation of alternative energy devices contributed significant savings of local fuel wood (malingo- dendrocalanus) consumption that contributed, according to local defined linkage, to saving of Red Panda's foods/habitat (Malingo-dendrocalanus). Similarly, change in house type (zinc roofing, cemented-stoned) also contributed to reducing consumption/use of Malingo and other timber that most of the households in that area used for roofing and fencing. According to discussion, they established linkages by illustrating its contribution to timesaving, reducing drudgery and workload and other vulnerabilities which indicate to us the benefit of a better quality of life. Changes in community infrastructure intangibly contributed motivation as trade-off to targeted community. It was learned that installation of community infrastructures during the last eight years and its transparent working modality fuelled the building of social and human capital which can be



illustrated as an increase in mobility, organized groups and mobilization, women groups mobilization and formation, increasing women's leadership and changing traditional role, increasing participation in local opportunities, etc. One of the crucial impacts of these inputs is its multiplier effect on other assets.

For example, improving a wooden bridge to a steel decked bridge provided durability of asset, reduced vulnerability, increased access to near by forest or land and increased people's mobility. Similarly, the community house or day care centre had a similar kind of multiplier effect that contributed to increasing or mobilizing other assets. So the impact of such assets may not be confined within services generated from such inputs.

Figure No. 2 a

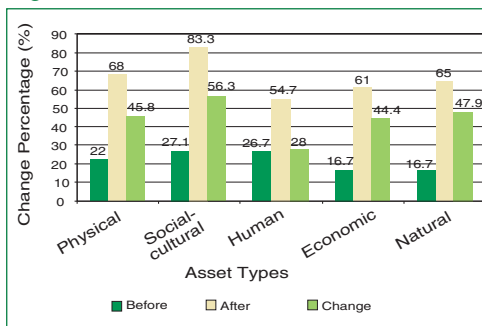


Figure #2 a and b indicated that the priority of the majority of the people in project interventions is mostly physical infrastructure and human capital enhancement. This self-scoring and valuing exercise enabled them to identify the focus in coming year. Similarly, at the same time, they also realise that there is limited intervention on conservation based economic opportunity, which is most important for securing resources in high mountain areas. Disguised employment and subsistence employment are major constraints in sustaining people's livelihoods.

5.2 Socio-cultural Assets:

Besides the current fragile political scenario, the KCAP has significantly built/maintained the socio cultural resources, which is a challenge for other development sector. Though there were some indigenous and informal institutions that were in existence during the project inception period, KCAP strengthened and organized those informal and inactive institutions by promoting their role and participation in cultural, social and natural property conservation.

It can be assumed that the social network in KCA has been strengthened through strong community mobilization by KCAP. If we observe the data in



segregate, community functional status is significant. Community participation, group formation and functional status are some examples that invisibly contributed to mobilize other livelihoods assets and conservation programs. Similarly, some other results are community leadership in conservation, mobilization of project induced resources, fund raising, trade-off and negotiation with local partners and project staff, influencing authority and participation in program planning and designing and initiation of income generating activities. Similarly, community user group formation and mobilization, in long term perspective, contributed to empowering them to assert control and access over natural resources and manage social grievance, strengthen relationship among communities, projects and local functional institutions, mitigate current conflict led impacts, provide mental and psychological support to vulnerable households, and build community's coping capacity.

5.3 Natural Assets:

Significant changes can be observed under the natural assets category. The group measured this asset from five different categories that included fertile land coverage with fruits, cash vegetable, dense forest coverage (based on their observation and practices), wild animals and key indicator species (snow leopard and red panda). Respondents from Olangchung gola and Tapethok VDC frequently observed snow leopard and those from Yamphudin and Lelep observed red panda. Sightings of other wild animals have increased, as is evidenced by frequent depredation of crops and livestock. Similarly, shrub grassland, density and greenery of forest have also increased. Coverage of vegetable and high value fruits indicates people are diversifying their livelihoods to include cash and high value vegetable and fruits. Increasing migration of labour forces for economic opportunities abroad resulted in remittances. The project supported the local communities through high value vegetable and fruits, investment in human



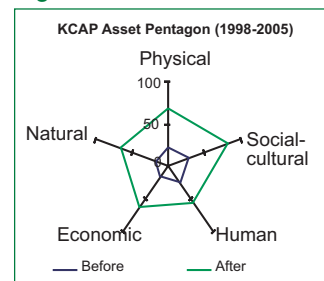
resources as well as technology transfer to local farmers to capitalize upon land fertility and land productivity. These efforts invisibly contributed to reducing in-house food and economic insecurity.

During the discussion with beneficiaries, it was learnt and observed that people's grievances against crop and livestock depredation has decreased but KCAP still has limited resources to initiate appropriate, affordable and acceptable community-based crop depredation compensation mechanism to vulnerable communities. Similarly, there is need of long-term preventive measure to cope with shocks and stress, e.g. untimely losses of major crops and productive livestock depredation. While increasing fauna including snow leopards is one of the major aims of the project, it has also to deal with the increasing vulnerability of the people. Therefore KCAP should mainstream strongly people's coping capacity through different vulnerability mitigation measures.

5.4 Human Assets

Enhancement in human resource is one of the significant investments of KCAP, which has contributed not only to improve the skills, knowledge and life sustaining capacity of the local people but also built their capacity to negotiate, advocate and integrate underlying indigenous knowledge for better conservation practices. Furthermore, it has contributed to building quality leadership in conservation, negotiation skills, literacy status and delivery of skilled labour force to the community. Contradictorily, massive migration of youth and skilled labour force from villages has resulted in a shortage of skilled youth in villages. These consequences have impact negatively in

Figure No. 2 b





community conservation efforts. So inputs under this category need to be diversified in such areas as; technical skills of NTFP inventory preparation, conservation education and motivation, species food and behaviour monitoring, eco-tourism and nature tourism guide, production process and value addition of NTFP and medicinal plants. Investment in natural resources requires focus on land fertility, capitalizing forest resources and wise use of water and wetland sources. Investment in these areas is not important not only from the natural resources conservation point of view, but also from a livelihoods perspective and secondary investment. KCAP efforts built local confidence in taking responsibility and changing their group dynamics, leading fund raising within groups and strong leadership quality, which are outcomes of long term investment and consistent efforts. Similarly, investment in human capital resulted in increasing community control against anti poaching, forest fires and illegal collection and harvesting of NTFPs. In figure#4, critical impact investing in human capital can be observed. It is due to lack of economic opportunity where human capital can be invested properly. Therefore, retention of skilled and capable human resource would be a challenge to KCAP because sufficient natural resource based economic/employment opportunity for skilled labour had not been promoted yet. To increase community capacity and their motivation in conservation, specific skills on conservation and livelihoods monitoring, capitalizing youths and indigenous skills, conservation and life sustaining skill, literacy classes (REFLECT Approach) for mother group would be further potential intervention area.

5.5 Financial Assets:

Severe impact of current conflict can be estimated on economic opportunity available in KCAP area. Although group fund raising and capital accumulation through membership fee has significantly been increased, tourism based economic opportunity has been decreased due to the conflict. Some forest-based economic opportunities have been increased but they



have not generated employment. The income from forest-based opportunity is limited within households and needs to be built at community level through entrepreneurship and partnership development. Increasing knowledge and value addition of non-timber forest product and promotional activity resulted in forest-based economic opportunity and disguised employment. But it is not sufficient to retain skilled human resources in villages. Increasing household access to forest generates opportunity to control anti-poaching and illegal collection of high value NTFPs. There is still lacking group raised capital and its proper investment.

The functioning of mother group initiatives has become the backbone of conservation efforts in KCA. Most of the mother groups are diversifying their funds to meet other livelihoods needs through generating and changing major domain of livelihoods subsistence such as high yielding varieties (HYV), goat, pigs and horticulture. Similarly, in most areas mother groups (See figure # 5) worked in anti-poaching and controlling forest fires. Women in KCA were empowered not only financially, but also in their institutional and managerial capacity. Most of the mother group heads are represented in the CAUC and CAMC and are operating girl scholarship schemes with a vision of social equity.

6. Conclusion

6.1 Conflict Impact:

During the discussion, all local participants agreed on the impact of conflict on livelihoods resource in different forms and levels. Though the program partnership with the community, KCAMC and other committees is going well, most of the impact of conflict is on migration of skilled human resources from KCA. Also there is limited re-investment opportunity at community and household level on the one hand and limited re-payment capacity of local right holders who are losing purchasing power on the other. Although the



mother group initiatives and other regular activities are not significantly disturbed, yet the frequency of mobility to forest areas has been restricted and investment of raised funds into enterprises is affected. Due to the lack of state presence, the communities have become the key players to control, manage and safeguard against anti-poaching and illegal activities. Some significant impacts that participants highlight during the discussion are outlined as follows.

- Effective implementation of policy/rules/regulation at the local level as a result of illegal smuggling, poaching, NTFP collection.
- Limited access to resources (harvesting, collection and consumption)
- Limited community-based monitoring/observation
- Limited re-investment opportunity of locally generated fund
- Mutual agreement between rebels with other Democratic Party forces reduced life threatening risk (some conservation committee member are also representing democratic political parties, so their mobility in conservation area is increased and community/political leader started to retain(coming back) in their own community.
- Conflict increased gap in effective communication (due to lack of mobility) among the user groups, committee and council as well as with other CBOs partners
- Negative impact on socio-cultural resources (weakening confidence and belief, responsibility sharing, and effective participation)

6.2 Livelihoods Impact:

Despite the challenging scenario, KCAP has had different successes and footprint impact, which are reflected in different forms and ways. Although

conflict has limited and in some cases caused negative impact especially on human and financial capital and local institutional functions, yet the local CBOs and user groups are playing a significant role. This is because of enhanced livelihoods opportunities and resources. In summary, the major livelihoods impact that KCAP made can be outlined in the following points.

- Perceived benefits on conservation through mother groups initiative is well understood by local community/groups. They are able to communicate and illustrate the linkages in simple and meaningful ways in their own reference
- Perceived benefits on alternative energy (solar) have multiplier effect e.g. intra household clean environment benefits, access to education and information and environmental health as well as saving of Red Panda Habitat and foods (Arundinaria)
- Significant changes in “Off-farm-based Livelihoods Strategy”
- Physical, human and natural resources as determined during focus group discussion have increased.
- Invisible contribution in human and physical resource has not been assessed.
- Limited improvement in forest based and agro-based employment opportunity
- Crop depredation has significantly increased, which indicates increasing number of wild fauna, prey herbivores
- Women group mobility for anti-poaching and illegal collection of NTFP and control moderately increased
- Negative impact of conflict on social and financial resource as well as mobility of committee members
- Girl scholarship is crucial motivation to mother group/household participation conservation. It has multiplier impact and provides human resource to maintain natural resource in positive way
- It is commonly understood/proved that investment in social and human capital is invisibly fueling/capitalizing natural capital.

6.3 Lesson Learned

- Investment in human resources alone is not sufficient to sustain livelihoods
- Natural resource based economic opportunities not only increase the economic well being of the local community but also increase opportunity to access on resource, management capacity and a kind of social bond

with natural ownership.

- Economic opportunity together with affordable appropriate and acceptable should be explored.
- Investment in other livelihoods resource is invisible contribution to natural resources, especially in remote mountain areas
- If communities are lacking in livelihoods options, the pressure on natural resource increases.
- If we invest in economic opportunity with human resource; community access and mobility increased and illegal NTFP collection and poaching decreased
- Increasing community access in forest is safe guarding of valuable species flora and fauna and more justice and equity in benefit sharing
- SLA approach for impact assessment is very effective, less time consuming and democratic in nature.

7. Recommendation

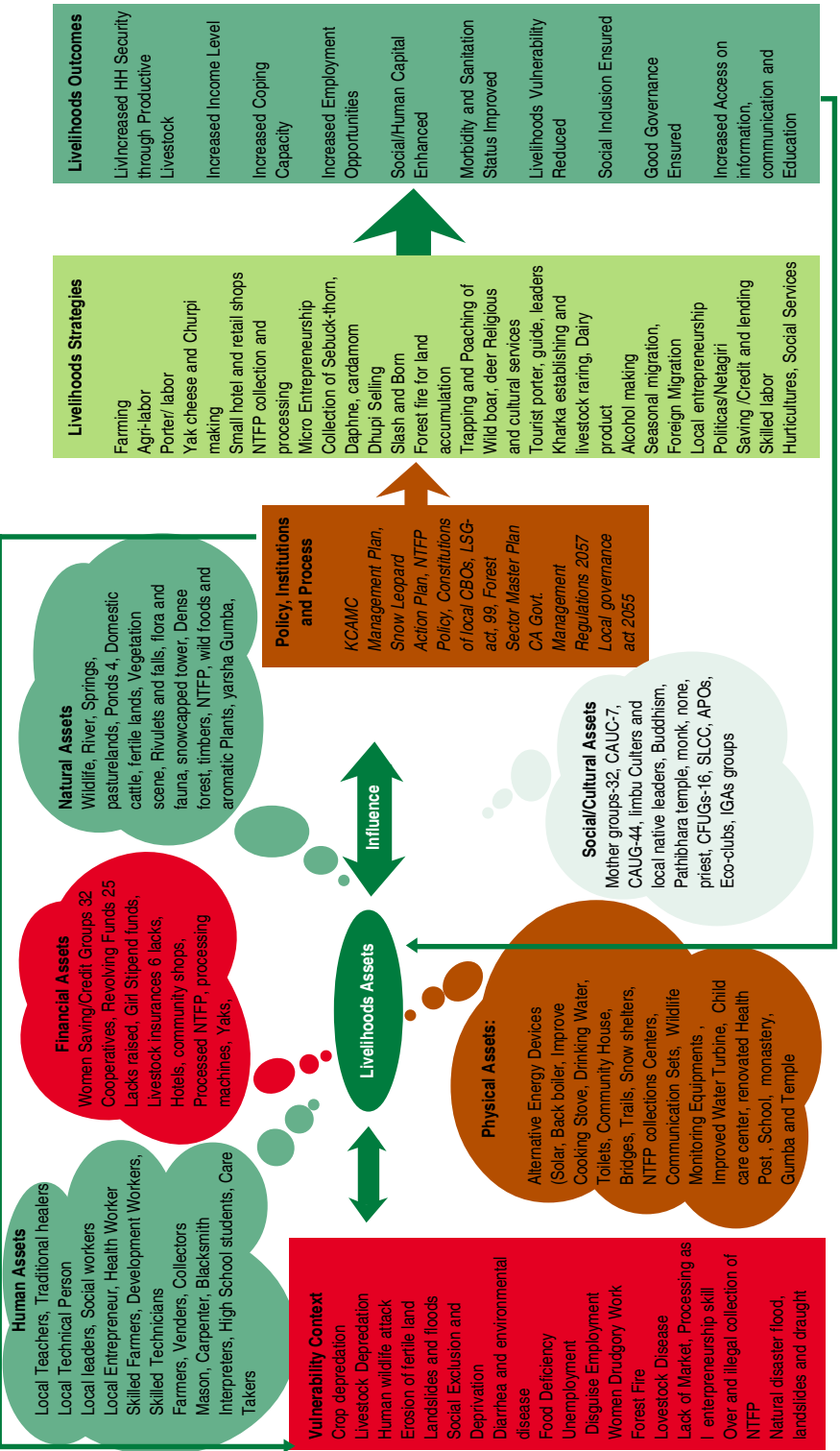
Above mentioned different informations and figures indicated, there are significant changes in people's livelihoods resources that impact conservation ultimately. Yet it was felt that there is still some changes and priority required to mainstream in up-coming plans. Similarly a detailed conflict response program is also required for stimulating local youths and mother group. As conclusion, the following recommendations are suggested for further implementation.

- Increase economic opportunities (NTFP, tourism and agro based IGA) that contribute long term to financial and natural capital
- Use local vendor, CBOs as a enterprise partners to maximize forest based economic opportunity (Social and financial Capital)
- Promote/established CAUC/MG/CFUG controlled harvesting mechanism (Natural and Social Capital)
- Develop entrepreneurship operational guideline (Human and Natural resources)
- Observation Tour/Capacity Building (adaptive management) (Human Resource)
- Support Mother Group to become formal local cooperatives (Social –cultural resources)
- Support to Build Local Warehouse (Community controlled collection center) (Physical and Natural Capital)

- Support to build Local Entrepreneur Resource Person (Human and Natural)
- Develop Strategy to exclude outside dwellers and labor in NTFP Collection (Natural and Human Resource)
- Focus mainly on NTFP-Enterprise, Tourism and agro-based IGA
- Identify Specific niche Area with complete Value Chain Analysis for IGA (reduce income poverty)
- Continue community services which reduce human poverty and improve access to natural resources
- Capacity building, good governance and policy advocacy (Reduce Social Exclusion and Marginalization)
- Build Management Capacity and strengthen Strategic Partners in Production, Process and Marketing Skill on Local NTFP Product
- Institutionalize (equip) Inputs Monitoring at Strategic Partners
- Provide potential opportunity for re-investment and entrepreneurship at local level
- Support community to promote community managed cooperatives
- Natural resource special focus on land, forest, and water
 - ▶ Capitalize forest resource (NTFP and Medicinal Plants focus)
 - ▶ Invest/maximize land fertility/fertility through innovative technology transfer
 - ▶ Raise capacity for wise use of wetland and water
- Public Advocacy to contribute in four different forms
 - ▶ To make favourable policy provision maximizing natural resources
 - ▶ To advocate existing conservation policy in favor of local community (indigenous and marginalized)
 - ▶ To formulate new pro-poor and pro-conservation policy to provide legal support
 - ▶ To build the poor capacity maximizing existing and available land resource



Securing People's Livelihoods and Biodiversity in Kanchenjunga (KCA/WWF Nepal)



Livelihoods Framework of Kangchenjunga Conservation Area



WWF is the world's largest and most experienced independent conservation organization, with almost 5 million supporters and a global network active in more than 90 countries.

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption

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