



# Forest Policies and Management Issues for Economic Prosperity: Non-Timber Forest Products in Nepal

Sabina Maharjan

*Singhania University, Rajasthan, INDIA*

Megh Raj Dangal

*Kathmandu University, School of Arts, NEPAL*

Received: 16 January 2021 ▪ Accepted: 18 April 2021 ▪ Published Online: 9 May 2021

## *Abstract*

Non-timber forest products are of great importance to large numbers of people whose livelihood depends for forest resources. With recognition of NTFPs contribution in livelihood and economy, many countries' forest policies have been revised with inclusion of NTFPs development provision to certain extent. Still, most of policies including Nepal have failed to address the role NTFPs in poverty reduction. The study aims in analyzing the existing forest policies regarding non-timber forest products and the conservation and management practices being carried underlying the livelihood development of rural dwellers. Along with literature review, interview with user groups and elite persons was carried out to understand the development plan from government and community level. Herbs and NTFPs Development policy is responsible in sustainable conservation of NTFPs promoting their commercialization, still the policy reserves space for implementation. The study urges the effective role of government in NTFPs sustainable conservation and management process to promote livelihood of forest dependents.

*Keywords:* NTFPs, forest policy, sustainable conservation, management, livelihood.

## 1. Introduction

Non-timber forest products (NTFPs) consumption has been a global matter to sustain livelihood of forest inhabitants along with the promotion of sustainable forest communities (Cavendish, 2000). They, even considered minor products, are the most important tool in enhancing forest-dependent livelihoods and biodiversity conservation. Utilization of NTFPs in sustainable manner fosters the conservation of natural ecosystems (Shabhaz et al., 2007). Their ecological, economic and cultural importance is also remarkably recognized (Mbuvi & Boon, 2008). In order to combat ecological destruction occurred owing to forest destruction, forest policies from the authority level along with public participation can be a boon to such challenges (Boon & Ahenkan, 2008). NTFPs are recognized to have great value in economy development of most countries and 80% of world population is estimated to depend on these products (FAO, 1997).

Even bearing immense prospects and potentiality, the NTFPs are undermined within the forestry legal framework in most of the developing countries (Wynberg & Laird, 2007). Forest policies of most of the countries place NTFPs as minor products, hence, prioritize the timber forest products only (Gautam & Devoe, 2006). Even the local people and forest dwellers are found utilizing timbers as of economic importance and the contribution of NTFPs is overlooked. Policies also have emphasized the value of timber woods and introduction of plan for NTFPs management and utilization has been new attempt for many countries (Perez & Byron, 1999). Most of the discourses have focused on the development and promotion of timber, even though their destruction is more severe than of NTFPs whereas they lack mentioning the ecological and livelihood contribution of non-timber forest products.

Currently NTFPs have made their valuable space in market creating opportunity for economy development along with conservation and sustainable harvesting challenges. Lack of concrete policies and unawareness of people hold back the development of non-timber forest products. However, with the commercial and subsistence recognition of NTFPs, developing countries are attempting to revise the existing forest policies to address their contribution and necessity of their development for poverty alleviation and biodiversity conservation (Larsen, 2002). Many researchers have also highlighted their contribution in sustainable promotion of rural livelihood and ecosystem.

Legal procedures related to Non-timber forest products collection, processing and marketing are found to be less effective and poorly implemented because of which these products are encroached unsystematically causing biodiversity destruction. Random pricing on the products also results in unequal distribution of profit among the stakeholders involved in non-timber forest products activities. For the same also no agencies are concerned. The research can play effective role in bridging the gap in policy implementation and emphasize on need for the management of non-timber forest products.

With the analysis of role of users as essential instrument is sustainable conservation, the government moved towards the adoption of community forestry. There have been different legislative changes with the aim to hand over the forest to local users and empower them to manage the resources along with their livelihood (Acharya, 2002). However, the forest policies introduced for the development of resources generally focused on timber woods concretely undermining the essential source of forest for livelihood and conservation.

Hence, the study purposes to assess the existing forest policies regarding Non-timber forest products and the conservation and management practices being carried underlying the livelihood development of rural dwellers.

## 2. Research methods

### 2.1 *Study area*

The field study conducted for the research is carried out in community forests of two districts of Nepal, namely Lalitpur district and Dolakha district. Lalitpur district lies 11 km from capital city whereas Dolakha district lies 150 km away from the city area. The study aims in assessing the conservation and management practices for the promotion and development of NTFPs in study area. People of both districts utilize community forest to harvest forest products at least for their livestock and for their subsistence and trade to some extent. The field conducted in district near to city area and in remote area enabled us to study awareness of user group towards the importance of non-timber forest products and mechanism of their utilization along with management practices.

## 2.2 Sampling

To know the concept regarding conservation and management policy in the selected districts focus group discussion and key informants' interview were carried out. Purposive sampling is followed for qualitative approach so that the respondents are selected intently who are supposed to provide reliable and relevant information. The key informant's interview was carried out with elite personals of the community which included members of district forest office, chief persons of community forest and traders of the study area. For focus group discussion, the community user groups utilizing the resources for their livelihood purposes along with district forest officer and chief members of community forest were interviewed.

## 3. Research design and tools

The study followed a qualitative research design so as to obtain the in-depth information to our objective. Qualitative research can best provide the information on emotions of respondents that statistical data hardly provides. The questionnaires and guidelines for focus group and KII were prepared beforehand, but were extended as per the requirement in the field. The key personals contributing to the development of community rigorously who are concerned with the status of natural resources were targeted for the interview. The information solicited included the utilization of NTFPs as their livelihood source, their conservation and management practices and forest policies knowledge that guide the process related to resources and their management.

## 4. Data analysis and interpretation

Since the study follows qualitative method to meet up the objective. The key persons having the idea of NTFPs development and government policy were interviewed. The knowledgeable person's response is more authentic and relevant to obtain useful insights for the enquiries. The responses obtained from the interview with key personals and focus group were transcribed and coded. Their narration was related with the literature that supports in the management of forest resources.

## 5. Ethical consideration

Whole research was carried out maintaining the ethical concern. The researcher was conscious in maintaining the confidentiality according to participants' wish in the case of data collection and process. The recording of the interview was carried out with respondents' acknowledgement. Any incident or phenomenon that could prove harmful for respondents is not included in the research findings. The consent was informed regarding the purpose of research and consequences of its outcomes. The liberty of withdrawal of participation at any stage of the research was allowed with respect. Information was confined to study investigators and relevant authorities.

## 6. Result

### 6.1 *Impact of policy on livelihood of forest communities*

The utilization of available Non-timber forest products by people residing in the vicinity of forest areas to fulfill their livelihood need is great concern across the global. Ranging from the supplementing food nutrition to treatment and income generation, the NTFPs have crucial role in rural lives. Even the significant contribution of NTFPs is recognized, extinction of

valuable resources and their conservation is less prioritized in developing countries. NTFPs have always been the agenda of discourse of international development policy, still there is no effective international policy that could address the management debates on NTFPs around the world (FAO, 1995). A Forest policy in terms of NTFPs in Nepal addresses the resource with minor priority and even the existing policies working on non-timber forest products lack in implementation as well.

In recent years, NTFPs have gained attention and importance in the forestry sector both as sustainable livelihood options for rural people and the source of revenue generation for the government having less impact on environment. There has been progress in the management for this sector and adopted different NTFPs related policies in order to promote and develop them to enhance livelihood of forest dependents. The policy working on NTFPs development with conservation motive is Herbs and NTFPs Development. The Herbs and NTFP Development Policy for NTFPs management was introduced by the Government of Nepal in 2004 (HMGN, 2004). Pertaining to the growing trade on NTFPs, mostly medicinal and aromatic plants, the various stakeholders felt that there is need of policy for the management of NTFPs resource for long term utilization.

The Herbs and NTFPs Development Policy, 2004, focuses on sustainable management of the NTFP sector in Nepal and retain its resource for long. For the purpose, it sets out some objectives purposing the rise in economy at local and national level. It aims harvesting the maximum economic benefits with sustainable management of wild species and promotes employment opportunities for rural communities underlying their poverty issues. With the intention of poverty alleviation, domestication and commercialization of valuable species is supported with capital, skillful training along with technical knowledge and market information.

Domestication is carried out in both districts as per their knowledge and efforts of CFUGs. Lalitpur district has domesticated broom grass but its commercialization is not promoted as they find the market approach procedure very expensive and neither government nor any organizations have been supportive for the matter. As such, DFO of Lalitpur, said:

“We know there is good possibility of NTFPs in the market, but it is expensive approach. No other sectors play constructive role in reaching the market and our attempt alone is not sufficient enough. So, the people are engaged in the collection basically for subsistence rather than for domestication.”

Commercialization of non-timber forest products is encouraging researchers for coupling the concern of rural livelihood over the concern of biodiversity conservation (Jensen & Melleby, 2008). Commercialization is always noticed as means of livelihood improvement and biodiversity conservation; however, the concept seems less practical in terms of action as the rural people's attempt cannot succeed without governmental and organizational support. They lack knowledge on NTFPs ecological requirements to be supplemented, hence, resulting in poor harvesting. As such,

“We domesticated some of medicinal plants like Pakhanved and Chiraito. We could not continue the domestication of Pakhanved because domesticated production was of low quality and could not fetch any benefits as we could not meet the market needs.”

The Herbs and NTFP Development Policy focuses on raising the economy of the country and improve living standard of forest communities through commercialization and trade of economically valuable NTFPs. The policy is also responsible in developing national and international marketing networks and its information promoting the establishment of national and regional market information centers. Companies are set up for the processing of such herbs under the license of the government to ease the procedures. The policy still does not address much regarding the conservation practices for NTFPs pool. Concrete policy is still demanded for the

management and conservation of NTFPs resource to maintain their existence benefitting the local people at maximum level.

#### 7. Public participation in conservation and NTFPs development

To conserve forest resources, the resources itself can be an effective tool. The awareness of importance of non-timber forest products encourages communities to conserve the resources to retain them for future. The utilization of Non-timber forest products is reported to have ecologically less effect than timber exploitation. The ecological sustainability of the NTFPs harvest can manage the long-term availability of these resources. The impact of NTFPs harvesting from subsistence to commercialization purpose creates pressure on individual species as well as on whole ecosystem.

Modern means of extraction and transportation have overexploited the species with great impact on their existence and have decreased sustainability harvest. Domestication can be effective tool to promote economy through commercialization in parallel with their conservation. This maximizes the harvesting of economical plants deducting the degradation of these species, maintain their natural existence and support in cash income. Domestication of NTFPs will increase the economic and ecological advantages in case it is carried out effectively.

Few community user groups of Suspa CF of Dolakha district domesticated some of medicinal plants like Pakhanved and Chiraito, and commercial plants like Argeli and Lokta. They could not continue the domestication of Pakhanved because they could not provide the ecological requirements so that the domesticated production was of low quality. Because of knowledge deficit, they could not identify the reason, nor any concerned organizations looked after the reason, consequently had to quit the process.

Regarding Chiraito domestication, they have good economic value in market having great medicinal properties. They are exported internationally for medicine purpose from both districts; however, its production is also lessening because the production could not meet the market quantity. Respondents admitted that there is less quantity of the products that could meet the market requirements. This clarifies that the medicinal plants' status is deteriorating which requires the attention for conservation.

Similarly, in Lalitpur district, commercially Chiraito were grown including broom grass. The product is exported to China, but the product started being cultivated in China at large quantity which reduces its export and discouraged the domestication as well. Community user groups are now engaged in other plants cultivation on trial basis. For example, Mr. Thirnath Sapkota (Asst. ban adhikrit) stated:

“People of Lalitpur CF commercially cultivated *Swertia chiraito* as it possesses high medicinal value and are exported to China. Later, China itself started its cultivation, hence decreased its export from Nepal. Recently, CFUGs have started domestication of *Choerspondias axillaris* on trial basis for commercial purpose as well as conservation plan.”

As conservation policy, community forest regularly conducts plantation activities in which CF members also participate. Plants like *Shorea robusta*, *Alnus nepalensis*, *Schima wallichii*, bamboos are planted mostly which they utilize later in case required for housing purpose. Medicinal plants like *Zanthoxylum piperitum* have also been planted by Lalitpur district but the production could not be raised and they are not even able to identify the reason. In addition to the plantation activities; firebreak is made to prevent the forest from the fire as well as strict mentoring method is imposed to check out the illegal collection of species. As such, Safalta Pudasaini (23 years) said:

“Whenever we are called for afforestation, we actively participate. We also attend every meeting when called upon to receive information regarding forest conservation and other developmental plan. We also help in clearing out the unwanted plants which disturb the vegetation of the forest.”

Some community user groups of Dolakha district, encourage their community members in NTFPs collection sharing the benefits of available NTFPs in the forest in their subsistence. They have also planned raising the status of forest through scientific approach in conservation. They conduct training programs occasionally to aware the users and also initiate different developmental projects in the community. As such, chairperson of Thadlage CF, stated:

“We are going through different procedure in transforming community forest to scientific forest in future and we have been conducting different trainings to involve user groups in the process along with developmental activities.”

Rural people are continuously encroaching natural forest to overcome their daily basic needs. Continuous encroachment directly affects the status of forest resources. The resources become susceptible to the degradation resulting to the extinction. Along with flora, faunas are also at risk of extinction. It has been utmost necessary to formulate some rules and regulations with strict implementation to minimize their loss and maintain their natural stock. Certain policies must be imposed for their collection and other related approach procedure.

#### 8. Governmental and organizational role

Common people do not possess concrete knowledge regarding conservation practices nor have any idea of policy imposed. They need to follow the guidelines. Concerned person from government should take initiation to make CFUGs aware on importance of forest resources especially NTFPs. User groups have less knowledge about NTFPs value because of which they do not consider their conservation as importance. Government authorities need to take steps to make community aware about their rights towards the utilization of natural resources along with their responsibility to conserve them. As per Soto et al. (2001) local communities meaningfully participate in conservation practices, in case they understand the benefit they gain from forest management.

The information received during household survey also revealed that they have no much idea of the governmental or other organizations’ steps taken beside afforestation program. As per CFUGs, no any organizations have contributed in conducting any awareness related to NTFPs or other conservation activities. Participants are not aware regarding the policy imposed for the collection and marketing of forest products. They collect the products as suggested by middlemen or DFO.

The government has affirmative policies regarding the use and function of the community forest. The issue in its effectiveness is lack of implementation of those rules by the individuals holding official position. The organizations are not approaching any program due to lack of enthusiasm of CFUGs to carry out any developmental or commercial programs. Governmental policies are revised at certain level but are not implemented. As such, Communication Officer, DFO, Dolakha district (Mr. Shambhu Baraili) stated:

“Government has revised its policies regarding non-timber forest products; however, the revised policies are not applicable. SWISS Nepal and ANSAB non-governmental organizations have worked for the development of NTFPs till 2010. Now the organizational institution is paying less interest because of fluctuation in market requirements and the government is not yet supportive to maintain the market reachable.”

Lack of human resources in the community also has led to less engagement of people in commercialization and market approach for commercialized products. Youthful and energetic manpower required for the NTFPs effective development and management lack in the community. Aged people are likely to contribute less in the development program. Apart from less human resources, government policies against some of the valuable species have limited the involvement of organizational agencies in market promotion eventually leading to less participation in conservation initiatives as well. For example, District forest officer of Dolakha district, said:

“Government has ban on some of the products in raw or processed forms. It has discouraged their participation. Now the community also lacks human resources as well since youths have started migrating to city area and abroad for employment and only aged people are left in the rural community who participate less in NTFPs development procedure.”

Nearly 15,000 species of the world’s MAP species are threatened due to overharvesting, land conversion and habitat loss (Schippmann et. al, 2006). Sustainable harvesting procedures could lead community members to manage the resource pool maintaining their benefit from it. The government even though having certain affirmative policies regarding the use and function of community forest, less effort is provided to spread awareness rights of communities towards their utilization and conservation responsibility.

It is difficult for local people to identify the valuable NTFPs; knowledgeable person within the area or government sector in case appointed to identify those resources, communities should not have to depend only on few species that cause threatened to biodiversity. Forest livelihoods can be better enhanced by the optimal use of NTFPs through domestication (Arnold & Ruiz Perez, 2001). Harvesting of different form of species help rural community to diversify their livelihood. For example, a chairperson of Thadlage CF of Magha, Dolakha District (Mr. Prem Bahadur Shrestha) said:

“A very rare activities have been taken for the conservation of the useful resources as there has not been any serious steps taken by the forest department and other government sector yet. Engaging expert individuals for the identification of NTFPs resources can be economically beneficial leading to employment opportunities for CFUG members and do not have to depend only in agriculture.”

Governmental sector has to be more responsible in formulating strong basis for conservation of natural resources. They should have division of area and engage expert within the selected area for actual implementation of policies and identify the useful multiple resources. Along with organizational involvement, establishment of forest-based enterprises could help providing communities with employment, hence, encouraging in NTFPs management. Creating employment opportunities to community people it assists in raising economy even at national level promoting international export of the products. Enterprises also motivate them in cultivation and commercialization of the products that have market value and are about to decrease in nature leading to their conservation.

## 9. Discussion and conclusion

Both national and community-based forestry programs in Nepal have mostly focused on management of forests through sustainable use of timber and fuel wood, where the Master Plan for the Forestry sector, 1998, has been the major guiding document (Chaudhary, 2000). The Forest Act 1993, the Forest Regulation, 1995 and amendments that are published in various government documents have been the major regulatory documents for forestry sector, including NTFPs, in Nepal. In recent years, NTFPs have gained attention and importance in the forestry sector both as sustainable livelihood options for rural people and the source of revenue generation for government having less impact on environment than timber. Recognizing the benefits of non-

timber products in sustainable livelihood and ecosystem conservation, progress in the management for this sector is initiated but still with less priority.

The significant contribution of forest resources is noticed by policy-makers and different stakeholders emphasizing of timber products. The policy formulated for NTFP states the key role of the government to facilitate and regulate collection, cultivation, production and processing of NTFPs in collaboration with cooperatives and the private sectors. Many communities, however, lack the enterprises because of which the processing of valuable NTFPs is not possible and have to trade raw form of products. It has been reported that more than 90% of NTFPs are traded from Nepal in raw form to India and other countries (Edwards, 1996) and we have to depend on developed countries for processed products on high prices.

Establishment of forest-based enterprises could solve the issue of dependence on developed countries at certain level. Their development also helps in marketing and trading of valuable products supporting livelihood of marginalized group. Most of the valuable NTFPs are found in hilly and mountains where the transportation is major hurdle in development of enterprises as infrastructure are difficult to manage. However, small scale enterprises can be institutionalized with the assistance of the government.

Even with less importance, NTFPs are placed in policy section by Nepal government. There is utmost need of the formulation of specific NTFPs related policies as the earlier developed are less in implementation as majority of lives of rural in developing countries is sustained by natural resources. Rural people are found utilizing the forest products for food, medicine, energy, etc. as they are taken granted as the means of coping hard times to fulfill their basic needs. Owing to no or less agricultural land and livelihood options, rural people are found depending on forest resources unsystematically causing threat to their existence.

Recognizing the community dependence on forest products especially non-timber forest products, public participation in conservation of forest resources was noticed, so as Community Forestry program was introduced 1978 to assist Department of Forest (Gilmour & Fisher, 1991). The national forests under the Department of forest were handed over to community groups with the motive of biodiversity conservation as well as benefit themselves with those resources. Every year 1.3 million hectares of forest is estimated to be destructed for development, agriculture and timber (FAO, 2010). Because of limited land access and conversion of forest into agricultural land, deforestation has increased in rapid pace to meet up their livelihood requirements.

Since the collection is made directly from wild, there is quite chance to get these products degraded at natural ground. Public awareness towards sustainable harvesting of forest resources can assist in retention of forest resources. Domestication is the best technique to promote and conserve those resources. Clear policy with regards to domestication and conservation can help in sustainable conservation as well as livelihood. The government and different organizational institutes should facilitate the process in collaboration with private cooperatives or enterprises. Communities should be encouraged to cultivate the wild species with certain incentives as motivation so that pressure on natural stock is reduced. The knowledge of biological and ecological requirements of NTFPs can help them cultivate them sufficiently as market demands and harvest the profit. Market information should be conveyed to them as per the requirements so that the resources trade is enhanced supporting community's livelihood status. Systematic harvesting of economical plants can be suggested to user groups for sustainable conservation that can hold up their economic status.



### Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

The authors declare no competing interests.

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