

Food and Nutrition Security in Nepal: A Review of the Policies and Strategies in the Forestry Sector

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Abstract

The main objective of the paper is to share a bird's view of contribution of the forestry sector in the food and nutrition security of Nepal. Review of secondary information, consultation, and interviews have been applied in the study methodology. Food security mainly includes production, access, and distribution. At the district level, there are the food security groups but the forestry sector has not been included in that group. This review shows that the major areas of forestry sector contribution in food security are: (a) livelihood improvement program of leasehold forestry program for the poor in which forest land is ensured for groups of poor households for 40 years to make use of the lands for short-term and long-term crops; (b) livelihood improvement programs including land allocation to poor households in community; and (c) harvesting and selling of non-timber forest products and/or medicinal aromatic plants (NTFPs/MAPs) production in community and leasehold forests for sale to traders.

1. Introduction

This paper aims to assess the forestry sector policies, strategies, and programs contributing to food and nutrition security in Nepal. The observation used was: review of policies and strategies related to forestry and food security in Nepal, major forestry sector programs in Nepal and their target groups, and programs reported to be contributing to food security.

1.1 Emergence of Food and Nutrition Security Policy in the Forestry Sector

Forests have been the source of food and nutrition for women, men, and children since time? in Nepal. They remain the major source of food, nutrition, and livelihood primarily for the forest-dependent indigenous people. *Githa* and *Vyakur* are used by the Chepangs as food during famines and also by the poor households living in the vicinity of forests. But there are certain food items which are popular in the urban households. Nigalo shoots (*Tusa*), young bamboo shoots, and fermented *Tama* are delicacies in urban families. *Kafal* and *Aiselu* are

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popular fruits. *Tejpat*, *Jimbu*, and *Timur* are spices used for delicacy. *Amla* pickle is very popular and processed *Bel* juice is a popular drink for good health.

During the Rana regime, forests were the source of revenue for national treasure, Rana family members and their dependents were given forests as Jagir. But the Forest Nationalization Act 2013 nationalized all private forests and brought them under the Government.

Leasehold forests were principally conceptualized to involve forest product-based industries in the National Forestry Plan 1976. However, it was introduced as a priority agenda for the local community through the forest - dependent Chepang” when king Birendra Bikram Shah visited the Central Development Region. Leasehold Forestry Regulation 1978 was amended to include the "Leasehold Forestry for the Poor Communities" in 1989 and the Hills Leasehold Forestry and Forage Development Project, conceptualized in 1989/90, was started in 1992/93. Forest Act 1993 and Forest Regulation 1995 have provided the legal basis for the implementation of leasehold forestry for poor households. Leasehold Forestry Policy 2002 further strengthened it. The Tenth Five Year Plan (2002-2007) made leasehold forestry for the poor the Priority One Program. Now Leasehold Forestry is a part of the poverty alleviation program of the Ministry of Forest and Soil Conservation. This has been implemented in 22 hill districts and 11 Himalayan districts of Nepal. At present, there are 7413 leasehold groups covering 74,950 poor households and holding 42,733 hectares of lease land with exclusive use rights for forty years. These leasehold groups start with Livelihood Implementation Plan (LIP) that directly promotes their food and nutrition security. In recent years, the Leasehold Forestry and Livestock Program has started with a new vision of corridor or landscape approach for re-storing and re-establishing shifting cultivation areas and involving the poor households with intensive support. This has helped to alleviate poverty within a short period (less than 5 years) in Palpa, and the hill zone of Nawalparasi. Such moves for poverty alleviation have contributed solidly toward food and nutrition security of the poor households.

Biodiversity Sector Program for Siwaliks and Terai (BISEP-ST) introduced and popularized the leasehold forestry for the poor in public lands (lands owned by VDC, DDC, trustees, schools) in 2001-2006.

The concept of community forestry was introduced with the promulgation of Panchayat Forest Regulation 1978 and Panchayat Protected Forest Regulation 1978 to promote the idea of "community forestry" in the late 1990s. However, the Livelihood and Forestry Program (2001-2011) and SDC-supported Community Forestry Program (2004-2008) introduced the idea of forest-based livelihood intensively introduced in the project areas of 19 districts. Allocation of

forest lands to the poor household users in community forests and of 35% budget for poverty alleviation are some of the positive aspects and strategic thrusts in promoting food and nutrition security for poor households in the forestry sector. At present, there are 17,809 community forest user groups in 74 districts including 1,194,545 households that managing 1,665,420 hectares of the forest area. Many community forest user groups have started livelihood improvement programs including income generating activities, skill development, and land allocation for the poor households that directly contribute to their food and nutrition security. Community forest areas cover more than 30% of the forest area of national forests and 22% of the total households (54,27,302) as per, the National census of 2011. ? There are the major strategic moves toward food, and nutrition security through community forestry in Nepal.

Aiming to reduce conflict between the Protected Areas (National Parks, Wildlife Reserves, Hunting Reserves, and Conservation Areas) and the local community people, the Buffer Zone Management Regulation 1996, under the National Parks and Wildlife Conservation Act 1973, opened the avenue for people's participation in park management, introducing the concepts of core protection area and buffer zones. At present, 30-50% of the revenue from the Protected Areas is spent on local community development including poverty alleviation through the Buffer Zone Council and Buffer Zone Committee. Projects/Programs have been launched in such buffer zones for skill development and income generation of poor households that have promoted food and nutrition security. For example, Raji indigenous community traditionally depend on fishing for livelihood and source of nutrition in Bardia district, but after the declaration of Bardia Wildlife Reserve (later Bardia National Park) people were prohibited to fish in rivers of the buffer zone areas, but are now allowed fishing after they raised their voice for their livelihood.

1.2 Tenth Five Year Plan and Interim Plans

National Five Year Plans and the Interim Poverty Reduction Strategy Paper (2001) pressed the Ministry of Forest and Soil Conservation to spearhead the forestry sector policies, strategies, and programs toward poverty alleviation.

Nepal has 5.5 million hectares of forest areas, about double the area of the agricultural land. The forestry sector is already contributing in the food and nutrition security in Nepal, but it is not accounted for separately because these food-based items do not add significantly to the revenue in the forestry sector which has not been given due importance, specifically in terms of food and nutrition security. Yet, the contribution of community forestry and leasehold

forestry and Non-Timber Forest Products and/or Medicinal and Aromatic Plants (NTFPs/MAPs) is visible in food and nutrition security.

2. Policies and Strategies Related to Food and Nutrition Security

Food security in MDG: Forests are directly and indirectly contributing to achieve the following millennium development goals (MDG) in addressing poverty in the country. They are - Goal 1: Eradication of poverty and Goal 7: Ensuring environmental sustainability. Most of the people living in the vicinity of forests are poor and depend heavily on forest for their livelihood. Almost 69% of the energy need comes mostly from biomass fuels, mainly firewood. Most of the rural people depend on medicinal plants and animals as their primary source of health care. ANSAB estimates NR 1.5 billion equivalent of NTFP trade took place in the country in 1995 (Subedi, 1997).

FAO Rome Declaration on Food Security: Food security has been defined by the Committee on World Food Security as the "economic and physical access to food, of all the people, at all times". Food security is crucially dependent on the reliability of products and on people's access to supplies. It thereby encompasses questions of both sustainability and equity (FAO, 1989). Three elements of food security are: (i) availability of staple foods; (ii) stability of supply; and (iii) access for all to these supplies. The Rome Declaration has reaffirmed the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger (World Food Summit Declaration, 1996).

Forests and trees play an important role in the struggle to reduce poverty. Initiatives based on sustainable local forest management, as a part of the rural development and sustainable livelihood strategies, can support good governance and increase benefits to the poor. The challenge now is to turn this potential into reality (FAO/DFID, 2001).

The forest play a vital role in global food security, providing food, fodder, fuel, and medicine (www.fao.org/gender/en/fore-.htm).

The definition of food and nutrition security for the first time emerged from the first World Food Conference of 1975 and focused on "the availability at all times of adequate world supplies of basic food stuffs to sustain a steady expansion of food consumption" (Maxwell and Watkins, 2003, quoted by SCF, 2008). This definition focused mainly on the availability and ample supply of food to the needy people. This, however does not explain the seasonality, location, and variation among the needy people. The food and Agriculture Organization (FAO) of the United Nations has defined food security as assuring

to all human beings physical and economic access to the basic foods they need. This implies three different aspects, namely availability, stability, and access (FAO, 1999).

The Census of 2011 has revealed that there are 8.46 million Janajatis which comprise 37.2 percent of the total population of the country. The DFDIN Act 2002 has enlisted 59 ethnic groups as "indigenous people" or "nationalities" among whom Chepang, Bankaria, Raji and Raute depend largely on forests for their livelihood.

FAO Country Framework, Nepal (2013-2017): The CPF for Nepal outlines the joint Government of Nepal (GON) and FAO's medium-term priorities for FAO's technical assistance over the five-year period (2013-2017). The CPF has identified four priority areas for technical cooperation each with three outcomes and 52 outputs in total. Priority Area 1 includes "food and nutrition security and safety".

Draft Agriculture Development Strategy (2013): It has visualized the maintenance of 40% forest area and efficient and sustainable practice of natural resources for agriculture development.

3. Contribution of the Forestry Sector in Food and Nutrition Security

To Timber Collection and Processing: The average commercial timber sale at the national level is 1.32 million cubic feet per year. For processing timber from the forest to depot, the average cost is NR 45 per cubic feet. A million cubic feet generates 0.474 million person days of employment annually which does not include employment of timber harvesting in community forests and leasehold forests nor does it include firewood collection and sale by individuals in government-managed forests for homeuse sale in local markets for livelihood or illegal harvesting and sale. It is estimated that the later collection of timber from CF, LHF, and government-managed forests (for homeuse and individual sale) exceeds commercial timber sale. Fuelwood has become the synonym for energy, particularly in the rural and residential sector of Nepal just because of its huge contribution in the total energy system, a situation that is likely to prevail for a long time in the foreseeable future.

Wood-Based Industries

Katha factories, nemo parquet factory, cottage and large-scale furniture industries, sawmills, plywood, and pulp factories generate a huge magnitude of

employment to the poor, semi-skilled, and skilled people as a major source of their livelihood.

NTFP-Based Industries and Small Enterprises: An inventory of ANSAB shows that over 1000 NTFP enterprises are involved in the processing of NTFPs/MAPs all over the country. Non-Timber Forest Products (NTFPs) are the traditional source of food, fiber, and medicine. In the rural hilly areas, it contributes upto 50% of the total annual income. The NTFP sub-sector in Nepal contributes about 5% of the national Gross Domestic Product (GDP) out of a total of about 15% from the whole forestry sector (Banko Janakari, 2004).

Resin Factories: There are now 13 resin factories, mostly located in the mid- and far western regions that process pine resin into turpentine and other by-products. This generates a huge amount of employment and is the source of income for the poor as a major source of their livelihood.

Eco-Tourism in the Protected Areas and Food Security: On an average, 145,351 tourists visited the protected areas that include national parks, wildlife reserves, hunting reserves, and conservation areas. Such tourists create huge employment at the national and local level and promote local cottage industries, communication services, and are beneficial in many other ways. It is also a good source of clean green dollar in Nepal. However, the forestry sector only brings entry fee in the protected areas. Other aspects of benefits and contribution of the forestry sector seem low and it is time to revisit the accounting system of ecotourism and the whole forestry sector.

Buffer Zone Program and Food Security

Altogether there are 11 buffer zones around the protected areas declared by the Government of Nepal, which include 112,125 households and 714,098 population of 183 VDCs in 27 districts (DNPWC, 2007). The buffer zone (BZ) program includes community development program in the form of road/trail construction/improvement, skill development, and income generating program for women and the poor contributing directly to food security. The BZ communities also receive 30-50% of the revenue from the protected areas; however, remains to be assessed the contribution of the buffer zone program in food security.

Community Forestry and Food Security

Community forestry and income generating activities directly and indirectly contribute to food security. Many community forest user groups have launched pro-poor programs to uplift the socioeconomic condition of the poor households,

particularly in the districts supported by external funded projects such as the Swiss Development Cooperation (SDC) and the Livelihoods and Forestry Programme (LFP). They identify the poor households, allocate them chunks of community forest areas for income generation, and offer loans at a low rate, and also skill development training for capacity development. However, these measures have not been adopted in all the community forest user groups. In addition, poor households are also given the opportunity to harvest, process and transport, timber, logs, and forest products from community to forests provide them employment and income. Community forestry is the largest area with a high potential to contribute to food security.

Niraula (2004) found that the average value of forest products harvested from the community forests in Nepal is NR 1728.00 per hectare. The study was carried out in 1788 community forests out of 247 CFs from Tarai, Inner Tarai and the Siwalik region, and 1541 CFs from the hills and the mountain regions. The total economic value of products harvested from 12,19,272 hectares of community forests was estimated to be NR 2106.90 million. This includes only timber, firewood, grass/fodder/bedding material, medicinal and aromatic plants, pine resin, and other forest products but does not cover the economic value of ecological functions, ecotourism, carbon sequestration, biodiversity, and the scenic value.

Leasehold Forestry for Poor

The leasehold groups are leased out degraded forest areas for forty years. This is one of the most effective programs for the livelihood improvement of the poor. In twenty – two mid-hill districts, it focuses on income generation through livestock and in eleven Himalayan districts, the focus is on income generation of poor households mainly through non-timber forest products and skill development.

Illegal Hunting of Wildlife: Hundreds of wild animals, mainly deer, are killed for meat as a source of nutrition. In Jumla, piglets of wild boar are caught during the wildfire season and grown as pet pigs. The meat of such pet boar is more expensive than other kinds of meat.

Wild Fruits, Vegetables, and Yams: Wild fruits, vegetables, and yams are a good source of nutrition for the poor but they are not accounted in the national economy and the forestry sector contribution.

Bhorola and Sal Leaves: Bhorola leaves and Sal leaf plates are collected and sold in local markets, Kathmandu, and in certain Terai communities as main the source of livelihood. In Arun Khola of Nawalparasi district, large numbers of

poor households collect Sal leaves, make leaf plates (hand-made Tapari) and sell them which provides about eight months' employment.

Bamboo and Sabai grass: Churia hills are a good source of bamboo and Sabai grass collected from the forests for homeuse and sale in the local market during off-agriculture season in Dhanusha, Mahottari, and Siraha districts. Sabai grass is also a high quality raw material for making paper.

Dependence of Indigenous Peoples on Forests

The Chepangs people (0.23 percent of the total population) are one of the twelve extremely marginalized indigenous nationalities numbering 52,237 (Census, 2011). The majority of them inhabit scattered settlements in forests in remote, steep terrains and inaccessible hills of Chitwan, Makwanpur, Dhading, and Gorkha. Currently, they practice sedentary and subsistence rainfed agriculture on marginal lands. Only a small percentage of the Chepang households are self-sufficient. Food insufficiency and food insecurity are identified as the most serious issues among the Chepang, Bankariya, and Raji communities who depend on wage labor, gathering forest products for self-consumption and sale small livestock for cash income. Most of their income is spent on procuring food. They also depend on other communities for loans. Forest plays an important role in the livelihood of Chepangs since it provides not only staple foods that help them to overcome food shortages, but also a number of dietary elements through supplemental. The food collection of forest products is important for them, since they are unable to obtain sufficient income from farming alone. Other non-farm income opportunities are absent or very limited in their settlements. Furthermore, agriculture and livestock which form the mainstay of their livelihood also depend largely upon forest resources. But forest products often fail to fetch significant monetary values as most of the products are used in self-consumption (e.g. wild tubers) or in the consumption of livestock (fodder, leaf litter) and their economic value often remains ignored (Maharjan and Chhetri, 2006).

Food self-sufficiency and food insecurity is the most prominent issue in the livelihood of the Chepang community. They adopt multi-pronged livelihood strategies like wage labor, collection of forest products, rearing small livestock, sale of bamboo handcraft, agriculture and forest products. Insecure land tenure and lack of citizen certificates are important issues for most of them. Unfavorable forest policies that restrict their access to forest resources further threaten their livelihood (Limbu, 2005; Uprety and Adhikari, 2006).

Cultivation of forest-based products for the poor households and their food and nutrition security remain to be explored. Furthermore, there is also the need to include food and nutrition security indicators in the forestry sector. Drum

sticks, *Dioscorea* (Githa and Vyakur), pine apple, banana, wild vegetables, honey, bamboo, *Nigalo* are short-term species that can provide food products on an annual or seasonal basis to the forest - dependent people. Katahar (jackfruit), Badahar (*Artocarpus lakoocha*), Lapsi (*Choerospondias axillaris*), Imli (*Tamarandus indica*), Chiuri (*Bassia butyracea*), Amla (*Phayllanthus emblica*), Jamun (*Eugenia jambolana*), Koiralo (*Bauhinia purpurea*), Kafal (*Marica esculenta*), Timur (*Zanthoxylum armatum*), and Tejpat (*Cinnamomum tamala*) supply food products to them on a long-term basis.

Bankariya: Bankariyas, a highly marginalized indigenous nationality of Nepal, are animists who worship nature and ancestors. They collect seasonal roots and fruits from the forest and work as labor. They make bamboo baskets, mattresses, and wooden containers and barter them with grains in the nearby communities. Another source of their cash income is medicinal herbs which they collect from the forest and sell. Most of them are uneducated but their children are now going to school.

Raji: Historically, Rajis are nomadic. Their population is 2,399 as of Census 2011. They live in Bardia, Kanchanpur, Surkhet, and Kailali districts. The major sources of their livelihood are agriculture, collection of forest products, and fishing. They get NR 1000 per person per month from the Nepal Government as allowance which is not adequate to sustain. They do not have easy access to forests. About half of them have not been displaced from the Bardia National Park.

4. Conclusion

Chepangs, Ruates, Rajis and Bankariyas are forest - dependent communities who frequently suffer from starvation, malnutrition, and famines. Projects such as leasehold forestry for the poor, community forestry, and buffer zone programs have been launched that are contributing to food and nutrition security. The collection and sale of non-timber forest products and medicinal and aromatic products are other endeavors that also contribute to food and nutrition security. Moreover, forest product-based enterprises and industries also create employment opportunities in the forestry sector for the livelihood of the semi-skilled and skilled people.

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