

# Analysing policy for poverty alleviation: an example from non-timber forest product subsector

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Importance of Non-timber forest products (NTFPs) has been increasingly recognised because of their commercial, socio-economic and ecological values. However, very little research have been done on the biological, commercial, socio-economic and institutional aspects of NTFPs in Nepal. This is mainly because NTFPs are extracted from wild by individuals, and traded through multiple actors and market channels within a confusing policy environment. The present paper, therefore, attempts to explore the policy issues related to the management and promotion of NTFPs.

**Keywords :** Non-timber forest products, poverty alleviation, income generation, forest policy, marketing, management

Nepal's forests provide a spectrum of products and services. Non-Timber Forest Products (NTFPs), which have conventionally been termed as Minor Forest Products (MFPs) such as bamboo, canes medicinal and aromatic plants (MAPs) and their products. Importance of NTFPs has been increasingly recognized because of their commercial, socio-economic and ecological values. They have also use values and provide livelihoods to many poor rural families of Nepal.

Nepal is endowed with more than 7,000 species of higher plants, out of which more than 700 species are reported to be of medicinal importance. Nepal's altitudinal variation from 60 m to more than 6,000 m within a small area of 14.7 million hectares provides a rich habitat for the natural growth of various plants.

The importance of NTFPs in terms of high value, but low volume and weight increases as the altitude increases. Therefore, high mountains and hills are famous for NTFPs, mainly MAPs. On the other hand, the potential of managing forests for timber production is extremely high in the Terai and Inner Terai. The high value NTFPs are eventually exported mainly to India through Terai districts.

There is very little research on the biological, commercial, socio-economic and institutional aspects of NTFPs in Nepal. This is mainly because NTFPs are extracted from wild by individual households, and traded through multiple actors and market channels within a confusing policy environment.

District Forest Offices (DFOs) are responsible for recording the quantity of NTFPs collected from the

national forests of Nepal. However, their record keeping system is very extant. Community Forest User Groups (CFUGs) are allowed to charge fees (royalty) for the collection of forest products including NTFPs from their community forests. For this to happen, they have to mention it in their Operational Plans duly signed by the concerned DFO. Otherwise, DFOs collect royalties of the forest products from the national forests.

Permit systems have been designed to regulate the collection, trade, processing and marketing of NTFPs. Although they have been devised to attain lofty goals of sustainably managing the forests, promoting value addition within the country and generating revenue, their enforcement is ineffective. Instead, they have increased the transaction cost.

The official revenue from the sale of NTFPs from the national forest of Nepal is about 10 percent of total royalty of about Nrs 320 million collected by the Department of Forests (DoF) during 1997/98. However, their actual contribution to local and national economy is substantially higher. My preliminary estimate is that NTFPs valued US\$ 18 million (US\$ 1 = NRs 70) at border price are annually exported to India (Kanel, 1999). The Environment and Forest Enterprise Activities (EFEA) project estimates that the market value of officially collected NTFPs from the project districts is about US \$ 4 million, out of which less than one percent is from the two Terai districts: Banke and Bardia (EFEA, 1999). These estimates reinforce the high potential of promoting the development of NTFP sub-sector in the mountain and hill districts of Nepal.

The general objective of this study is to explore the

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policy issues related to the management and promotion of NTFPs. The other objective is to present the implication of policy analysis related to NTFP development in Nepal

## NTFPs policy issues in Nepal

The policy and regulatory constraints related to the development and promotion of NTFPs in Nepal are mainly of four types:

- Regulatory policies;
- Fiscal policies;
- Institutional bottlenecks; and
- Marketing and trade issues

The regulatory policies are related to harvesting/collection, transport and processing of NTFPs in Nepal. Unsustainable harvesting and collection of NTFPs from wild is a serious issue. This is also related to the design principles of appraising, monitoring, enforcing and sanctioning rule breakers in the sustainable management and harvesting of NTFPs. Various types of permits have been designed to implement regulatory policies in Nepal. However, no systematic and detailed inventory of NTFPs has yet been undertaken in Nepal. The transaction cost of these instruments such as issuing permits, monitoring sustainable harvesting, enforcement of rule-breakers etc. is a serious financial and economic issue.

Fiscal policies are related to the imposition of various types of taxes and subsidies that affect various agents involved in the collection, processing and export of NTFPs. Revenue collection mechanisms such as royalty fixation, export and other informal taxes are included in this category. Some of the community forestry projects are now providing materials such as seeds, seedlings and some block grants to promote the cultivation of NTFPs. The EFEA project is implementing programmes that provide material and technical assistance to members of CFUGs to promote and expand NTFP related activities in community forests.

Two main stakeholders, CFUGs and DFOs are involved in the development and promotion of NTFPs in community and private forests. Various other stakeholders are also involved in the trade, processing and marketing of NTFPs. The relationship, right, revenue collection system among the stakeholders and their roles are fundamental for the sustainable management, value addition and employment generation. Coordination and cooperation among these stakeholders is a major policy issue.

Many agents and institutions are involved in the collection, trade, processing and marketing of NTFPs. Marketing information on, and knowledge of NTFP is very weak among the collectors, traders and government officials. Similarly, capital market is imperfect in the rural areas. This has led to high interest rates to be paid by the NTFPs collectors in the remote areas of Nepal. Input and output markets need to be made more effective and efficient for the growth of NTFPs.

## Regulatory policy

There are various regulatory provisions, which have impeded the development of this sub-sector: They are:

- Collection permits have to be obtained from the DFO for the collection of NTFPs from government forest or in pasture land and from CFUGs for their collection from community forests;
- Transit/export permits of unprocessed NTFPs have to be obtained from the DFO;
- The Department of Plant Resources (DPRs) issue export permit for the processed product;
- There is a ban on the collection of two high value species; and
- There is also a ban on the export of eight NTFPs without domestic processing;

Multiple check-points have been established for verification while transporting NTFPs and other forest products. This has led to high transaction cost.

## Fiscal policy constraints

Major fiscal policy constraints in the development of NTFPs sub sector are as follows:

- The system of royalty fixation and collection is cumbersome;
- Different forms of informal taxes are levied by various organisations such as police, school, Village Development Committee (VDC), District Development Committee (DDC), municipalities, etc.;
- There is an additional export tax of 0.5 percent on the value of product;
- The Federation of Nepal Chamber of Commerce and Industry (FNCCI) issues certificate of origin to requested traders only in the eastern part of Nepal. It charges tax of 0.06

for the certificate;

- The mechanism for charging export tax on the value of the product is not clear. It is said that it is based on market price but market price means a price relative to a place but this is not clear from the regulation;

### Institutional constraints/opportunities

Main institutional constraints in the development of NTFPs sub sector are as follows:

- Normally, CFUGs' operational plans are prepared for five years and are approved by DFO. It needs to be renewed after five years. However, the right to revise an operational plan lies with the CFUGs with information given to DFO;
- Most of CFUGs' operational plans are based on social survey. Inventory of forest and NTFPs and their sustainable level of harvesting are hardly mentioned in the plan.
- The mechanism of handing over of the Terai and mountain forests to CFUGs is not well organised;
- Shortage of DFO staff in mountain and hill districts is adversely affecting the handing over and subsequent forest management support;
- There is a provision of CFUG fund. All the income from a community forest has to be deposited in that collective fund. Part of this collective fund can be used only for collective action. This may create a restrictive incentive for CFUG members to intensify the management of community forest;
- Coordination among different stockholders is also a problem. There may be a necessity of establishing a NTFPs board for policy coordination and research. It should have members from different stockholders including the ones from the private sector;

### Marketing and trade issues

Major issues in marketing and trade of NTFPs are as follows:

- People involved in the regulation of NTFPs collection and export e.g. DFO staff, Custom staff, Police, etc. have difficulties in identifying NTFP species especially Medicinal and Aromatic Plants (MAP);
- Many of the MAP species have more than two local names for the same species in the Forest Rules 1995. Same product or same species has

different names and different royalty rates;

- The rural poor mostly collect NTFPs. They always face shortage of capital. There is no established formal credit system in those remote areas. Capital market imperfection inhibits them to get reasonable gains from trade. In many cases, the wholesale traders issue money in advance and charge high interest rates on the money loaned. In other cases, the traders purchase NTFPs on discount because they have provided loan in advance for collection. Therefore, establishing efficient rural micro-credit system could address this problem;
- Many of the NTFPs collectors are poor and live in isolated areas. In these places, illiteracy and poverty are wide spread. Supporting them with marketing information such as price, quantity demanded, etc. could increase their bargaining power. Similarly, training on record keeping and other capacity building can increase their negotiating and bargaining power;
- CFUGs can establish and run enterprises. However, they appear and behave like non-profit NGOs. The role of CFUG in the establishment and operation of processing units should be analysed.

### Analysis of some policy constraints

#### Status study of two important NTFP

Two species *Yarsha Gumba* and *Panchaule* have been banned even for collection in Nepal. Both of these species fetch very high price in the black market both in Nepal and India. The rationale for their ban on collection has not yet been justified, except for the fact that *Panchaule* is included in the CITES list as a protected species (Parajuli *et al.* 1998).

#### *Yarsha Gumba (Cordyceps sinensis)*

*Yarsha Gumba* is a fungus grown on a caterpillar during the monsoon. As the spores of the fungus germinate and grow on a living caterpillar, the caterpillar eventually dies. It is available as a matured plant from spring to summer in the grassland of mountains between 3,000 to 6,000 m in Dolpo, Jumla and Humla districts.

Therefore, *Yarsha Gumba*, as it is commercially traded, has two components the lower part is dead caterpillar and the upper part is fungus. The size of the fungus is about 4 to 12 cm in length and 2 to 5 cm in girth. It is collected by the local people and is either locally used or traded as an aphrodisiac or tonic. Even livestock eats it. In the remote districts,

it is sold at Nrs 3 to 5 per piece, and in India it is sold at about Nrs 28,000 per Kg. There are about 3,500 pieces per Kg of *Yarsha Gumba*.

It is apparent from the biological and use point of view that there does not appear to be any reason for putting a ban on the collection and trade of *Yarsha Gumba*. It is basically a fungus on a caterpillar. Whether it is collected or not, it would eventually die. The use and exchange value of the *Yarsha Gumba* is extremely high. There is an established market for the product from long time. Every year, substantial amount of *Yarsha Gumba* is illegally traded and exported to India from Nepal. Livelihood of many poor people in the mountains depends upon the collection and trade of this product. Therefore, there does not appear to be any logic for banning the collection and trade of *Yarsha Gumba* in Nepal. In fact, the local people should be encouraged to expand the cultivation and trade of this product because this has very high market price.

### **Panchaule (*Dactylorhiza hatagirea*)**

*Panchaule* is a herb. It is propagated either by rhizome or by seed. However, it has a regeneration problem due to the lack of sufficient amount of viable seed production. Therefore, the best way to propagate *Panchaule* is through rhizome. It grows between 3,000 to 3500 m in the central and western part of Nepal. The rhizomes of *Panchaule* are dug out and dried for sale. The dried rhizomes are also used as aphrodisiac or tonic.

The status of *Panchaule* is different. It is listed as an endangered species by IUCN and CITES. So far, we do not have any data on the abundance, potential yield and extraction rate of this product. What we know is that its market price is very remunerative to the collectors. Its use value is also immense. Therefore, we need to be cautious in designing regulatory policy in the collection and trade of this product. A detailed survey on the existing regenerative capacity of land, collection practices and quantity collected is necessary to design regulatory policies. It is to be remembered that designing rules to control extraction and use is one, but its field level enforcement is different. Moreover, enforcement itself is a costly process in the remote areas.

Presently, the market price of *Panchaule* in India is about Nrs 800 to 1,000 per Kg. The average collector's price in *Gorkha* District is reported to be Nrs 422 per Kg (Olsen, 1997).

We can follow two strategies to understand the

policy dilemma. The first option is to legally allow the extraction and trade of *Panchaule* and continue to study the biological status and growth of this species. The second option is to continue the ban on collection and at the same time initiate a comprehensive study of the plant biology and its habitat until the result shows that banning its collection is the only viable option for conservation of the species.

### **Analysis and impact of royalty fixation**

Olsen (1997) has proposed that the whole system of fixing royalty rate should be changed. He proposes that collecting them by DFO or CFUG should be abolished and replaced by other market based tax system such as the ad-valorum tax. His logic lies in the fact that NTFPs are either processed within the country or exported in raw or in processed form. In both of the cases, the government could devise Value Added Tax (VAT) or export tax based on the market value of the raw or processed product. This way the high transaction cost of getting a permit to collect and transport, and depositing the royalties at DFO or CFUG would be eliminated. This will create a very favorable environment for NTFPs traders. In sum, his suggestion is to replace the control and command system of royalty collection by market based instrument.

HMG has devised a process of collecting royalties on NTFPs grown in the forest. CFUGs are entitled to obtain the royalties or any other fee fixed by the CFUGs from their community forests if it is explicitly written in their Operational Plan (OP). Otherwise, collectors have to pay the royalty to the concerned DFO.

If the product is collected from the community forest, the CFUG which is entitled to collect royalty will have to recommend to the concerned DFO that the collector has already paid royalties of the product(s), and he should be entitled to get a transit permit of the product.

These two types of permits (collection and transit) have been designed to control harvesting within sustainable level, and to collect royalties of the product(s) from the national forests. The collection permit has been designed to regulate the extraction of NTFPs at a sustainable level and to forbid the collection of banned plant products. However, the system does not seem to work as anticipated as the banned products are also illegally collected and exported to India.

There are no regular studies on the status,

regeneration and optimal level of NTFP extraction in different ecosystems of districts. Therefore, the DFOs or even the CFUGs issue collection permits to the harvesters based on the previous records. The transit permit has been designed to make sure that royalties are paid on the products harvested from the national forests. Clearly, collection permits can be issued by the DFO or by CFUG if the Operational Plan specify so. But the transit permits are invariably issued by the DFO.

The enforcement of collection and transportation including export of NTFPs permits is very difficult. In many cases, the enforcement officials themselves find it difficult to identify the products and species.

There is a committee under the chairmanship of the Director General, Department of Plant Resources to revise royalty rates of NTFPs. The committee should be activated to update royalty rate depending upon the market price of the product. To make the royalty rates more practical, collectors, traders, custom officers and botanists should be involved in the process of fixing royalty rates. Similarly, the training programmes conducted by the Training Division in Kathmandu and its branches at regional level should provide information and knowledge to different actors in identifying the plants and their products.

### Export permits

The concerned DFOs are responsible for issuing export (transit) permits for the NTFPs, which are not banned for export without domestic processing. The export permits for the processed product is issued by the Department of Plant Resources (DPRs).

There are two species, which have been banned even for collection. They are *Cordyceps sinensis* (Yarsa gumba) and *Dactylorhiza hatagirea* (Panchaule)

Eight species have been banned for export without processing. The processed products can be exported once they are verified by the DPRs. The species, which have to be processed for export, are:

- *Nardostachys grandiflora* (Jatamansi), *Rauwolfia serpentina* (Sarpagandha), *Cinnamomum glaucescens* (Sugandhakokila), *Valeriana jatamansi* (Sugandhawala), *Parmelia species* (Jhyau) *Abies spectabilis* (Talis patra), *Taxus baccata* (Lauth salla), and Organic exudate (Silajeet)

Almost all the NTFPs that are exported outside

Nepal are sold to India. There is a fiscal policy of levying 0.5 percent ad-valorum tax on the export of both processed and raw NTFPs.

The amount of processed NTFPs in Nepal is insignificant in comparison to the total raw NTFPs exported from Nepal.

Even though HMG has restricted the export of eight NTFPs without processing them within Nepal, substantial amount of these products appear to be illegally exported to India in raw form. Given the high transaction cost of exporting them to India, no body has yet studied the incremental incentives for people to be engaged in this illegal business. Further understanding on the transaction cost of exporting NTFPs to Indian territories would be of policy relevance in designing effective export restrictions.

Only a few traders in the Terai control the NTFPs market. There is very little study done on the quantity of end product and markets of these products exported from Nepal. Moreover, the regular fluctuations in the price of NTFPs has also implications on the production, processing and utilization.

### Conclusion

Nepal has a large potential of better managing and utilizing NTFPs. Many agencies and agents are engaged in the extraction, trade and export of medicinal and aromatic plants. Most of these products are unprocessed and exported in raw form mainly to India. My preliminary estimate indicate that about US 18 million dollars worth of NTFPs are legally and illegally exported from Nepal to India. About four million dollar worth of NTFPs mainly medicinal and aromatic plants are annually exported to India from EFEA project districts alone. The rent collection in terms of royalty by the government is negligible in comparison to the amount traded within and outside Nepal. This is mainly because NTFP collection, trade and processing operates under very complex policy environment. The poor households collect most of the NTFPs in wild from the mountain and hill districts of Nepal. However, we do not know the ecological status and sustainable level of extraction of NTFPs from the forests and pasture lands. There are regulatory provisions to ensure that NTFPs are extracted in a sustainable way from the wild, but the monitoring and sanctioning mechanisms are very difficult to enforce. Rules have been designed but they have increased transaction cost of collection and trade.

Fiscal policies have been devised to generate revenue

to the government both in terms of royalty and export tax. However, the magnitude of revenue collection is insignificant. Coordination among different stakeholders involved in the collection, trade, processing and export is a challenging issue. Marketing and trade of NTFPs especially those extracted from the mountains and hills is a serious issue for the sustainable development of this sub-sector. A few wholesale traders in the Terai dominate the trade of NTFPs in general, and Medicinal and Aromatic Plants in particular. These oligopolists not only determine the price of the products, but they also supply capital in advance through various channels to the rural collectors at a very high interest rate. Therefore, reforms have to be undertaken in different fronts in order to promote the sustainable development of this sub-sector in Nepal.

The following recommendations are listed to make NTFP farming and collection more beneficial to the rural people and to contribute to local poverty alleviation. These recommendations are expected to result in proper share of benefits from NTFP management for each stakeholder involved in the process e.g. farmers, collectors, traders and government. These recommendations are:-

- Remove the present ban on the collection of Yarsa Gumba and the export trade of eight species;
- Develop a mechanism to review royalty rate regularly;
- Remove multiple royalty rates for the same product obtained from the same species;
- Strengthen capabilities of CFUGs;
- Develop a mechanism for issuing permit of NTFPs grown in private land;
- Revise operational plans so that CFUGs could capture revenue from NTFPs grown in community forests;
- Develop a mechanism so that contributing households obtain compatible private benefits from their community forests;
- Train involved officials and collectors in the identification of NTFP.
- Develop credit facilities in remote areas so

traders do not exploit that NTFP collectors.

Therefore, if careful strategies are designed and programmes are effectively implemented, NTFPs especially medicinal and aromatic plants, can generate substantial employment opportunities resulting in income generations to people living in the remote part of Nepal where no other economic opportunities exist. This will help in poverty alleviation in the locality as well as conservation of important species.

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