Economies of forest governance: Nepal's community forestry – A Case Study

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Abstract

This paper focuses on economies of governance issue which has propped up with recent Nepal Government's decision related with community forestry. Using Pearce and Warford model (1993), the impact on appropriation of community forests have been assessed. The findings include sustainability and economic aspects of forest governance and conclude that the decision infringe forest users' right for fixing price of forest products generated from the community forests. The paper recommends proper institutional mechanism to regulate harvesting in community forests of Nepal. An important implication of the recommendation of this paper is improved livelihoods through augmentation of human, natural and physical capital.

Keywords: Community forestry, economics, governance, forest management, Nepal.

Introduction

Governance is the way how government executes its function in a prudent and judicious manner. It is not an entirely new concept. There used to be the concept of the welfare state which means the state should provide welfare to its people through a sound management of development and public services (Acharya, 2002). However, overextended role of the states and the incapability of the institutions to perform due to excessive indulgence in power, corruption, absent of visionary leadership and inadequate reforms in principle of rule of law were not being realised. Later in 1990's, a concept of participative governance has been introduced. It envisioned the increasing role of non-government sector including civil society and reduced the government's role to regulatory function. Moreover, the government intervention is still essential, especially to bring under-privileged and marginalised people in the main stream of development. The degree of good governance can be measured by a) distribution of power, b) allocation of resources, and c) mechanism of solving differences.

In forestry, good governance becomes a new Moto of forest administration and management in Nepal. It is about steering the system to deliver the much expected services to its clients, the people. The issue of governance has become so much obsessive that even the plan document of the government has started to insert a separate policy under this subject (National Planning Commission's Eighth, Ninth and Tenth Plans).

Forest governance in Nepal

Earlier to the establishment of Department of Forest in 1942 with 3 circle and 12 forest check post, forests of Nepal were protected under the code for forestry (Ghimire, 1998). National code had stopped the unauthorised cutting of trees. Most of inaccessible forests in the hills were controlled through informal institutions of villagers and locally hired forest watchers. Accessible forests in the Tarai, government professional, until late 1940s foreign forest experts were used to regulate forest management preparing couple of forests management plans for revenue and settlement. Despite, national codes to conserve forest resources, forests were cleared for settlement, revenue and for agriculture purpose.

Degradation of forest were also evident because of the increased shrubland over the past survey records, besides growing need of forest products and political turmoil. Destruction, deterioration and fragmentation of forests became a public concern with calls for government established forest organisation, introduction of forest service and preparation of working plans with the assistance of foreign experts.

There was a gradual shift in development thinking from the 1950s to the 1970s that coincides with the emergence of community forestry. A shift from 'Keynesian style' development paradigm to a more rural oriented development approach paves way for community forestry. In the early 1950's the role of forestry was to provide raw materials to the forest industries. This approach was based on a high "structural interdependence between forestry and the industrial sector of the economy" (Westoby, 1962). In 1970s, as already mentioned, there were shifts in the developmental thinking. This shift stemmed from the philosophy that the development should be achieved "based on rural income and output". The importance was placed on achievements of equity, emphasising the distribution aspects underlying growth. Also people's participation in the development process was stressed. In an address to the 8th World Forestry Congress, even Westoby took a major departure from previous stance, acknowledging, "the dreamed snowball-effect of forest industries on rural economies has not materialised" (Westoby, 1987). Westoby later acknowledges: "In the early…… concluded that forestry is about trees. But of course, this is quite wrong. Forestry is not about trees, it is about people. And it is about trees only insofar as trees can serve the needs of people." (Leslie, 1987)

There has been significant shift in Nepal regarding forest governance with the emergence of community forestry. Greenery with its once famous term 'Shangri-*La*' is replenished in the hills of Nepal. The brink and pedantic forecast regarding forest disappearance in hills of Nepal becomes a myth. Nevertheless, that created a wide interest, among the donors and multilateral agencies, to assist in community forestry programs in Nepal. However, a promising action came from villagers themselves. They shouldered a seemingly 'Herculean task' and now, even less than two decades, there is a miracle. This miracle, so called 'community forestry', is giving a lease to rural life in Nepal (Sharma 2010a).

Conceptualisation of community forestry: The attempt of initiating participatory forest management in Nepal initiated in mid 1970s in Sindhupalchok district. Most of the official records that support the claim are lost[1]. In 1991, a mass revolution reinvented the multiparty democracy in Nepal. The government, since then, has pursued a policy of handing over forest resources directly to the villagers so that they can use it for rural development. The Forest Department identifies villagers, including the poor and landless, those depending on forest for their livelihood. They are organised into a forest user group. A formal agreement between the Forest Department and the group transfers responsibility and authority of management to the group. This process is preceded by hand over of government owned forest as the community forest. The Forest User Group also elects a committee among themselves to manage the group operations on daily basis, however, all the major decisions are to be ratified by the group. The Forest Department has conceptualised 'people oriented forestry' as follows:

[1] The District Forest Office, Sindhupalchok was set to ablaze by the Maoist in October 2002, and most of the official records were destroyed.

Community Forestry: Forested or degraded forest land owned by the government but formally handed over to a group of villagers for its protection, management and utilisation.
Forest User Group: All members of a community that regularly use a forest to meet their household needs, organise themselves as a group to protect, manage and utilise the forest
FUG Committee: An elected or selected body comprising of 9-11 members who are responsible for implementing group's decisions regarding protection, utilisation and management of community forests.

Community forestry program in Nepal, which involves the governance and management of forest resources by communities in collaboration with the government and other stakeholders, was specifically formulated to address local livelihoods and abate environmental degradation through sustainable forest management. The program is now a central component of Nepal's national sustainable development strategy that is focused on poverty alleviation through development and efficient management of natural resources (Gautam, 2009). Thus, community is geared towards sustainable management and poverty reduction and herald people's participation in management of forest resources in Nepal.

Community forests have been availed by the government as a local resource to the local populace and it has opened avenue for further rural development. The response at local level has been quite encouraging, particularly people at their own initiatives have launched poverty reduction activities in their local communities. Economies of the community forestry will be materialised through the governance and enabling policy environment.

Forest resource of Nepal

Nepal extends 800 km east to west along the southern slope of the Himalaya. The county is landlocked, and is a narrow strip of land squeezed between two Asian giants, India and China. Nepal is divided into three ecological zones, namely the Tarai/ Inner Tarai (100-300 m above sea level), the Middle Hills (300-3000 m a.s.l.) and the High Mountains (above 3000 m a.s.l). The Middle Hills, or Mahabharat Lekh, represent the region where Community Forestry (CF) is widespread however, the programme extends throughout the country. Most of the country's forest occurs in the Middle Hills. The Middle Hills also have the greatest ecosystem and species diversity (Sharma, 2010c).

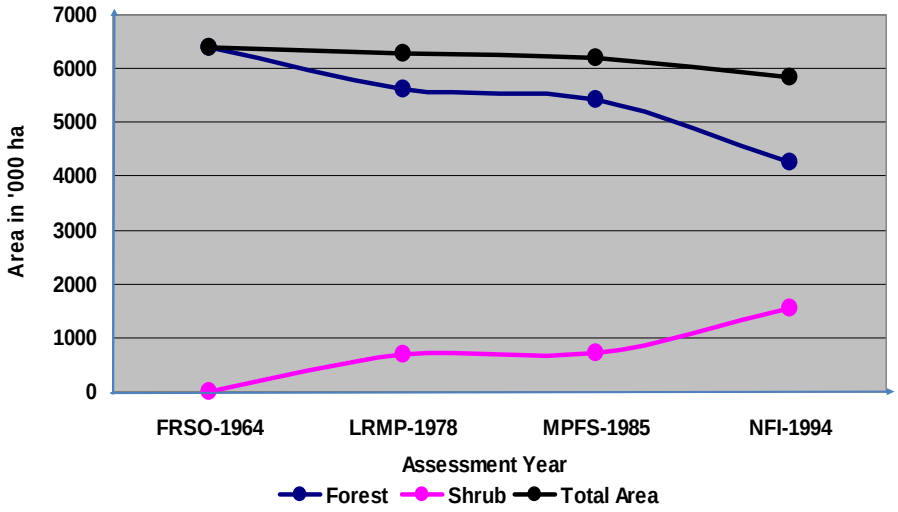
Nepal's forest resource constitutes 39.6 percent of the total land area. The area of the forest is about 4.3 million hectares while shrubland measures 1.6 million hectares. Except private ones, the government owns all types of the forest. More than one-third forests are being managed by local institutions under participatory forest management regimes. The remaining area is being managed under Protected Area (PA) management system and government managed forests. The PA management system accounts approximate 15 to17 percent of total forest area. In forestry sector, power and revenue sharing mechanism exist among the stakeholders with varied forms in government owned and protected area system. Moreover, the government holds almost all legal rights in rule making, imposing and revoking participatory practices. The forests together with

agriculture and fishery contribute to 32.7 percent of the GDP of the nation (Sharma, 2010b).

The forest resource continues to decline at a rate of 1.3 percent annually which is even higher in the case of the Hills and the Mountain. The annual rate of deforestation in the Hills between 1978/79 and 1994 stood at 2.3 percent per annum while deforestation in the Tarai for the comparable period remained 1.3 percent (DFRS, 1999). The Tarai region of the country experienced a sharp reduction in deforestation in the late 1990s (DoF, 2005).

There are different studies carried out during different periods report different statistics regarding forest and shrub land areas. The reports published by Forest Resource Survey Office (FRSO) and Land Resource Mapping Project (LRMP), carried out before '80s, reported more than 6 million hectares of total forest area. The latest available report published by National Forestry Inventory (NFI) showed substantial increase in shrubland areas which was substantially more than reported by the Master Plan for Forest Sector (MPFS). An assessment of the forest inventory is at the offing with Finnish government's support and the outcome of the survey certainly will reflect the impact of community forestry in the restoration of degraded forest areas in Nepal especially in the hilly areas of the country. Nepal is one of the top ten countries in terms of deforestation of primary forests, which lost 9.1 percent of its primary forests between 2000 and 2005. Deforestation rate of Nepal between 1990 and 2005 was approx. 6.4 times more than the global average.

Figure 1: Forest Land use change trend in Nepal (from the year 1964 to 1994)



Forestry distribution and management system

The distribution of forests in three major physiographic regions is almost equal. As indicated in the Figure-2, the regional per capita forest area varies widely from high Mountain to the lowland Tarai which is less than half of the national average (0.27) including Protected Area. Population density decreases with increasing altitude.

Similarly, challenge of forest management and biodiversity conservation is apparently become high in the Tarai and Hills as compared to the High Mountain. Therefore, the topography, accessibility, types and composition of forests and the people considered as essential components for better management of forest resources.

Figure 2: Distribution of Population and key land based resources in different physiographic regions (Budathoki 2011)

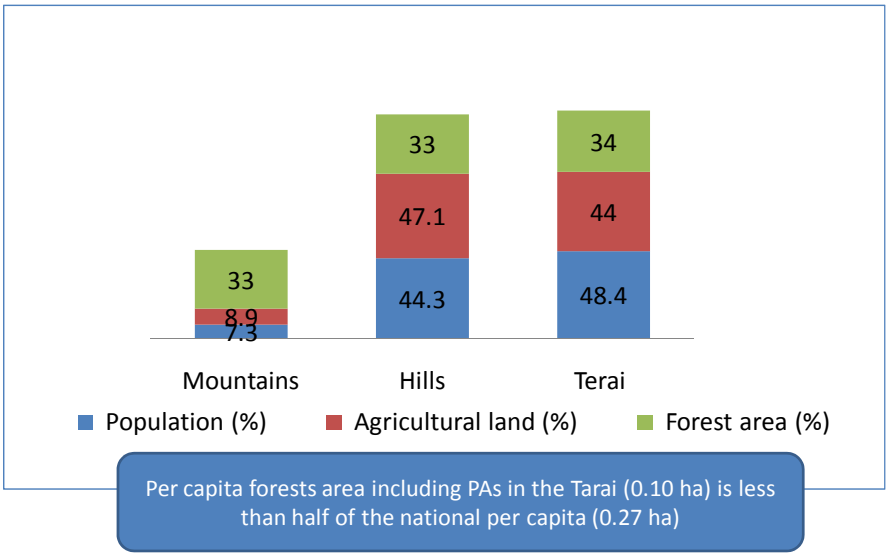


Table 1: Forest and shrubland under different institutional regimes

Forests category	**Area (hectare)**	**Percent coverage**
Community Forests	19 56000	23
Leasehold Forests[1]	53 572	0.92
Government Managed Forest	28 17843	58
Collaborative Forests	44 134	0.76
Protected Forests[2]	71 129	1.22
National Parks and Protected Area	99 0760[3]	17
Religious Forests	575	0.01
Total	**58 28000**	**100**

Notes:
1: Leasehold forest also includes commercial forests besides land provided to the people below the line of poverty.
2: Areas of scientific and biodiversity importance and are gazetted by the government.
3: Estimated Forest area under PA system (adopted from Kanel et al., 2009).

Master Plan for Forestry Sector (MPFS, 1988) together with revised Forestry Sector Policy and Forest Act 1993 classified government forest into seven main management categories as indicated in Table-1. The main basis for classification is to encourage local forest users including informal or formal institutions involved in forest resource conservation and private sector for curbing deforestation rate and degradation of forest resources, besides fulfilling people's forest product needs and international commitment on biodiversity conservation. Among these categories, community forestry is a successful and accepted modality to manage common forest resources especially in Mountain and Hills of Nepal. Nepal has achieved exemplary success in participatory management of natural resource in the world. Management of nearly 1.956 million hectares of forests by 16,283 local forest user groups has helped recover the denuded Hills and ease supply of basic commodities required on daily basis[2]. Nearly 29.8 percent of households in the Mountains, 34.9 percent in Hills and 26 percent in the Tarai collect fuel wood from the community managed forest.

Collaborative forest management has recently been piloted in eight Tarai districts to enhance participation of distant forest users and local government bodies which are still a contentious issue of community forest and collaborative mode of the management. Leasehold forestry is promoted by the Forest Act 1993 to improve livelihoods of poor people through management of degraded forestlands and private sector involvement in forest development. The coverage of leasehold forestry is small (0.7% of the total forest area) and there is scant information available showing its effects on recovering forest condition. Expansion and promotion of private forestry (especially in the Tarai) was a major component of the Master Plan 1988, but due to poor planning and implementation and an unfavourable investment climate and market, this has not been successful. Nepal government has recently promoted protected forests to conserve ecologically critical and significant biological corridors and connectivity with biodiversity hot-spots.

Forests and economy

The Forestry sector's contribution to the national income has been in the declining trend reduced from 14.6 percent in 1956-61 to 3.6 percent in 1975-80 which has further decreased to 2.8 percent in FY 2006/07 (CBS 2007 cited by Dangi et al. 2008). This is due to swelling off-farm economy and shrinking area of forests under government management as a result of expansion of participatory forest management.

Forestry sector contributes about 35 percent of livestock nutrition, while nearly 80 percent of residential energy is generated from wood primarily coming from the forests (Ghimire, 1999). Besides providing basic forestry needs, the forest sector also provides

[2] Which has benefited almost 1.515 million households comprising 42 percent of the total households of the country.

1.36 million full time jobs in fuel-wood and fodder collection (CBS, 1999 cited by Budathoki, 2011). Well maintained forests are necessary for biodiversity conservation, fresh water and tourism, and hydro power development. An analysis of tourist visits in the protected areas shows that 94 percent of trekkers go to three mountain PAs in Nepal. While more than 50 percent tourists visit those areas. The watershed areas of all prominent rivers of Nepal are managed as protected areas. Forests also regulate fresh water supply in middle mountain areas[3]. The forests lying adjacent to the southern plain areas (Tarai) are called Churia forests which are absolutely vital for the survival of Tarai economy and livelihood of people[4].

There is growing realisation at various levels of governance that protecting forests is the most cost effective approach to reduce the effect of climate change while if properly accounted forestry can contribute between 9.45 percent (goods only) and 27.55 percent (goods and services) of total GDP of Nepal (cited by Budathoki, 2011).

Discussion

According to Ostrom (1990), governance can be regarded as an overarching institutional arrangement, which regulate human behaviour, and ensure accountability feedback. The nature of governance will influence policies, and the implementation of polices will have repercussions on operational activities. Since, policies are embedded in governance, and operational activities are embedded in the policy arenas, governance, policies and operational activities are interrelated. In a better governed forest management systems, each of the levels provides feed back to one another and accountability and transparencies are ensured. This ultimately leads to better forest governance and hence healthy forest (cited by Kanel et al., 2009).

In community forestry governance has remained as a viable public domain of democratic negotiations on forest rights and responsibilities between state, communities, non-government organizations *and private sector* (addition) (Pokharel and Niraula, 2004 modified).

Forest Act 1993 and regulation 1995 projects governance as an important agenda providing policy and legal basis to devolve and share power of state with forest dependent rural communities however the circulars issued at various levels of forest bureaucracy are often at logger head with the legal provisions. Thus culminating into serious governance issues in community forestry, hence many governance issues prop-up even in community forestry and some of them remain unaddressed.

Forest governance in community forestry can be compared with Soccer, a popular game in Nepal. In the game, the components are not only rule of game, players, umpire and field size but also the spectators that matter. In general governance principle refer to rule of game, participation, transparency, accountability, responsiveness, inclusion and equity, predictability, and consensus that are to be discussed. In rule of game the subjects like coherent and enabling policy, legal framework and responsibility and measures to curb abuse of power etc matter the most. The major players in community forestry are

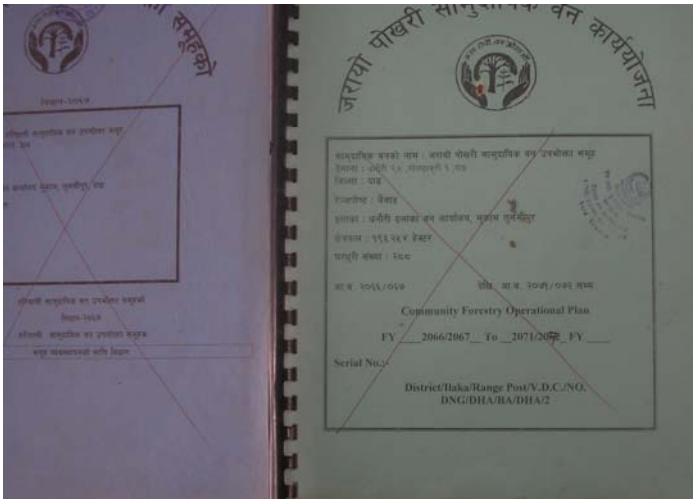
[3] Nearly 40 percent of the water supply to Kathmandu comes from Shivapuri National Park lying adjacent to the valley.

[4] Mainly agriculture and farming and Tarai is regarded as the food basket of the country.

FUG committee member and general members while the District Forest Officer and junior forest technicians have umpiring and lines men role. The civil society organisations like FECOFUN (Federation of Community Forestry Users, Nepal), local NGOs and Village Development Committees, local political bodies, media have spectator's role. The private sector plays as a sponsor for advertising, rewarding and stimulating the players.

As a referee, Nepal Government in April 2007 has made a mandatory provision of Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) for managing and handing over community forests of size larger than 200 and 500 hectares respectively. The provision has been a contentious issue between government and FECOFUN. Sharma's (2010c) study shows that the provision has unintended but desirable outcome in the distribution of community forests at national level. As the governance qualifies the rule of games by adopting the rule of IEE however, as players FUGs has manipulated threshold which was identified by District Forest Officer as field umpire and declined for approval (see picture-1).

Picture-1: DFO, Dang disapprove operational plan of community forests manipulating area to avoid IEE/EIA provision.



In the above example, there are two conspicuous weaknesses: (1) stakeholders had not been consulted while promulgating the regulation and (2) the players (FUG) and spectators (civil society) manipulated the threshold to avoid the rule of game which has adverse effects specifically on resources and community in general. Ultimately the principle of governance has been dishonoured.

Forest governance should enable community and organisations to achieve the twined goals of sustainable management of forests and improved livelihoods. In the following section, two aspects of community forestry governance: resource sustainability and economics are discussed in light of recent (July 16, 2010) government decision (Box-1) which may have enduring effect in the governance system of community forestry.

Box-1: Major decisions of Nepal Government dated July 16, 2010 related with governance issue in community forestry

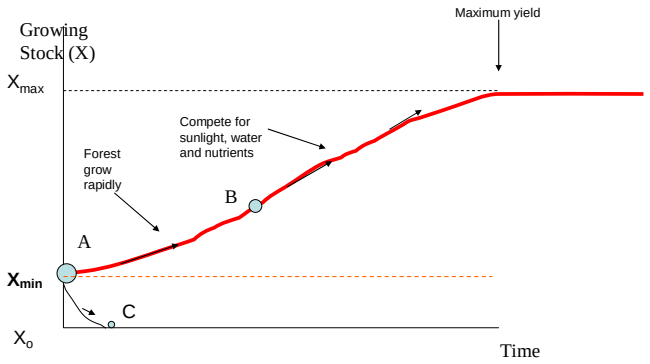
- Maximum limitation of per household forest area based on physiographic location
- Fixing of price of forest products for internal consumption on the basis of physiographic location, wealth ranking and royalty rate
- External sale of forest products through auction on the basis of existing market rate
- Deposition of 50% of royalty amount from the sale of timber in Forest Development Fund
- Involvement of District Forest Coordination Committee (DFCC) in monitoring the process

(Unofficial translation)

Sustainable management of community forests

A forest that is clear-felled and then used for permanent agriculture may not renew itself because of the soil erosion and nutrients depletion. Sustainable management allows forests to renew itself and permits only the sustainable yield to be harnessed by the appropriators. If more than the sustainable yield is taken on a regular basis, the remaining forest stock has no chance to regenerate, resulting into over use, which ultimately threatens the forests with extinction.

Figure 3: Growth curve for community forests

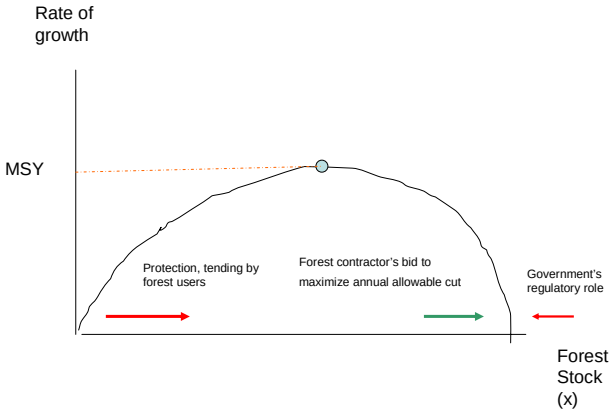


Extinction of forests in the plain areas of Nepal was a destined possibility under prevailing circumstances, had there not been invention of community forestry in Nepal (Sharma, 2010b). However, community forestry in certain areas of Nepal are also being subjected to over use for commercial interests also termed as hidden economics (Iversen

et al., 2006) The governance issue with community forests, then, is also the concern exhibited by Nepal Government to curb the rate at which the community forests were being used so that the forests are maintained well within the maximum sustainable yield (MSY).

Point A in the Figure-3, depicts a situation where adequate number of shelter wood are maintained to ensure natural regeneration of the forests. In case of Sal (Shorea *robusta*) forests in the Tarai, it is a requirement of maintaining with minimum 25 viable mother trees per hectare in the stand which may vary with the species. If that requirement is violated then we reach at point C where the only alternate of regenerating the forest is either through plantation or other artificial means of regeneration which can be not only costly option but also risk failure. If the minimum requirement as stated at point A is maintained and favourable condition prevails then the forest managers, mainly the forest user groups in our case, can move to point B, where there will be sufficient regeneration of Sal trees often with a stocking of 8000 pole sized trees per hectare. At this point, the Sal tree may not be subjected to die-back problem and can be thought of being established. However, a point beyond B exacerbates competition for sunlight, moisture and nutrients, hence demand proper silviculture treatments. Even if such treatments are provided there would be a point, not specified in the above diagram where the yield is a maximum and the stand should be subjected to harvesting under different management options.

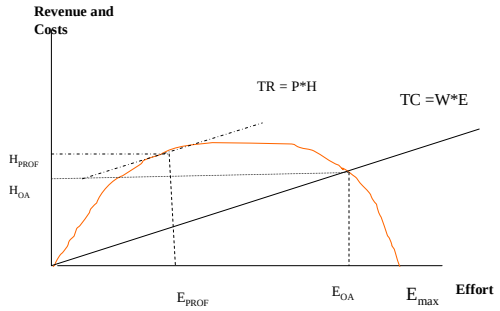
Figure 4: Growth curve for community forests: regulating harvest



In the Figure-4, we are showing the point with maximum timber yield which may be quite attractive for forest managers. The point is possible only when the FUGs consider the forest as their own and employ maximum protection and proper tending operations (red arrow). However, with lucrative profit making the forest contractors employed by the FUG may attempt to extract maximum amount of timber with scale of economy being the driving factor (green arrow). The government regulatory role and to some extent FUGs self-monitoring mechanism exert the pressure from opposite direction (red arrow).

One apparently obvious management solution is to choose the Maximum Sustainable Yield (MSY) which looks attractive because one can take the MSY each period or felling cycle, leaving forest stock to regenerate in between and such a strategy produces the highest yield. Even though many forest managers continue to look for MSY, it may not be invariably, the optimal economic strategy. In the following section, we use the model developed by Pearce and Warford (1993) to explain governance issue related so called over harvesting in community forests and aforesaid government's decision.

Figure 5: Scenario of harvesting in community forests before July 16, 2010 decision



Economies of community forestry

Figure-5 repeats the earlier diagram but changes the horizontal axis to effort. Effort is a measure of the inputs-that needs to be applied to the community forests and can be measured in terms of man-days, and prevailing wage which is quite low as the logging is still regarded as an unskilled work. The vertical axis is in terms of revenue and costs. The general intuition is that higher levels of effort (in terms of man-days and wage) correspond to lower levels of forest stock and the lower levels of effort correspond to higher levels of forest stock. Thus forest stock decreases as we move along the effort axis. The point E_{max} now corresponds to maximum effort and hence tends to deplete the forest stocks (x_0). We attempt to convert the yield curve to a total revenue curve by assuming that each cubic meter of timber harvested commands the same price in the market because Kathmandu is the main centre of timber business. Then, harvest, H, times price, P, is total revenue. The yield curve becomes a total revenue curve, TR = P*H. We can also superimpose a total cost curve by assuming that each unit of effort, E, commands the same price, W. Then W*E is a total cost curve. Hence, two equilibria are of interest. First, though the government is the legitimate owner of the forest, the management committee of the FUG along with the District Forest Office takes the harvesting related decisions (actually the group prepares the operational plan of the forest and the DFO approves it). As the FUG is also legally entitled to act as an individual, the group will aim to maximise profits, and this will occur at E_{PROF} where the difference

between TR and TC is at a maximum. It should be noted that E_{PROF} does not correspond to the point of maximum sustainable yield because theoretically speaking, the group first attempts to fulfill their own needs then only sells the excess amount of timber in the market. It would do this only if harvesting costs tend to be quite low. E_{PROF} also looks fairly safe, at least for forest stocks because the plain areas of Nepal, where we are talking about governance issue, tends to have good regeneration of Sal species. Thus the equilibrium is a long way from E_{max}, which suggests that vesting usufruct rights of a community forest in a group (though entitled legally to act as an individual) may well secure the conservation of that resource (which is rather undisputable in Nepal). This conclusion will have to be modified when time is more explicitly considered, but it does not suggest the only way of securing resource conservation because other management regimes such as leasehold forestry, collaborative forest management, buffer zone, conservation areas are also well developed in Nepal.

Second, suppose that there is no collective regulation and that any anyone and everyone with an axe, physical strength and skill of felling trees can come and get what they want. This might be the case where both the FUG committee and District Forest Office shy respective regulatory roles. Such a community forest can also be treated as a situation close to open-access regime: with virtual absence of regulatory mechanism and no rules for using the forest. In such a case any forest contractor who realises a profit by entering in the business does so. Accordingly, wherever TR is above TC, forest contractors come to harvest the forest resource. They stop only when TC exceeds TR, as it does to the right of E_{oa} in the above figure. Accordingly, E_{oa} is the situation which resembles an open-access equilibrium. Notice that E_{oa} does not result in the extinction of the forest resource. Nonetheless, E_{oa} is quite close to E_{max}. Essentially, the lower the cost of harvesting, the greater the chances of extinction appear to be.

The risk of extinction associated with open-access is sometimes referred to as the tragedy of commons (Hardin, 1968). There are arguments that Hardin's notion do not apply in case of community forestry in Nepal (Gilmour 1990) and also because E_{oa} is an equilibrium at which a sustainable yield is taken unless it exceeds MSY.

Recent policy decisions

Analysing the harvesting in community forest, we see that the harvesting costs are quite low often tending to be negligible because of the employment of unskilled labour in the activity. Nepal Government in order to curb tendency of over-harvest (though based on MSY) decided to regularise tree cutting in community forests with measures like minimum royalty price, 50 percent of the royalty amount in Forestry Development Fund (FDF) in cases of commercial sale of timber. The decision was intended to control indiscriminate felling however faced stiff resistance from the Federation of community forestry users, Nepal (FECOFUN).

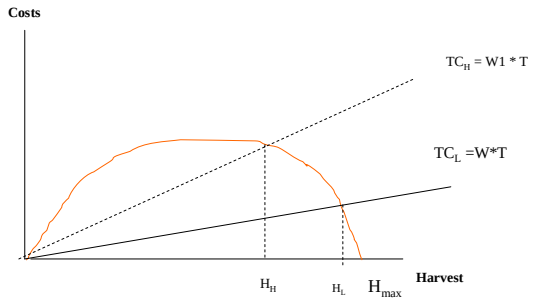
If we use Figure-6 to explain the effect of government decisions, we will see that the decisions of increasing stumpage price will further increase the price of timber in Kathmandu hence will not produce any desired effect, while the effect of depositing 50

percent of royalty amount in Forestry Development Fund – remains unknown. It would have been more appropriate to shift the cost curve to TC_H with the measures like:

1. Employment of skilled manpower in tree-cutting
2. Provision of safety gears (helmets, gloves, vests, boots), improved tools (chain-saw) and insurance premium utilising present legislation
3. Provision of IEE/EIA in hand over and management of community forests of larger size.

The above measures would have definitely move TC_L to TC_H as depicted in Figure-6. Hence, there would have been a shifting of TC curve in Figure-6 with reduced harvest that may remain well within MSY.

Figure 6: Scenario of harvesting under increased Total Costs with recommended measures



Conclusion and Recommendation

Based on the reasoning advanced so far we believe that:

- Although intuitively attractive, maximum sustainable yield (MSY) is unlikely to be a rational management solution for community forests.
- Community management of forest should maximise profits, which, in turn, should lead to restriction on rates of exploitation and conservation of the resource provided that the uncertainty surrounding the usufruct rights be properly addressed.
- Decision in the part of government or right-holders of the community forests, without consultation and study on the consequences, may lead to the governance issues which may overly rapid exploitation of resources.
- Government instead of regulating price for the user group should opt for linking product price with the market with involvement of private sector (e.g., entrepreneurship development).

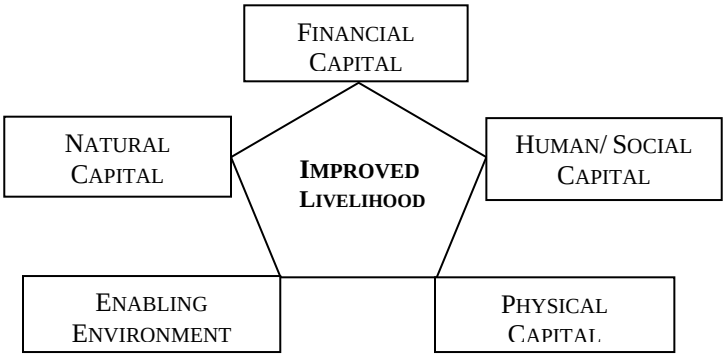
- Instead of opting for the stringent measures to infringe the legal rights of FUGs in fixing price, decisions related with market domain, by assuming role of other players, it will be more appropriate for the government to regulate FUGs with the recommendations suggested above (registration of forestry workers, skilled jobs, safety nets and insurance etc)

Implications of recommended measures

The findings of this study show the necessity to revise the present protection-oriented approach of forest management adopted by the FUGs towards a more need-based and income-yielding forest management approach that can bring more equity. Subsistence oriented community forest policies adopted by the government has severely constrained management of community forests in absence of appropriate technology and insufficient government support mechanism (Gautam, 2009). Perhaps, due to this reason, FUGs have been blamed for hesitating towards active forest management (JTRC, 2001). Now, the alternative mechanisms of involving private sector in improving forest management is imperative to ensure sustainability and meeting the national goal of alleviating poverty from rural sector. Our prescription of increasing cost of harvesting means increasing flow of money in rural economy that will eventually create employment and upgrade the skill there by empowering the community through enhanced skill. Which may give two fold benefits to the community: enhanced skill and equipped with safety gear that empower rural forestry labour. The skill of the forest labour and community member will be provided through different technical forest based institutes and this mechanism needs to be regulated through licensing provision. However, this provision must not be a hurdle for entry of rural people in the forestry activities and should be a simple and single door mechanism. The transformation of good governance systems provides evidences of ecological sustainability of the resource and enhancement of the communities' physical, social and human capital.

Strengthening human capital, linking poor households with community forest management as recommended will have the multiplier effects on village economy through the diversification of market opportunities (forest vocational training institutions, standard harvesting tools and techniques, forest based enterprises specially rural based small industries,). The development of small scale enterprises based on the existence of local resources, skills and markets could be a good option for poverty alleviation. It is believed that enterprise-oriented community forest management can generate positive outcomes for both conservation and local livelihood development, while small-scale wood processing enterprise development can be regarded as a high priority area for poverty alleviation (Acharya & Acharya n.d.)

Figure 7: Conceptual Livelihoods Framework for Participatory Resource Management



The framework indicates that the livelihoods of local people, the members of community forest user group, can be improved with sustainable management of community forests. The financial capital generated through diversified small forest enterprises create opportunity for employment and increased income. The increased supply of forest products with efficient harvesting which minimises the loss, due to enhanced skill, improved equipments and safety gears will ultimately avail materials to the diversified small forest enterprises. In addition, an increasing area of forests under sustainable management will ensure enduring supply of raw materials to the enterprises. As soon as managed forest area increases, vulnerability to natural disasters like forest fire, landslides, floods etc will be minimised. Even if such event accidentally happens, then the community will have enough physical capacity and financial capital to deal with such calamities. The financial capital will assist the communities to increase coping capacities at their own. This process will have horizontal effect on human and social capital. The local community and forestry workers of the community will be empowered through the accreditation of their skill by the vocational institutes and authorities which, not only gives job security but also imparts self-esteem. Such arrangements will create physical capital in the form of training institutes, employing agencies, forest harvesting company etc. Referring to the previous decisions of Nepal government, forest policies should create enabling environment through good governance. The proposed governance policy will help to empower local communities and increase their livelihoods assets.

Marketing is regarded as an ignored dimension of community forestry. The government of Nepal, is often held responsible for neglecting the commercial aspect of community forestry (Malla, 1993). This criticism stems from the point that the rural people are increasingly engaged in off-farm cash earning activities in Nepal. Yet these changes are not recognised in community forestry policies (ibid). The community forestry still focuses largely on meeting rural people's subsistence needs for fodder, firewood, and timber. It is argued that " the rural agrarian societies in Nepal are rapidly transforming under marketing influences. The close subsistence economy is thus changed to an open market economy. Despite agriculture modernisation, farm incomes barely meet the subsistence needs. So new strategies are pursued. They include: 1) off-farm employment 2) growing cash crop for market 3) reducing either number or type of animals 4) using a part of the cash income to purchase chemical fertilisers 5) abandoning cultivation of crops that demand high labour inputs, 6) leaving marginal land uncultivated. Thus marketing influence has resulted into: 1) A reduction in the number of livestock accompanied by a decrease in the demand of fodder and leaf litter. 2) An increase in firewood and timber demand due to the increasing number of commercial enterprises using these products. It is often depicted rosily that the pressure from the community forest may reduce in future. The reasons being the farmers decision to involve in various off-farm cash earning activities, not to cultivate some of their marginal lands, to reduce livestock population and adopt stall feeding, and to grow trees in their private land (Malla, 1993). The crux of those arguments is "while community forestry is oriented towards meeting the subsistence need, the rural people have moved away from such an economy (ibid). The strong urge is "rural people are interested in income that may be earned through off-farm employment, so community forestry should heed to this new change and accept commercialisation" (ibid).

The terms improved livelihoods and poverty reduction are both used as complementing each other in case of community forestry. In this paper, we tried to establish the relationship between increased harvesting costs and sustainability of resources which does not simply coincide with the macroeconomic theory of resource distribution. However, in case of community forestry, communities are the resource manager as well as beneficiaries of the earnings from resource operations. The increased costs of harvesting will not result into increase disparity but will definitely enhance cash transactions in rural economy. Nonetheless, government should refrain from infringing the legal rights of forest user groups regarding marketing decisions[5]. Marketing aspects of community forestry has been dealt peripherally focusing more on resource management. Perhaps this should be the main reason of community forestry being debated particularly on resource misuse and corruption. Possibly, the provisions discussed in this paper will subside the issues with due respecting of community rights pertaining to resource utilisation and management. The growing private sector and co-operatives should provide impetus for marketing and development of physical capitals of the FUGs and in rural sector.

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[5] Forest Act 1993 and Forest Regulation 1995 empower forest user groups "to develop, conserve and manage forest and sell or distribute the forest products by independently fixing the prices, as per the approved operational plan". Forest Act 1993 Article 43.1 acknowledges the right of the forest user group as "the group can acquire, utilise, sell assets (both fixed and running capital) and manage otherwise". It guarantees their ability to use forestry resource as mortgage to get loan from bank to carry out designated activities".

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