Tourism: Boon for Forest Conservation, Livelihood, and Community Development in Ghandruk VDC, Western Nepal

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Abstract

This study investigates the socio-economic impact of tourism in two wards of Ghandruk VDC, western Nepal. The analyses are based on (i) primary data collected through household surveys using a random sample of 46 respondents and (ii) published and un-published secondary data, office records, informal and formal interviews and direct observation were the other sources of information. The results show that in Ghandruk both forest and tourism contribute to increase livelihood and sustainable development of the region. This is due to the good management practices of Annapurna Conservation Area project and other local organizations. The community forest income is more important for the poor people and has a strong equalizing effect on local income distribution. Further more, alternative energy technologies should be promoted in future conservation programs. Sustainable tourism is able to enhance nature conservation by opening up new opportunities. The study suggests that there is a trade-off between economic benefits and environmental and social-cultural costs, which requires a good balance to implement the concept of ecotourism, which boons for forest conservation, livelihood, and community development.

Key words: Conservation, Sustainable, development, Tourism, Ghandruk, Nepal

Introduction

Forest is the shelter of biodiversity. Biodiversity encompasses the variety of plants, animals and micro-organisms as well as the ecosystems of a certain area. Thus, biodiversity is usually considered at three levels: genetic, species and ecosystem diversity. There are indispensable relationships between organisms where plants play the role of the mediator to link both living and non-living in their environment (McNeely *et al.* 1990).

Nepal, a small Himalayan country with an area covering 147,181 km^2, representing 0.03% and 0.3% of the total land of the world and of Asia, respectively, is endowed with rich

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biodiversity. Over 7,000 species of plants, 175 species of mammals and 861 species of birds are recorded in Nepal (BCDP 1994). Due to wide variations in altitude, soil type, water availability, different types of vegetation is found to pre-dominate different parts of Nepal. The vegetation is therefore important for environment and repository of biodiversity (Hellier *et al.* 1999). In addition, forests provide a wide variety of ecological services, which should be maintained. Social sustainability requires that natural resource use meets human needs without disrupting environment and social harmony beyond capacity of social structure to tolerate such change (Wollenberg 1995). The value and biomass of forest as an environment and an energy resource are very important, providing 75% of total energy needs in Nepal (MOPE 1998).

The community participation in forest resource management is effectively addressed in Ghandruk. The management of natural resources in Ghandruk is regulated by a participatory organization that encompasses a flexible and comprehensive approach to meet the needs of local communities and safeguard the forest of the region. World Bank (1997) stressed that agenda 21 of UNCED 1992 recognizes that in order to achieve the long-term objectives of the conservation of biodiversity, scientific results have to be implemented with a wider social, economic, and a political perspective. Sustainable community based approaches to biodiversity and environment management could potentially contribute to the overall development of the area (Earth Summit 1992).

The Nepal Biodiversity Strategy is a commitment by Nepal Government and the people of Nepal for the protection and wise use of the many biological resources of the country, the protection of ecological systems and processes, and the equitable sharing of all ensuring benefits on a sustainable basis, for the benefit of the people and to honour obligations under the Convention on Biological Diversity, Rio de Janeiro 1992. Biodiversity in Nepal is closely linked to the livelihoods and economic development of most of Nepal's people, and relates to agricultural productivity. Jones (1996) stated that community development and biodiversity conservation are complementary concepts and considered that social development without biodiversity conservation and biodiversity conservation without social development are inappropriate processes.

Tourism is the second most important source of foreign exchange for Nepal, after agriculture. Approximately 45% of tourists coming to Nepal visit protected areas, generating substantial revenue. Tourism will therefore remain central to the economic sustainability of the protected area system and the protection of biodiversity. Sustainable tourism enhances the livelihood of local people and also helps conserve the biodiversity. For this, however, good management is required. The International Sustainable Tourism Society defines ecotourism as "travel to natural areas that conserve the nature and sustains the well being of local people" (Marnie *et al.* 1998). Sustainable tourism that is focused on natural attraction, broadly known as "eco-tourism" (Fennell 2003) is a promising means of advancing sustainable development in developing countries. In this regard Nepal also is not an exception.

Development of sustainable tourism needs to be accompanied by sustainable development of the natural resources adjacent to protected areas, such as agro-forestry, and the development of agro-forestry cottage industries (Pederson 1990). ACAP is a success model as local people have strong decision-making powers based on negotiation and are testing management solutions. The livelihood of people, community development and biodiversity are directly depending upon sustainable tourism.

This study aims stands on this broader view of sustainable tourism and revolves around the principle of interaction between three elements: (i) tourism, (ii) conservation, and (iii) economy. It expects to offer viable sustainable tourism distinguished from other forms of tourism by its emphasis on conservation, education, traveller responsibility, active community participation, environment and sustainable community development. Eventually, the research would testify of tremendous success in providing a model of how sustainable tourism might be both a tool for community development and a long lasting mechanism for forest conservation.

Study Area

Annapurna Conservation Area (ACA) encompasses the Annapurna range and its adjoining areas in western Nepal (**Figure 1**). It is the largest conservation area in Nepal. The southern part of ACA, where the study area Ghandruk is situated, is covered by valleys and hills. It is on the route to Annapurna Base Camp with 30,000 trekkers visit annually (final data report of BCDP by 1994). It is situated at an elevation of 1,975 m a.s.l. on the west slopes of the Modi watershed. The topography is moderately steep with aspects mainly facing south. Ghandruk in 2008 had a total population of 6,158 people. About 1446 house holds exist with an average household size of 4.25 people (Adhikari 2008). The majority belongs to the Gurung people with occupational castes and Brahmins intermingled at the periphery of the main Ghandruk villages. The local economy is characterized by agriculture, livestock farming and overseas employment.

Fig. 1: *Location of the study area Ghandruk Source: Nyaupane and Thapa (2004)*

Conservation Area Management Committee (CAMC)*:* In order to manage the biodiversity and natural resources of Ghandruk, CAMC was constituted subsequently after formulation of ACAP management plan (1997) with the interactions of Conservation Area Management

Regulations (CAMR) 1998. CAMC is activated at VDC level. The formation process is shown in **Figure 2**. Different sub-committees are formed under CAMC and empowered at community levels, depending upon the scope and extent of resource utilization patterns.

Materials and Methods

Nature and sources of data: Both quantitative and qualitative data have been collected using primary and secondary sources. The primary data were collected through household surveys (using a random sample of 46 respondents, comprising 22 males and 24 females), interview of key informants, informal interviews, focused group discussions with user

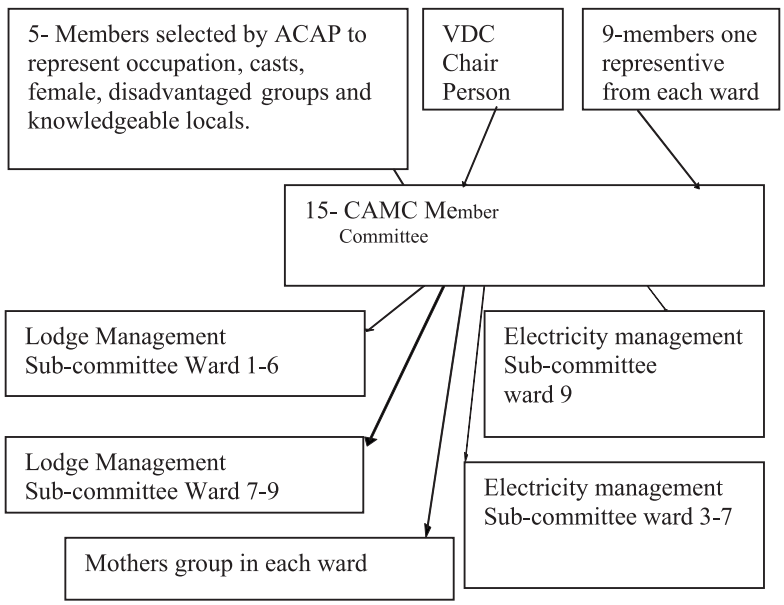

Fig.2: *Formation of Conservation Area Management Committee and its sub-committees*

member and officials, and direct field observation. The secondary data were obtained from published and unpublished materials.

Sample of data and interview schedule: *S*tratified random sampling was used to select the sample households. This fairly representative sample has been used for the overall generalization of the study area. The interviews included both structured questions with multiple choices and open-ended questions. The main respondents were heads of households. Other members of households were also requested to share knowledge and opinions.

Field observation: Field observations were made during the study to obtain information and verify the information regarding community forest status, decision-making process, and office management system in summer 2008.

Results

Categories of forest ownership: Four different categories of forest are identified in Ghandruk on the basis of ownership: (i) private forest (ii) community forest (iii) forest owned by high school and (iv) forest owned by Ama Toli (Mother's group)

Forest products uses and priorities: The major forest products harvested by community people include timber, fodder for animals, fuel wood, dry twigs, leaf litter and medicinal herbs. The primary use of forest resources is fuel for cooking. Other uses are animal food, house construction, farmland fencing, and composting. Extent of exploitation actually depends upon their priorities. The most important species used as fodder, firewood and timber are extensively harvested because of their high priorities. The highest preference is allocated to the fuel wood (71% of the surveyed population) and least to the medical herbs (14% of the surveyed population). Regarding fulfilment of forest products all respondents agreed that the amount of all forest products were supplied highest from community forest (**Figure 3**).

Relative preference of tree species utilizations and harvesting practices: There are some important fuel wood, fodder and timber species in Ghandruk. Respondents stated that some have relatively high preference due to their multiple benefits e.g. Champ (*Michelia champaca*), Utis (*Alnus nepalensis*), Falant (*Quercus lamelosa*), Khasru (*Quercus semicarpifolia*) and Nimaro (*Ficus roxburghii*). According to the CAMC regulations local people collect forest products only in special seasons except dead and fallen branches for fuel wood and fodder is permitted throughout the year. December, January and February are the best months for collecting fuel wood and fodder and also best months for collecting bamboo, timber wood and wild life products. Where as September and October are the best months for collecting medicinal herbs. In April and May leaf litter is collected.

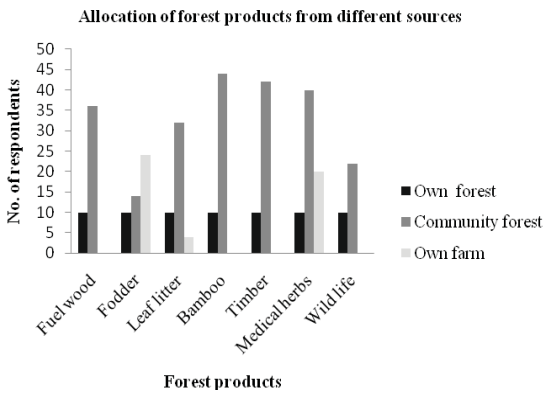

Fig.2: *Formation of Conservation Area Management Committee and its sub-committees*

Impact of Forest Conservation on Local Community and Environment

Impact on Local Community: Many activities pertaining to forest conservation have been implemented in Ghandruk village, the major being forest protection practices, conservation education program, and forest regeneration practices. These all have cumulative impact on the local people and their indigenous knowledge and practices. 83% of the surveyed people confide that the conservation practices bear positive impact on their cultural values.

The indigenous approaches still exist but are modified to comply with the existing natural environment**.**

The physical impacts manifested during one decade in Ghandruk village are based on focused group discussion:

- Increase in forest area by 15%
- Reduced frequency of landslides in Ghandruk approximately 10%
- Improved environmental sanitation in the community

Biological Impact: Due to forest patrolling, strong enforcement of rules regarding harvesting and poaching activities and prohibition on hunting of game species, local people reported significant increase in wild life species. According to the local people, populations of wild life species like Deer, Monkeys, Leopard and Porcupine and also reported increase in density of tree species like *Alnus nepalensis*, *Ficus roxburghii*, *Brassaiopsis hainla*, and *Michelia champaca* have increased.

Alternative Energy Technology in order to reduce pressure on forest: Due to increased dependency of local villagers on forest products, ACAP launched an Alternative Energy Program (AEP). This is an attempt to reduce human pressure on forest resources primarily due to fire wood harvesting. AEP's main objective is either to reduce or replace fuel wood consumption through the use of alternative energy resources. Two major approaches have been applied for fuel wood reduction:

- Promotion of fuel wood minimizing technologies
- Promotion of alternative energy sources to fuel wood

In Ghandruk village, today 10% of the households are using alternative energy technologies instead of fuel wood. As observed in the study area, practice for sustainable management of forest resources is important for forest production, increase of the resources and better local benefits.

Tourism in Nepal

Tourist arrival in Nepal*:* Statistics on tourism industry became available only after 1995. In 1995 a total of 1140 foreigners arrived, and tourist inflows increased gradually up to 1966. When Nepal was opened to the outside world, the tourist inflow stream to Nepal increased year by year. **Figure 4** reveals that the total annual tourist arrivals were around 223,000 in 1986. It increased by 15% in the years 1991 and 1992 in comparison to 1990. Total annual tourist arrivals were around 293,000 in 1993 and 334,000 in 1992, recording a decline of 12.2% over 1992. Total annual tourist arrival increased again in 1994 and 1995. On April 12, 1996, Nepal government declared the year 1998 as "Visit Nepal ´98" in order to further enhance the image of Nepal as a special destination for visitors. In 1998, more tourists visited Nepal than ever before, followed by a dramatic decrease. After the minimum in 2002 tourism arrivals again tended to increase, coming back to the 1996-level (Adhikari 2008).

The average length of stay, is around 10 days with a minimum in 2002 (7.9) and a maximum in 2004 (13.5) (**Figure 4**).

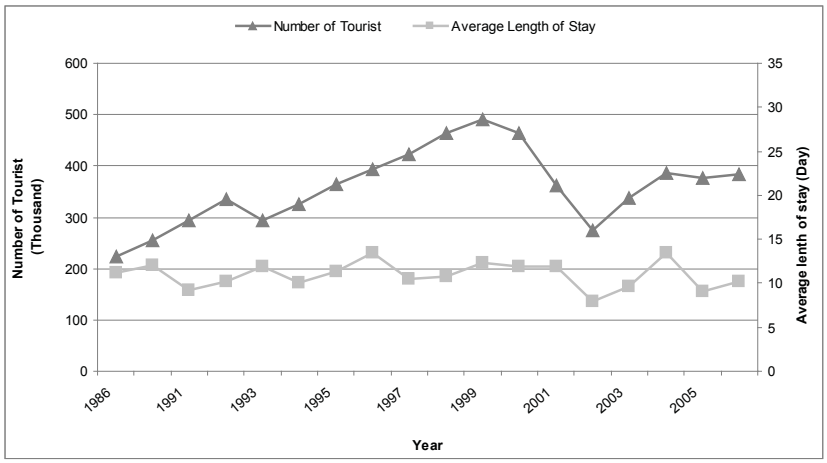

Fig.4: *Tourist arrivals and length of stay (1986-06) Source: Nepal Tourism Statistics 2006.*

***Probability of visiting Ghandruk again*:** About 50 tourists from various countries were interviewed in Ghandruk in May 2008. Tourists visit Nepal for various purposes, though an average 55% of tourists come either for pleasure or for mountain trekking holidays (NTS 2006). Among the interviewed tourists, a large number were from UK, followed by USA, Germany and Canada. According to this survey, 72% answered that they will visit Ghandruk again because of its natural beauty.

***Major socio-economic impact on Ghandruk by tourism*:** 12 out of 46 respondents of local people answered that they are directly employed in tourism profession. Usually, couples are involved in hotel business and few responding families who are involved in tourism as guide and porter in tourist season. The respondents who are not directly employed in tourism profession have own livestock. The following figures (**Fig. 5 and 6**) from survey show that there are some positive and negative socio-economic impacts of tourism in Ghandruk.

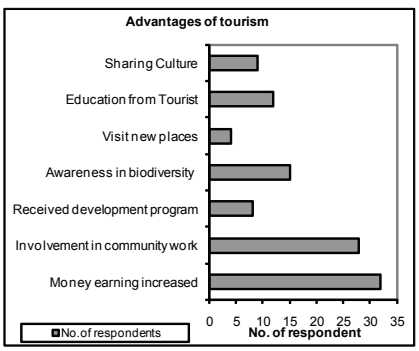

Fig.5: *Advantages of tourism seen by the respondents*

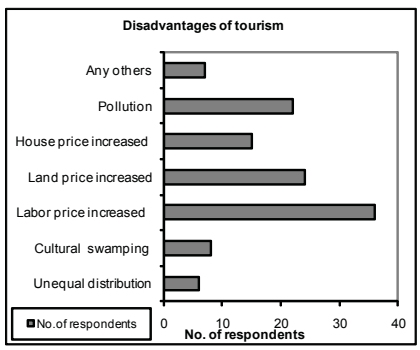

Fig. 6: *Disadvantages of tourism seen by the respondents*

Discussion

Forest conservation practices in Ghandruk

The bottom up participatory approach is a very useful tool which makes the people responsible to conserve the resources with great care resulting in forest conservation. Forests are an important repository of biodiversity as well as provide a variety of ecological services. These could be mentioned if forest management is sustainable (Hellier *et al.* 1999). According to our survey results both plants and animals species of the research area have been increased since two decades because of different conservation practices, which reduce impacts on forest and improve livelihood.

There are four different categories of forests identified in Ghandruk on the basis of ownership. One is the private land as an effective approach to reduce negative impact on forest resources and facilitate the forest users at the same time. Secondly, community forest have been significantly contributing to the demand of villagers regarding forest products. Thirdly forest owned by high school, community people expect for the school's purpose does not exploit the forest resources. Lastly, protected community forests of Ama Toli in each ward will be helpful to meet the fuel wood and fodder demand of villagers in future.

Utilization of forest products has a strong influence on livelihood. Leaves from certain trees are an important source of fodder for the livestock's. Leaf litter is usually used for animal bedding and maturing. Bamboo is harvested for fencing, basket and mat making. These non timber forest products play an important role in the socio-economic development of the villagers (Adhikari 2008). Many people were found to lack a formal school education, but were highly knowledgeable about uses of local animals and plant species. Forest is Therefore, in order to overcome over-utilization of forest resources the main emphasis has been therefore on the shift towards alternative energy technologies.

Relative preference of use of tree species was also studied. Some of them are Champ (*Michelia champaca*) with, high timber value, and it also is used as fuel wood as well as fodder. As a timber tree, Utis (Alnus nepalensis) is ranked highest in preference. This native species colonizes landslides and degraded sites very successfully (Jackson 1994). Falant (*Quercus lamelossa*) is preferred as fodder species. Falant has profuse regeneration in the area. Similarly, Nimaro (*Ficus roxburghii*) has been increasingly popular as a fodder species in Ghandruk.

The alternative Energy Program (AEP) can be considered as a step to conserve natural resources. AEP was basically aimed to implement in the tourist lodges since these lodges consume more fuel wood per person than domestic houses. But in 1991, this program was promoted to all households by Women's Development Program (WDP). Kerosene and LPG gas are very important energy sources which reduce over utilization of forest resources. Similarly, using LPG as cooking fuel is negotiable. Another important alternative energy resource which reduces pressure on forest is micro-hydro electricity. It is estimated that 1

KW of electricity can save annually 10 tons of fuel wood in tourist areas such as Ghandruk per year (KMTNC 1997). About 74% of the lodges reported using electricity for cooking and heating purpose (Banskota and Sharma 1997).

Tourism trend and Socio- Economic Impact of tourist in Ghandruk

Tourism trend: The Middle-East crisis in 1981, transit treaty deadlock with India in 1989 and Gulf war in 1990 adversely affected tourism during the 1980s and 1990s. The Nineties also marked the growth and spread of the Maoist insurgency in Nepal. Tourism in Nepal was also negatively affected by the 9/11 incident in the US. The Royal tragedy in 2002, followed by the dismissal of the House of Representatives and the elected government worsened the political situation in the country. All these incidents combined together to create a difficult security situation, negatively impacting the tourism industry in the country. Despite the troubled situation, the number of tourists steadily grew until 2000 and helped the ailing industry to survive. However, there was a significant decrease in number of tourists after year 2000 indicating an alarming situation not only for the tourism industry but for the whole national economy. Currently the situation is far better and the nation is waiting for an excellent future in tourism industry again.

Socio-Economic Impact of Tourism: It is obvious that through the direct source of tourism-income, only a small group of Ghandruk population benefits. Besides hotels and lodge businesses in Ghandruk VDC, 67 families have been benefited by different types of shops that are directly or indirectly related to tourism. A number of activities like operating hotels and lodges, shops, guiding and pottering etc. contribute in generating employments in the village. It was observed that 55% permanent and 45% seasonal hotels and lodges and 67 households were directly employed in Ghandruk VDC.

The social and cultural impacts of tourism are contributing to the change in value systems, individual behaviour, family relationship, collective life styles, safety and security, moral conduct, creative expression, traditional ceremonies and community organizations (Mathieson and Wall 1982). Tourism also generated some socio-culture conflicts. Messer and Donald (1976) stated that the traditional Gurung youth association. Rodi is now virtually non-existing. Some of the old people reported that they felt uncomfortable attending some cultural events because of recent modifications in them.

However, the growth of tourists has notably led to the improvement of sanitation habits of the local people. Toilets are built in progressive fashion. The toilets originally made for tourists are also used by the local people and resulted improvement in the traditional unhygienic sanitation habit of the mountain people of Ghandruk VDC. Tourism has created more environmental awareness in the ACAP area as more widespread environmental problems in two decades prior to the establishment of the Annapurna Conservation Area Project (Gurung and De Coursey 1994).

Tourism can be a significant, even essential, part of the local economy. It has immense potential to help in poverty alleviation. Besides its unique potential to carry exchange and investment directly to the local level, it can make significant contribution to rural

development, agricultural transformation, community enrichment and social empowerment, particularly for women (Shrestha 1997). The induced infrastructural improvements such as better water and sewerage systems, electricity and telephone can improve the quality of life for residents as well as facilitate tourism. This will in due course lead to considerable social improvement on all fronts.

Conclusion

Through the field survey and from existing sources of information during one month study period in May 2008, it was found that tourism act as a boon for both the forest conservation, livelihood and community development as the result of people participatory concept introduced by the ACAP during its program implementation. In turn people live within and around Ghandruk became aware on the importance of biodiversity and the benefits of tourism which enhances them for the establishment of different user groups like Women Group. As they recognize that tourism can improve their livelihood they are using the alternative source of energy and involving on environment conservation activities. As a result there is increment in diversity of flora, fauna and tourist, improvement in the social status of the people related to tourism. Ongoing forest protection practices and more frequent plantation programs have strengthened the forest resource management in the area. In addition, gradual promotion of AEP has served to reduce over limitation of forest resources. Identification of various categories of forests within Ghandruk village has led to conclude the rapid deforestation of the area results biodiversity conservation.

Tourism development plays a very important role in the economic development of Ghandruk. It has contributed to the foreign exchange earnings, employment generation, regional development etc. Ecotourism is an industry which can protect ecosystems by preventing erosion, preserving biological integrity, promoting conservation education and providing economic incentives for sustainable use. Working with communities affected by a protected area is paramount in achieving their support and cooperation.

A form of nature-based tourism is increasingly seen as one of the catalysts for forest conservation. As a result, several pilot programs have been designed to promote tourism that achieves the twin goals of local development and forest conservation, eventually opening up new opportunities for promoting ecotourism. Therefore, the study suggests that there is a trade-off between economic benefits and environmental and social-cultural costs, which requires a good balance to implement the concept of ecotourism. The process of changing from traditional tourism to Nature based tourism and ultimately ecotourism, which is always boon for livelihood and community development.

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