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# Legal Instruments for Sustainable Environmental Management in Nepal

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## SUMMARY

Recent and current environmental legislation in Nepal is described, and its relation to sustainable development analysed. Modern legislation often conflicts with traditional local patterns of land management. Examples of these traditional arrangements are given, and it is argued that to be successful in the long term, development programmes instigated by government and line agencies must take more account of established local practices.

## 1. INTRODUCTION

The concept of sustainability has been embedded in culture and tradition for centuries. According to ancient mythology, the earth is considered the mother figure of natural replenishment. Early Hinduism, Taoism, and even Shinto teach that mother earth nurses and cares for her children. It is believed that all things arise from and return to her, and that her children should not despoil her. The early Greeks also had a strong concept of sustainability. They called the earth 'Gaia', or goddess earth. Their provincial governors used to be promoted, rewarded or punished according to the condition of land under their jurisdiction. Signs of erosion or other environmental damage led to admonishment or even exile, whereas healthy-looking land, regardless of the wellbeing of its people, would be accorded approval (O'Riordan, 1990). Hughes (1983) in his study of 'Gaia, an ancient view of our planet', comments that the Greeks believed earth has her own law, a natural law in the original sense, deeper than human enactments and beyond repeal: 'he who treats her well receives blessings; he who treats her ill suffers privation, for the earth gives with evenhanded measures. Earth forgives, but only to a certain point, until the balance tips and it is too late.' Thus, the concept of sustainability is not new, and the adherence to natural laws is pertinent to the scientific explanation of environmental systems.

Modern states and their governments have continually added new laws, regulations and by-laws based on these early concepts. Some have been practically adopted by the people, while others have not. In the following, the legal instruments developed and adopted in Nepal during various periods for sustainable environmental management are presented.

## 2. EARLY ENVIRONMENTAL MANAGEMENT SYSTEMS IN NEPAL

Legal, community-based sustainable resource management systems were first introduced in Nepal through the legal codes of conduct laid down in the *Upanishads* and *Smrities*. Gradually various codes sprang into existence, combining old and new customs into an authoritative system. The most important among the *Smrities* is a collection of codes of conduct called *Manusmriti*, documented 2000 BC, which has been crystallised from the *Upanishads* and *Smrities*, and consistently enforced in resource management. Articles 64, 65, 66, 246 and 247 of *Manusmriti* deal specifically with the environment and water use system. The Kirantis, Gopals and other rulers of Nepal enacted laws, regulations and by-laws based on these early codes of conduct. As the *Smrities* became better established, they became a survival strategy for the people. The stone inscriptions of Gyanadev, ruler of Kathmandu around 479 BS (422 AD) in Pharphing, Kathmandu, strongly advocate the adoption of customary practices in resource management and dispute settlement. This system was made mandatory by King Jayasthiti Malla of Kathmandu and was enacted into law, thus legally establishing a system of punishment for environmentally unsound behaviour. He further established a compulsory system of land ownership, in which agreements between the landlords and tenants were reached.

A token system was introduced during the period of Jit Mitra Malla with respect to the use of water in irrigation. King Jayaprakash Malla introduced a very stringent Act in 1752 concerning the maintenance of biodiversity and wildlife conservation in the Kathmandu Valley. Punitive action was severe against those who hunted wildlife and set fire to the forests. During this period, land in the Kathmandu Valley was divided into four major classifications, which are still adopted by the government of Nepal (with modifications, the Land Survey and Management Act 1963 and Rules 1967 and 1975 AD).

The spirit of community resource management was stressed by many rulers in the past. Outside the Kathmandu Valley, King Ram Shah of Gorkha made constructive efforts to regulate and manage natural resources. He promulgated laws regarding common property resource management. Those who did not follow the customary rules for fetching drinking water, for irrigation, and for using other resources were fined. In every village, an open area for community or public grazing was compulsory. Legal authority was given to the people for the wise use of such resources. It was the duty of every citizen to plant and protect trees along the trails and in watershed areas. In special areas, such as near spring

sources, afforestation was mandatory. Any citizen disobeying these laws was fined (Rs.5.00, equivalent to one tenth of an US\$, an exorbitant sum in those days). These ancient laws and regulations laid the foundation for the evolution and strengthening of the community spirit in natural resource management in Nepal. These laws were further strengthened by Prime Minister Bhimsen Thapa before the Rana regime, and also in 1853 during the Rana regime through the proper documentation of the *Muluki Ain* (Civil Code). This was further amended during His Majesty the late King Mahendra's period (1954-1971).

Royal decrees and orders in the past were promulgated for various reasons, such as to protect wild animals for hunting by the nobility, and to protect particular plant species of strategic importance (certain timber for making bows; Sal trees [*Shorea robusta*] for making charcoal and conserving ground water). The underlying motive for the decrees was often not for conservation, but rather strategic or royal privilege. In some cases long-term conservation did result, but as the local people (the real protectors) may have gained only limited benefit from the protection, they had little stake in maintaining a custodial role after the authority of the state was weakened. In most cases the areas of forest affected by such decrees were limited, so the overall results on the conservation of the country's forest were not large. This situation was somewhat improved by the establishment of village resource management system through local participation.

The concept of the village *pancha* (five important village persons) to settle local disputes and regulate resources is derived from the ancient Hindu codes of conduct. The Lichhavis and Malla kings of medieval Nepal continued with this system in addition to installing village headmen (Oli, 1993). This system was further empowered during the Rana regime, when village heads were appointed as collectors and *de facto* administrators. Over time, their responsibilities grew to include overseeing the village resources. These local functionaries administered the resources effectively and provided a reasonable amount of control and protection of resources (Mahat, 1987).

### 3. THE PRIVATE FOREST NATIONALISATION ACT

While the legal apparatus for sustainable resource management was evolving, the control over larger areas of natural resources, particularly in the tropical plains and mid-hills, fell *ipso facto* into the hands of few Rana rulers and their friends. This ownership of large areas of land by a small group of people appeared to be a serious threat to the then recently established democratic government in 1950. This was particularly true in cases where some individuals owned more than 1000ha of forest area in the *terai* and larger forest areas in the mid-hills. Thus, in 1956, the Private Forest Nationalisation Act was promulgated.

The preamble of the Act clearly states that its main aim is to inhibit individuals' control over vast areas of natural resources. 'Since forest and woodlands are an important asset of the Nation, and in order to stop the destruction of this asset in favour of a few people and to protect and manage the natural environment wisely, the private forest and woodlands are to be nationalised'. Clause (b), Section 2 of the Act states that 1.4ha and 3.5ha of land in the hills and *terai* respectively, which people have individually planted or protected by their own efforts and maintained as forest, can be used and held individually or by the community. Fundamentally, the Act transferred the ownership of most of the *terai* forests from individuals to the government. It was intended as a positive step by the government towards managing the country's principal natural resources.

Despite its positive perspective, however, the Act was not properly enforced. The essence of the Act was not fully appreciated by either the people or the implementing agencies. As a result, it has been criticised as the cause of forest decline in Nepal (Bajracharya, 1983; Thompson & Warburton, 1992).

The Forest Act of 1961 was unable to address the aspirations of the local people. For example, Section 4, Sub-section 27 is impractical, as it has restricted people from harvesting grass, grazing their animals, and making charcoal in the forest areas, activities on which they were traditionally dependent. This reduced the faith of people in the government, and some woodlands areas were purposely encroached on, while in other areas, the community managed to maintain their user rights.

The Act has been criticised because there was a fundamental difference in interest between the law makers and resource users. The resource users thought they had in-built user rights for using these resources, while the legislators wanted to prohibit them from such rights. Thus the people suffered and forest areas were encroached on, leading to forest degradation.

In order to improve on the mistakes of the past, and as the government became more vigilant, this 1961 Act was amended in 1977. To a large extent the empowerment of local people by this amendment represented the practical reality of the time. It was repealed in 1992 to lay further emphasis on benefits for the people, and the previous Acts were repealed. Despite major improvements in the Act, there still remains a conflict over the users' rights between the government and the traditional users.

#### 4. OTHER IMPORTANT ENVIRONMENTAL PROTECTION ACTS

Parallel to the development of legal implements for forest management, the Pasture Land Nationalisation Act 1974 was enacted and enforced. This Act was more practical, and embraced horticultural, medicinal and animal husbandry activities to be adopted in the pasture lands with the aim of assisting the community in the wise use of the land resource.

The National Parks and Wildlife Conservation Act 1973 was enacted for safeguarding flora and fauna in national parks and wildlife reserves, allowed the hunting of certain species by permit, while protecting endangered species. This Act was amended in 1995. The amendment includes the provision of Buffer Zones. There are also other laws governing related areas such as industry, roads and highway, and ancient monuments.

The Municipality Act 1992 empowers the municipality for the conservation of heritage. The Ancient Monuments Protection Act 1956 provides legal sanction for the protection and maintenance of protected monument areas. The Department of Archaeology is empowered for necessary action. The Municipality Act 1992 and the Public Roads Act 1974 contain provisions for greening urban areas.

The seasonal movement of aquatic life and species conservation is another area of concern. The Aquatic Animals Protection Act 1960 was promulgated to conserve aquatic life and water bodies. The Act empowered the government to restrict the harvesting of endangered and rare aquatic species from specified water bodies. However, after the Act was introduced, the restriction created an incentive to trap and harvest rare species as they fetched higher prices in the illegal market. Fish species migrating for breeding from the ocean to fresh water bodies were trapped unsustainably. Due to the poor conservation awareness of the local people and weak law enforcement, the Act could not be practically enforced. As a result, legal provisions have not significantly contributed to the conservation of aquatic resources in Nepal.

There is no effective implementation of comprehensive legislation with respect to the protection and conservation of water resources. There are, however, many laws for enforcing pollution control. For example, the Municipality Act 1992 empowers municipalities to control the use of water resources and river banks, and other matters relating to pollution control. Similarly, the Nepal Water Supply Corporation Act 1989 assigns responsibilities to the National Water Supply Corporation for providing urban water and sanitation and controlling pollution. The Soil and Conservation Act 1982 aims at protecting watershed areas and water bodies from destructive and polluting activities. Section 9 of this Act, the Town Development Act 1988, authorises Town Development Committees to regulate, control or prohibit any act or activities which have an adverse effect on health and scenic places, or in any way pollutes the environment. With respect to solid waste management, the Solid Waste Management and Resource Mobilisation Act 1987 enabled the establishment of a centre for solid waste management in Kathmandu. This centre is empowered to establish special waste disposal facilities and direct producers of such waste to use it.

The Nepal Labour Act 1993, which repealed the Nepal Factory and Factory Worker Act 1960, has given new legal dimension to the workers and their working environment. For example, chapter 5, section 27 directs the institution managers to keep premises sanitary by the application of appropriate pesticides,



FIGURE 1. The famous Phewa Lake, Pokhara, Nepal. The lake is eutrophic due to siltation, pollution and unsustainable land-use practices. Law enforcement is poor on both the people's and the government's part.

developing proper drainage system and preventing air, water and noise pollution. Clause (c) addresses the management of factory effluents; Clause (d) directs the removal of dust, polluted air and contaminating substances from working and living areas; Clause (f) regulates the working facilities and environment the workers.

Greater emphasis has been given to sustainable resource management in the Constitution of the Kingdom of Nepal (1990.) The Constitution requires the state to give priority 'to the protection of the environment and also to the prevention of its further damage due to physical development activities by increasing the awareness of the general public about environmental cleanliness, and also make arrangements for the special protection of the rare wildlife, the forest and the vegetation'. Recently-enacted legislation such as the Forest Act 1993 gives more importance to community involvement in sustainable forest resource management. The Forest Act 1993 differs from the previous Act in the sense that it recognises the ecological and scientific value of forests and gives the utmost priority to community forestry. Similarly, the Water Resource Act 1992 and Electricity Act 1992 equally emphasise the protection of water resources and the prevention of water pollution.

The Industrial Enterprise Act 1992 lists several industries as affecting public health and the environment, and requires that such industries obtain a licence prior to establishment, extension and diversification. These industries include cigarette, *bidi*, leather tanning, beer; alcohol and brick industries. A licence, in theory, should contain the general provision that an industry must ensure that it does not cause any pollution to the environment. The Vehicle and Transport Management Act 1992 has also come into force. Section 23 of the Act provides that standards can be specified for testing vehicles.

While various legal measures have been undertaken by the government in order to manage resources sustainably and to protect the environment, it must, however, be stressed that the major cause for unsustainability is Nepal's increasing population pressure. In order to address this problem, the Civil Codes of Nepal 1963 made childhood marriage illegal. But despite legal provisions, the mean age of marriage for girls is 15.2 years (CBS, 1987) and has more or less remained so for over three decades. This means reproduction starts at an early age and continues for a long period. This situation has come about due to the need for labour demand in a rural economy. In addition, producing more children is also an insurance against old age in a country like Nepal where social welfare programmes are almost nonexistent.

Ideally, raising of legal marriage age could make a small contribution to birth control. More important, however, would be the adoption of family planning devices by the active breeding population. Weak service delivery for birth control at the local level and lack of sustained user support for the programme have remained major problems (Sharma, 1992). If resources are to be used sustainably, family planning and basic health care must be provided for the community.

The state's concern regarding sustainable resource management and environmental protection is appreciable. The Acts, regulations and by-laws have entailed restrictions for some people, while others have gained from them. Many hill and mountain societies consider the natural resources they use for their survival as their collective property. This used to result in outsiders being restricted from entering their grounds. Eventually, they developed their own set of rules in addition to what state had offered them for sharing the resources. The mechanism for resource management adopted in the hills and mountain areas is very significant.

## 5. COMMUNITY MECHANISMS FOR SUSTAINABLE RESOURCE MANAGEMENT

As in many traditional hill communities around the world, hill and mountain tribes in the Nepalese Village Development Committees (specified geographical areas having political boundaries) have shown sustainable development to be



feasible, by reducing resource consumption, enhancing natural resource production, and through population migration. The sustainable management of natural resources has been recognised as essential to human well-being. Developing and adopting environmentally benign procedures traditionally is an investment towards augmenting environmental capital by the people of these villages and settlements. The responsibility for using environmental resources and sustaining them thus falls to the same group of people. They have formed strong informal users group having users' rights. Some are based on hereditary and kinship, while others are formed independently. Decision making authority lies with such informal groups, often in consultation with the affected group of people. The nature of control over resources varies from being broadly shared among user members to being controlled by individual group leaders and kinship.

In many situations, cultural values provide leverage for sustainable resource management. Since all the resource management systems are human centred, the strategies (religious and other) developed are geared towards protection of this interest. For example in Ghermu village, Lamjung district, in the western hills of Nepal, the surveillance system for medicinal plants at higher altitude developed using herdsmen as the key watchmen has been very practical not only for punishing the culprits but also for enhancing sustainable use of this resource. In the following sections, cases are presented of customary legal mechanisms developed for the sustainable use of resources in remote hill VDCs.

### *5.1. Geographical Setting of Study Sites*

Taghring and Ghermu Village Development Committees (VDC) lie to the north of the Lamjung District in the Himalayan region (Figure 2). They extend from 28°20'N to 28°27'W latitudes and 84°15'E to 84°25'E longitudes. These VDCs cover approximately 20,000ha of land, with altitudes ranging from 1,000m to 6,000m above sea level (a.s.l.).

Both these VDCs extend from the Marshyandi River into the Annapurna and Danphe Himals, encompassing snow-covered mountains, steep slopes, forest and valleys. The land surface is irregular due to numerous landslides of various sizes. The scenic beauty of these VDCs consists of hills of various shapes, gorges, forest grazing sites, waterfalls and lowland farming areas. The climate is sub-tropical to cold temperate. According to the nearest meteorological centre at Khudi Bazaar (823m), average annual precipitation is 4,129mm. Some rain is brought by storms blowing from west during the winter, while snow is common at higher altitudes. Hail occurs from March-May, and heavy rainfall occurs during June-August.

Traditionally, settlers in both the VDCs are Gurung. Presently, about 78% of the total population is Gurung (a Tibeto-Burman group specialised for pastoralism in the mid and high hills of western Nepal). The rest are Brahmin, Chettri,

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and occupational castes. People's livelihood is basically dependent on agriculture.

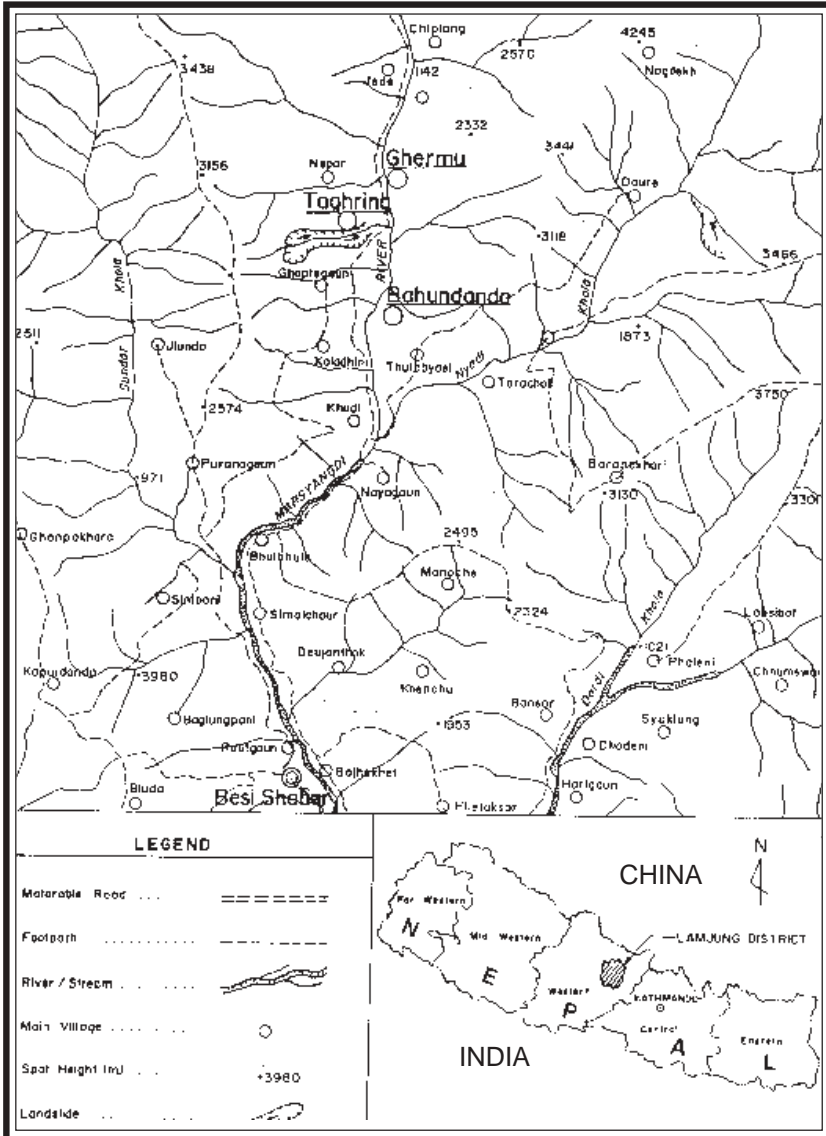


FIGURE 2. Locations of Ghermu, Taghring and Bahundanda VDCs, Lamjung District. Scale approx. 1: 200,000

### 5.2. *Thiti (Customs)*

'*Rajako niti Gurungko thiti*' (The King rules through policy while the Gurung manage their resource through their customs). Community-based sustainable development efforts carried out in these VDCs are traditionally based on *thitis* (customs), which are geared towards the sustainable use of resources. The essentials of these customs are their dynamic quality and their congenial cognitive relationship with each user. Unlike the government's regional, district or even local level agricultural plans, or forest plans, which have insignificant effect or zero potential for adoption by the people, the local customs have great potential for encouraging sustainable resource use.

*Thitis* are effectively used for the management of the following resources and areas in the VDCs.

#### 1. Common Property Resource Management

- Harvest of wildlife
- Harvest of small bamboo
- Harvest of thatching grass from cliffs and other areas
- Grazing management
- Establishing users right
- Collection of wild oil seeds
- Water use

#### 2. *Sherma* (taxation)

#### 3. Cultural and socioeconomic activities

#### 4. Conservation efforts

The people have traditionally demarcated their areas of jurisdiction within these areas. Apart from private property, the rest of the area is considered as collective property. This concept did not allow outsiders to trespass into their areas of jurisdiction, regardless of state legal provisions .

### 5.3. *Common Property Resources*

The term 'common property resource' is not clearly defined in Nepal despite the growing numbers of resource planners using this term. Resources that are accessible to everyone and those accessible to specific groups of users are both loosely termed as 'common property resources' (Gilmore et al. 1991). In common property, rights of access or use are shared equally and are exclusive to a defined group of people (McCay and Acheson, 1987). However, common property can not be treated as everybody's property, although it may be perceived as and acted upon in that way in specific circumstances (Ciriacy-

Wantrup and Bishop, 1975). Common property should, therefore, refer to an exclusive as well as inclusive notion of common wealth involved (McCay and Acheson, 1987). The evolution of changes in property rights can result in increased pressure on resources, and conflict between different users, leading to new social agreement in managing common property resources. In the hill and mountain VDCs user rights have been established concerning the majority of resources.

In Nepal, common property resource is often confused with open access resource. Common property resources have, in the past and present, a definite group of users having user rights. For example, in the hill and mountain areas, virtually on every bit of land, be it in high altitudes, grazing range land, or other areas, some form of user rights exist.

For example, in rocky areas and clefts of Taghring VDC (Lamjung District) where it is normally difficult to stand and harvest grass, there are established users with rights. The primary users are those adjacent to the area. The first right to harvest grass and thatching material belongs to these users nearby. After they have harvested, people from neighbouring settlements (secondary users) are allowed. Once the secondary users have also finished, tertiary users, often much further away, are allowed to harvest the grass. This hitherto undocumented system of user rights has been established for centuries, and still continues. Such users and their rights are present in forest and pasture lands also. In all cases, the primary users have the full rights, and the secondary and tertiary users have the right to collect and harvest the resources according to the direction and guidelines provided by the primary users. In addition, the secondary and tertiary users are expected to pay the primary users a fixed rate of tax called *sherma* on account of using these resources.

The common goal of using these common property resources is the well-being of people, and to maintain an equilibrium between socio-economic and ecological systems. To achieve this, the users from these VDCs have a complex traditional management system. As mentioned earlier, common property resource users are the people living adjacent to the resource or resources. Other than registered land, every land resource in Nepal comes under the authority of the forest ministry. Although legally the ministry owns such land, in reality, the practical owners are the established users living locally, who have their own traditional set of rules to regulate the resources. For example, the transhumant farmers from Bensisahar, headquarters of Lamjung District in west Nepal, bring their animals to the highland open meadows of Taghring VDC and graze them on these common property resources. Traditionally, farmers from Bensisahar (Chandi VDC, Sarange settlement) and Taghring VDC had agreed on the use of Taghring Kalchung and Samde Grazing sites, water and woods by the former group. This right was sanctioned by Taghring people with the understanding that the users of these two grazing sites from Bensisahar should pay a fixed rate of animal head tax for a fixed period of time (2.5 NCRs - 3.0 NCRs per head of

animal grazed for a period of 6 months). Thus, without ownership of land, sanctions are levied by the local people on those who come for use resources from other Village Development Committee areas or settlements. The funds thus raised are used for social services in the native settlement.

After the major legal improvement in the Civil Codes of Nepal 1963, the farmers from Chandi VDC refused to pay the fixed amount of *sherma* to the native users in Taghring on the current legal grounds. The people from Chandi VDC assumed the resources were common property (accessible to everyone as defined by the recent act) and that, therefore, they had an equal right to use and exercise users rights as the local Taghring population. Despite the legal grounds, the primary users in Taghring drove away all the animals and confiscated *dillis* (traditional boxes woven from small bamboos carried by herders and containing their valuables) from farmers grazing their animals in Taghring grazing sites. This dispute became very serious, and was later settled by adoption of the traditional customary rules by the two parties.

There are further complex interrelationships and procedures for the use of these common property resources situated away from the settlements. In Ukhari settlement in Gaunda VDC, Lamjung District, sheep, cattle and buffaloes are traditionally grazed and reared separately. This is due to the native sheep being browsers and grazers that can be reared even in the difficult landscapes.

During migration, the animals are camped at different sites. Each camping site where *dilli* is kept for a period varying from 5 days to months, a fixed amount of *sherma* has to be paid. Animals from other settlements or areas are allowed to be kept for only three days without the payment of *saula* or *sherma* in the defined location. On the fourth day, the native traditional owners (primary users) drive these alien animals from the areas if their *sherma* is not paid. This system is followed in Chepekhola, Dordi, Gaunda, Ilam Pokhari, Dudh Pokhari areas of Lamjung, and the adjacent highland areas of Gorkha District west Nepal. Farmers from alien settlements have to pay Rs50.00 (US\$1.00) per herd in each camping site while ascending, and the equivalent amount on return.

In contrast the highland areas (forest and grazing sites) adjacent to Buddha Himal, Manaslu and Danphe Himal are traditionally used by the lowland pastoralists of Gorkha and Lamjung districts (McEachern et al. 1995). These highland resource areas are situated one to seven days walk from the user settlements within different political and geographical village/settlement boundaries. When native settlers of these highland areas want to use resources, they have to get permission from lowland pastoralists. Thus, instead of the native settlers becoming primary users, they are in some cases, the secondary and tertiary users and have to pay *sherma* to the lowland users.

As regards the common property resources use policy of the mid and high hills, practical control is still in the hands of the local people. Although there is an increasing number of line agencies, District Development Committees and VDCs concerned with resource use, the forest, agricultural, water resource

departments have increasingly been manufacturing new sets of user groups, disregarding the traditional groups. Empirical evidence shows that traditional users' groups still have a very strong influence on the use of common property resources in these VDCs. Where traditional user rights are weakened by the government with the introduction of 'new' and 'foreign' systems of user rights, measures for the conservation and sustainable use of common property resources are disappearing. This has increased the tendency for even primary users to exploit valuable animal and botanical species unsustainably.

For example (Oli, 1993) in the Ukhari settlement of Gaunda VDC, Lamjung District, 41 households of the settlement traditionally protected a forest area of about 20ha for their use (for its multiple uses, i.e., watershed protection, fuel and timber supply, grazing animals, and harvesting other forest products). These 41 households had strong user rights for this resource. In 1984, however, the cadastral survey demarcated this area as common property (accessible to all), after which the VDC established user groups, disregarding traditional user group rights. Now, instead of 41 households, there are 124 households who have primary user rights. The traditional users still consider the resource as their property and use it sustainably, while the new users have no affinity for this resource and harvest it unsustainably, so increasing the temptation of traditional owners to harvest unsustainably. One serious consequence regarding the transfer of authority by the government to line agencies is the proliferation of unsustainable resource use systems in the mid and high hills. In this case, the newly-established user groups consider themselves as 'free riders', while the former user groups still claim their inherent ownership.

Long-term use and occupancy of common property resources is a territorial interest. It is these particular lands and resources which have supported the culture and allowed the survival of the people: from a community point of view, it is their capital. The disregard of traditional user rights will not help in the sustainable use of these resources.

The rationale for the sustainable use of common property resources is very strong in these VDC areas, where there is direct dependence on natural resources to sustain economic livelihood and even to ensure economic growth. There appears to be a considerable accumulation of local innovations in the form of legal instruments to sustain the resources. Some of these instruments are documented locally, while others are decided at village assemblies and verbally passed on to the following generation, and are strictly adhered to. For example under the customary rule of these areas traditionally wild animals were considered to be *res nullius*, meaning that they belong to no one. However, according to traditional rules for hunting, rare species like the blue sheep and musk deer are not allowed to be hunted, while animals like rabbit and barking deer, whose fecundity is high, can be hunted or trapped. As far as possible, the prey is equally shared among the user groups. Thus, such prey ultimately becomes collective property according to customary rules.

In law, common property resources are seen by the majority of the people as the common property of the state (*res publica*). At the local community level, however, there is an abiding sense as in Taghring, Ghermu and other VDCs in different Districts, that these lands and resources are communal property (*res communis*). As discussed earlier, access is not open to all. Resources are shared and divided according custom among community members. The customs, both in the mid and high hills, although variable, have been adopted with little modification since centuries ago. Customary rules investigated in the course of the study which have played a significant role in the sustainable use of resources in these VDCs are presented below.

#### 5.4 Customary Rules

A year is divided into two parts (a) *uvouli*, and (b) *undhouli*. These terms refer to the season of the year, which are related with the migratory system of animal rearing. The term *uvouli* means proceeding uphill, from the period when migratory animals are started grazing up from their wintering in low land usually from the beginning of mid February until they reach their highest grazing site, start of dry season and farm activities (showing maize, potato summer crops). *Undhouli* means the commencement of winter, the start of grazing animals from the highest grazing sites towards their wintering lowest point, and the start of harvesting rice and other crops in lowland areas.

The private and common property resources in these VDCs used to be regulated by an assembly attended by all the settlement and their representatives called *sathi sabha*. The assembly sits twice in a year just before *uvouli* and *undhouli* time in order to decide on that year's *thiti* (customary rules) for resource use and management, delineating grazing sites and protected areas. Some customary rules adopted by hill and mountain VDCs are outlined below:

- (a) The animals of the villages reared under transhumance system should start going up for grazing from mid February from the low land settlements and start coming down from highland grazing site from the second week of October.
- (b) The protected areas should not be grazed or fired. If found so, culprits are fined by the community.
- (c) In environmentally sensitive areas such as heavily denuded, landslide and landslide prone and flooded areas, grazing and other human activities should be strictly prohibited. Persons or households disobeying will be fined.
- (d) The harvest of small bamboo from forest should commence at a fixed date. Only mature shoots are thinned, the young shoots shouldn't be damaged. Annually each household is allowed to use 500 small bamboo (300 *nigala*, 200 *malinga* [*Arundinaria* spp]), to make 10 to 20 bamboo mats.

- (e) In circumstances of encroachment on the delineated area by an outsider, users should report the events to the assembly and based on the nature of damage, the intruder should be fined. The fund thus raised should be used for social activities of the users.
- (f) The herdsmen should monitor the harvest of medicinal plants, mushrooms, valuable timber species, wild oilseeds, small bamboo, *lokta* (material for Nepali local paper), herbal plants and endangered wild animals, and the destruction of protected areas.
- (g) Irrigation, drinking water supply and the siting of water mills for grinding should be decided by the users.
- (h) For animals brought from other VDCs or districts for wintering or grazing, an animal head tax should be raised by the settlement where they are wintered and *sherma* should be paid to the primary users.
- (i) In the mid hills, plantation and protected areas are regulated by set of rules. The harvest of other resources should be carried out according to the rules set by the community.
- (j) For supervising a long distance irrigation and drinking water scheme, the user household should raise funds in kind or cash and maintain a watchman or runner.
- (k) For hunting of barking deer and rabbits verbal *jura privata* should allowed.
- (l) Resource distribution is allocated by the assembly or their delegates to the users.
- (m) Customary rules established for social activities related to marriage, birth or death within the villages should be strictly implemented.
- (n) Local taxation for resource harvest is also fixed at the meeting. Depending on the case it varies from very nominal to about US\$10, and this should be strictly followed by all the members.

Decisions which are perceived as unfair or impractical during the year are curtailed in the following year's assembly meeting and more practical rules are designed. This means there is periodic review of their customary rules. The above cases clearly indicate the dynamic nature of community in resource management. Rules of the assemblies favouring collective values, which are visible to the people and practical, have received legitimacy over a long time in these areas. They have developed successful and enduring collective management of the commons. Recently, however, there have been increasing conflicts between the local people's perceived view and the government view in regulating resource management. This is likely to continue until the government gives up ignoring or impairing the local community's sustainable resource management, instead of favouring and valuing them in decision making processes.





FIGURE 3. Farmers discussing customary resource management procedure in the mid-hills of Nepal

## CONCLUSION

Hill and mountain communities are generally aware of the shortage of natural resources and of the severity of resource degradation. They have long adapted to surviving at low levels of consumption. In an underdeveloped economy these adopted strategies are sustainable. However, these strategies often fail to produce a dynamic impact on modern systems. Because of their economic value coming from a survival role, they may not fulfil a development role. As the local economy became more dependent to the outside world, the strategies have been changed.

To their best abilities, the local communities are inventing and adopting sustainable systems of resource management, but implied in this concept is a future scenario in which neither is the present population denied access to most of the amenities and qualities of life now enjoyed in the most affluent societies, nor are the different minorities required to give up any of the amenities they have already attained while safeguarding the natural environment. This poses a question towards sustainability, whether it is practically achievable or not? The answer should be that it has been made feasible by the people in the past, provided local values are used constructively, improved and not discredited. Present day planners and policy makers must therefore appreciate and understand the indigenous sustainable resource management system, and incorporate into their

planning and implementation the need to keep traditional strategies functional.

When we come up from the village level, in which community spirit is very high in sustainable resource management, to the urban centres, country, nation, and higher at the regional and global level, the widening disparity in resource use, income and opportunities between the growing number of poor people and the rich industrialists is evident. At these levels even with the promulgation of international and national legal provisions for sustainability, the environmental systems are clearly seen to be unsustainable. This is fundamentally due to the fact that at the end, environmental problems by their nature seek solutions at the local level, which is often neglected in these legal provisions.

In addition the value systems of people towards sustainability are also changing since the inception of the Bruntland Commission. Particularly in the urban centres throughout the world (Nepal is not an exception) for future generations to meet their needs we are emphasising the accumulation of non-living (man made) establishments such as houses, buildings, bank accounts and expensive minerals which may have little bearing on sustainability. They are built at the cost of turning the living environment into the non-living. Little practical attention is paid by rich people and countries to strengthening and protecting the living world where biodiversity exists and natural systems remain undisturbed for future generations to meet their needs. In the process of urbanisation we are creating assets which are dead and make very little contribution to the living environment. We define sustainability in various laws, by-laws, regulations and in forums, yet we are deviating away from their actual norms. This is a growing human tragedy.

Meanwhile, in Nepal certain problems with the government development programme are emerging. The modern open economic model of planning and implementation which is being imposed on an underdeveloped economy is dependent and unsustainable in many areas, where traditionally sustainable strategies have been adopted. Through considering the traditional sustainable strategies adopted by the local people, it appears that sustainable development is conceptually feasible provided the rich start consuming less and change their way of life to be more like the poor, or at least incorporate the most practical strategies adopted by the poor people so far into their survival strategies.

Thinking about and admiring the sustainable strategies of the poor and adopting a rich unsustainable way of life will not lead us towards sustainable development. Thus as far as countries like Nepal are concerned, achieving greater equity and meeting the basic minimum needs of the people should form the main strategy for sustainable development, rather than undue rhetoric about safeguarding the natural environment. That is perhaps well understood by the hill and mountain communities and their sustainable development strategies are geared towards achieving this. Laws regulations and bylaws addressing sustainable development must be based on the realisation and adoption of successful sustainable strategies if they are to be practically and popularly adopted by the people.

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