LOCAL RESOURCE MANAGEMENT INSTITUTIONS: A CASE STUDY ON SOKSHING MANAGEMENT

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A case study has been presented on *Sokshing* Management and its contribution to sustainable livelihood of the Bhutanese people. The case study was carried out over a period of three years taking three representative regions of the country as research sites. Since other local resource management institutions also form integral part of resource management regimes in a community, these have been briefly included in the discussion.

Local Resource Management Institutions

Local resource management institutions have evolved as a result of the need to have some form of measures to control the resource use to ensure sustainability and reduce access-deferential to the resources in and around the local communities. While some of the local resource management institutions have died away, others have become more relevant. This may be a reflection of the relevancy of the institutions to the present socio-economic state, and the institutionalisation of some of these local resource management institutions in the laws and by-laws of the country. Land Act 1978 and Forest and Nature Conservation Act 1995 have been responsible for the disappearance of some of the local resource management institutions as these were either over-ruled by the provisions of the acts, or just were overlooked while enacting these acts. However, some of the local resource management institutions have been incorporated into laws and by-laws, and have been adopted as effective resource management strategies.

The results of the case study carried out in Trashigang, Bumthang and Paro on the local resource management institutions are presented below.

Reesup (Village Forest Guard)

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Previous to the enactment of the Forest Act in 1969, the "Mang" (Community/Village) through the institution of Reesup managed most of the forests in the villages. The *Mang*, which used to comprise of one to few villages, would appoint the *Reesup* on an annual or bi-annual basis. (Oral communication with many elders in all the three research *Gewogs*). The Mang wherein the village elders took most of the decisions defined the function of the *Reesup*. The *Reesup* was delegated with authority to ensure that everyone had adequate firewood and construction timber which to a large extent was in contrast to the policing responsibility of 'forest watcher' in Nepal or 'forest chowkidar' in India under joint-forest management schemes. He was also empowered with the responsibility to enforce "*Reedum*" (Prohibition of forestry activities including extraction of bamboo and grazing during summer i.e. June-October) in communities wherever this was practised.

The institution of *Reesup* is a customary one and social sanctions exercised by the village community over the forests in and around their village before formal intervention by the government. Protection of forests through this institution also included the catchment areas. No formal permission from the *Dungpa* or *Dzong* was required to cut trees for firewood, construction of house and prayer flagpoles. The *Thrimshung Chenmo* 1957 (Clause NYA 1-16) prohibits the hunting of endangered wild animals such as tiger, elephant, musk deer etc., but did not impose any restrictions on felling of trees and use of forest products thereof by the local people. So this institution like many of the local resource management institutions in other parts of Asia or Africa was loosely formed based on mutual trust and reciprocity. The *Reesup* drew his legitimacy to control the use of and access to forest resources by the individual households from the mandate by the *Mang (village/community)*. The customary rights and sanctions were all geared towards sustainable use and equitable distribution of benefits from the forests.

The *Reesup* ensured that every community member had equal and easy access to forest products as and when required. This was achieved through frequent informal meetings and discussions and proper guidance from the village elders. While in many locations the functioning of the institution was guided by customary norms, other communities had written documents

with thumb impression (in place of signature) agreeing to the terms and conditions set for the functioning of the *Reesup* institution. Such arrangements ensured both rewards and penalties for the members.

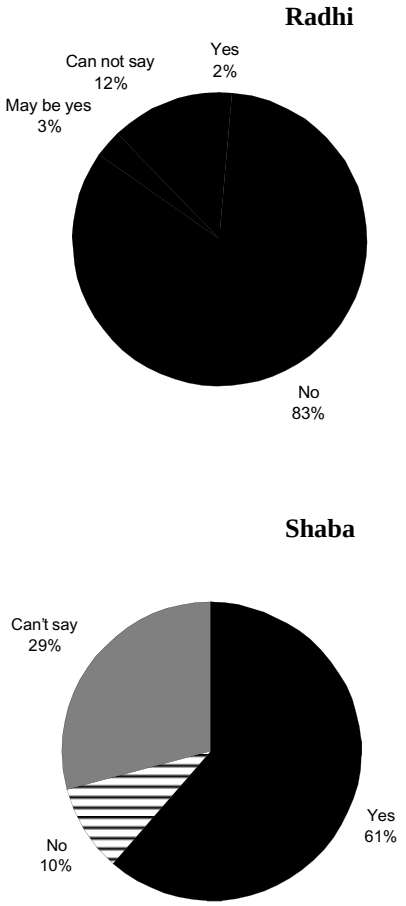
This social organisation is still observed in Shingkana in the village under Shaba *Gewog*. For instance, the *Reesup* ensures that everyone has equal and easy access to the forest products. However, he is also expected to enforce certain rules and regulations so that trees are not felled around water sources, makes sure that an adequate number of seed trees are left behind during harvest and that harvested forest areas get an adequate period of rest for rehabilitation, etc. Penalties include a fine of Nu.50 for every tree felled and Nu.150 for every load of firewood collected from the '*Drongsep Ngagtshel'* (village/community forest). Funds generated from the collection of fines are used for annual *Mang Rimdo* (performance of rituals for the welfare of the village). Therefore, economic incentives seem to be an important element concerning the willingness of the local people to be involved in forest resource management. The perception of the local people differed on the capability to manage the forest if the Government transferred some of them.

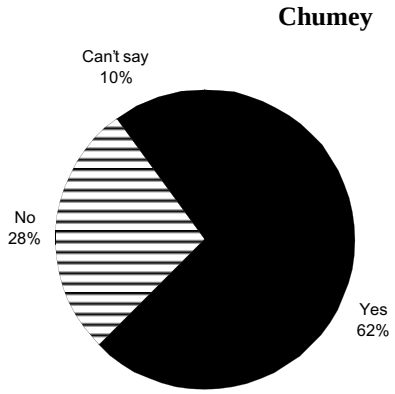
The *Reesup* was paid in kind and exempted from obligatory services to the government and the community. This was the standard practice for services rendered to the state or community just like the "*pangoleng garpa*" who went to Bumthang to cultivate agricultural crops before the 1950s (Ura, 1995, p.91.). By virtue of holding such a post, they commanded high social authority in the family and community especially in terms of property inheritance.

Minute details on the functioning of the institution of *Reesup* would differ from region to region, but there was no drastic difference in the principles, objectives and decision making process. For instance, if one looks at the institution of *Reesup* in Radhi, Chumey and Shaba *Gewogs*, the structure, responsibilities and functions of the *Reesup* were almost identical. However, in Radhi *Gewog* the *Reesup* was also entrusted to implement the practice of *Reedum*.

When the first Forest Act was passed in 1969, the institution of *Reesup* was replaced by forest officials appointed by the government. Existing government structures such as Divisional Forest Office, Range Office, Beat Office and Forest Check Posts were strengthened in various parts of the country. As no provisions were made on the legitimacy of customary rights and sanctions over forest products including the institution of *Reesup*, the Act annulled all customary rights and sanctions. However, in practice, most of the customary rights and sanctions continued since the government did not have adequate personnel to implement the provisions of the Forest Act. During the field survey, a *Dongsep Ngagtshel* in Shaba and Gapteyna in Paro were examined which is managed fairly well.

Figure 1: Perception of Local Forest Management Capability[1]





Source: Author's Field Survey, 1996

Furthermore, with regard to the direct impact of the annulment of the institution of *Reesup*, it did not make much difference to the local community as a whole or to the individuals. The primary reason were that forest products were available in abundance and the government was not in a position, as far as field staff was concerned, to enforce penalties when offences were committed. For instance, in Chumey, 100 percent of the households said that they are self-sufficient in firewood, while 92 percent of the households in Shaba are self-sufficient in firewood. In Radhi, 46 percent of the households said that they are self-sufficient in firewood. The response to interviews and results of household survey show that people increasingly feel the thrust of the forest legislation. Field survey results also show that on an average, 35 percent of the households said that the present rules on the use of forest resources are too strict.

An institution that had evolved as a heuristic process matched by the social structure faded away due to inadvertent oversight in 1969 when the first Forest Act was passed. If the establishment of more effective institutions does not follow the dissolution of traditional local institutional arrangements, common property becomes open access[2].

After more than fifteen years since the dissolution of an effective local forest management institution, the Forestry Services Division realised the

importance of the institution of *Reesup* for interpreting the concept of sustainable forest management and the useful role of such institution as a link with the local people in the management of forests (Forestry Master Plan, 1991). Therefore, in 1985 the institution of *Reesup* was revived with major structural changes in its composition and functioning (Fifth Five-Year Plan). The selection of the *Reesup* was done by the communities and formal appointment made by the Forestry Services Division with a fixed salary from the government. His responsibilities included distributing the message of the government policies on the sustainable use of forests, explain rules and regulations as listed out in the Forest Act and various circulars, encourage the local people to abide by government rules and regulations on the use of forest products and assist local Forest Officials to detect forest offences. Progress reviewed by the Forestry Services Division show that this approach is effective in bringing the government administration closer to the local communities. One reason could be that the local people could now talk to some one from the village instead of someone from the government who is usually from outside the village.

***Meesup* (Forest Fire Watcher)**

The discussion of *Meesup* is mostly based on oral communication, discussion with government officials engaged in dealing with forest fires, and semi-structured interviews. Like the institution of *Reesup*, there also existed a local resource management institution known as *Meesup*. This institution evolved in the same manner as other similar local institutions as a response to risk aversion and the need to use the resources more sustainably. Whereas the *Reesup* was mandated with both executive and legislative authority over the forest resources, the *Meesup* was responsible only for the protection of the forests from fires. The terms of appointment and functioning were similar to that of *Reesup* (personal communication from elders). The *Meesup* was expected to mobilise labour from the community to fight forest fires and at the same time ensure that the culprit who set the forest on fire was detected and reported to the *Dzong*. The institution of *Meesup* also faded away with the enactment of the Forest Act in 1969. In many ways this absolved the local communities of the legal responsibility to protect the forests from fire. One would imagine that this was not the intention of the Forest Act but rather an oversight as in the case

of *Reesup*. The Forest Act of 1969 Chapter IV Section 6(b) states " *The following acts are prohibited in Reserved Forests: setting of fire to a reserved forest or leaving any fire burning in such manner as to endanger such as forest"* and Section 19 states "*Whenever fire is caused wilfully or by gross negligence in a Reserved Forest, the offender shall be punished as per decisions in the National Assembly"*. The Act does not mention the existence of any local resource management institutions neither is it explicit in their annulment as a result of the enactment of the Forest Act. This is in contrast to the Land Act 1978 where all relevant local resource management institutions were incorporated into the law of the country. This may be a reflection of the adaptation process that the formulation of the Acts went through. For instance, the Law Committee who consisted of members from a wide cross section of the Bhutanese society formulated the Land Act. As a result of this process the responsibility of protection of forests was, therefore, transferred to the Forestry Services Division. However, in actual practice the local communities still continued to be held responsible whenever any forest fire broke out. A decision taken in the meeting between the *Dzongda*s and Forestry Services Division in 1983 put the onus of protection of forests on the local communities. This was both in terms of expending effort to put off the fire and penalty if the culprit was not detected. This process on the one hand divested the local community of the authority to organise forest fire protection schemes and on the other hand was expected to contribute labour to fight forest fires in addition to the legal liability.

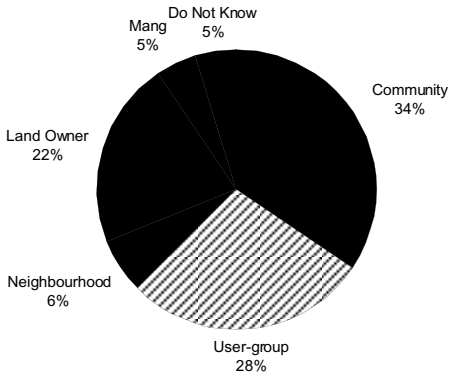
However, when the Forest and Nature Conservation Act was submitted to the National Assembly (72nd Session) for approval in 1995, one of the major issues raised by the people's representatives was on forest fire. After debating for a long period, a major amendment was made which absolved the local communities from the legal liability of forest fires. The final version of the Act states as "*The local communities are expected to contribute labour for fighting forest fires but do not have to pay financial compensation for the loss of forests even if the culprit is not detected. Instead the local community has to plant the burnt forest area* with *tree seedlings provided by the Forestry Services Division free of cost".*

***Chusup* (Drinking Water and Irrigation Water Watcher)**

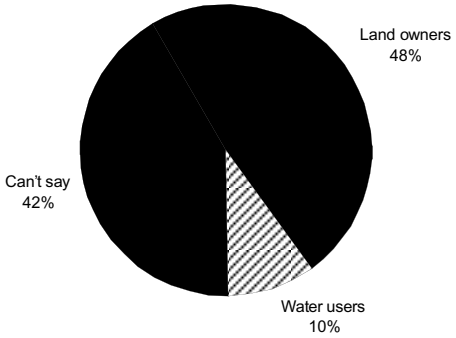
The discussion of the institution of *Chusup* is based on the provisions made in the Land Act 1978 for the use of water for irrigation, oral communication and observations made during the field visits in Radhi and Shaba. *Chusup* institution does not exist in Chumey since there is no paddy cultivation. The concept of *Chusup* evolved in a similar pattern as that of *Reesup* or *Meesup.* His responsibilities included making sure that the traditional right-of-way for drinking water was respected by the concerned households and to ensure proper distribution of water for irrigation among the landowners. He was legitimised by the local community to arbitrate minor disputes among the irrigation canal owners. Since his role was based on customary rights and sanctions, litigants were free to approach the *Gups* or court in case of disputes over the use of water. Unlike in the case of forest products, property rights over water were strictly enforced. For instance, both in Radhi and Shaba, one's inclusion in the ownership and therefore sharing of water from a particular irrigation canal depended on either one's direct contribution or contribution made by one's ancestors in kind or cash for the construction and maintenance of the water canal. The *Chusup* also made sure that the existing or newly constructed water canals did not cause damage to nearby fields. The present irrigation canal ownership pattern is based on the land ownership and is location-specific. The ownership was transferred with the land and therefore social hierarchy or kinship has played only a limited role in shaping the irrigation canal ownership status that exists today. Expansion or conversion of paddy field from other land use would require the endorsement of the existing canal members. In case of agreement by the members, the new member would have to pay an equivalent amount in terms of cash or labour expended by the old member.

Figure 2: Perception of Irrigation Management[3]

Radhi



Shaba



Source: Author's Field Survey, 1996

The Land Act 1978 seems to have formalised the institution of *Chusup* by including it in the Act. The Act (Chapter VI, Clauses (A) 7 -1 to 7 - 14) explicitly provides guidelines for the functioning of the institution and lays specific penalties for non-compliance. It seems that the Act has drawn substantial direction from the informal *Chusup* institution as not much has changed both in spirit and structure of the law on the use of water for irrigation in the Land Act of 1978.

Construction of new irrigation canals and maintenance of existing ones was considered an important input of the government for attaining self-sufficiency in food production. This intervention also had a direct impact on the local water management institution. Although the membership pattern is similar to the informal one, the inclusion of new members is formalised and legitimised through the axiom that inputs from the government should be available to everyone. The Department of Agriculture carried out a survey of "Farmer Managed Irrigation System Research Project" in 1990. One of the main findings was a dispute between the landowner and sharecropper. This seems to be more accentuated in some parts of Trongsa *Dzongkhag*. Anyone with land can now become a member and gain a property right over it. This is done through the creation of a `Water Users Association`, a concept introduced from outside. This concept is also applied for managing drinking water schemes mostly provided by the government.

***Shingsungpa* (Agricultural Crop Damage Arbitrator)**

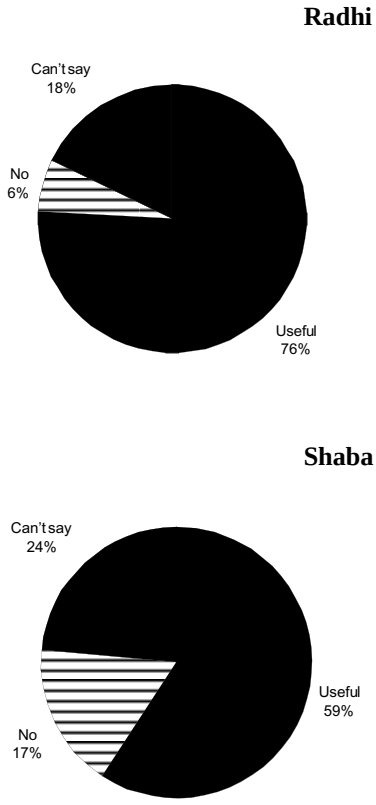
This is an effective institution still in practice in the villages. The functions of the *Shingsungpa* are broadly outlined in the Land Act 1978 under Chapter XI. Like the institution of *Chusup*, the Land Act 1978 seems to have taken into consideration the existing local resource management institution and formalised it as law of the country. This process seems to be the most crucial element for the survival of local institutions and knowledge.

In the past, the selection procedure of *Shingsungpa* used to be the same as in the case of *Reesup* or *Chusup*. However, with the establishment of *Gewog Yargye Tshogchung* (*Gewog* Development Committee) during the Fifth Five-Year Plan, the appointment has to be approved by this committee. Under the broad guidelines listed in the Land Act 1978, framing of detailed rules and regulations are left to the individual communities. The existence of different situations in the three *Gewog*s of Radhi, Chumey and Shaba is a reflection of this approach.

In Radhi, more than 95 percent of the respondents said that the institution of *Shingsungpa* is useful in protecting their crops from cattle damage. In Shaba only 50 percent attributed the lower degree of crop damage to the

Shingungpa institution. They felt that even without this institution, the rules of compensation for crop damage by cattle are built into the day-to-day functioning of the social system, whereas in Chumey, the institution of *Shingsungpa* does not exist.

Figure 3: Perception of the Usefulness of the *Shingsungpa*[4]

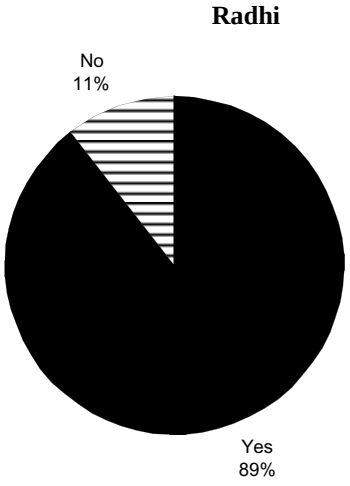


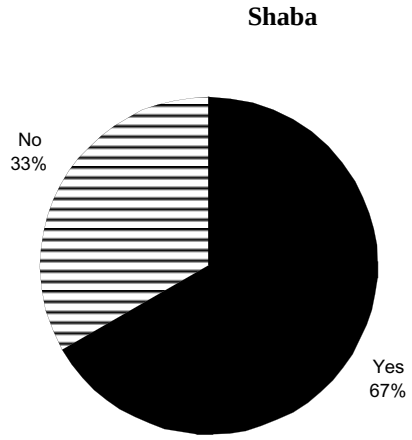
Source: Author's Field Survey, 1996

The *Shingsungpa* Institution as practised in Radhi and Shaba

Each village selects one person with a high degree of integrity as he is expected to arbitrate disputes in the process of discharge of his responsibilities, which include the declaration of the agricultural season. This is done by going from house to house, usually in March. From this day on compensation and fines for crop damage by cattle becomes effective. The modes of calculation of compensation and litigation seem to be both scientific and logical. When agricultural crop has been damaged by cattle, the landowner requests the *Shingsungpa* to inspect the field who makes his assessment of the damage in the presence of the cattle owner. The methodology to be used for the damage assessment is jointly agreed among the three individuals, i.e. land owner, cattle owner and *Shingsungpa*. For instance, in case of paddy, the number of damaged clumps is counted. During harvest time, paddy is harvested from an equal number of clumps from the adjacent field and the landowner is compensated with the same quantity.

Figure 4: Perception of the Arbitration of the *Shingsungpa*[5]





Source: Author's Field Survey, 1996

Sometimes the job of a *Shingsungpa* can become complicated. One of the acceptable proofs required charging someone for crop damage is that the cattle should be either tied at the damage site or witnessed by a third party. This becomes even more difficult where in small communities people try to avoid getting into legal tangles where their own members are involved. Ocular damage assessment is also another source of conflict. However, 89 percent in Radhi and 67 percent in Shaba of the respondents said that they usually accept the verdict given by the *Shingsungpa.*

Traditional Forms of Sanctions (*Reedum)*

The enactment of the Forest Act in 1969 saw a major change in the manner forest resources were appropriated both for commercial and domestic consumption. Prior to this period it was not considered an offence to harvest any forest resources for one's own use without formal sanction from the state except hunting endangered species. There were informal restrictions on the use of forest resources imposed by the social sanctions of the local communities, but these were derived from self-evolved and self-

imposed sanctions. Contravention of these sanctions could be resolved through amicable discussions in which the context of the act was considered a more crucial decision making factor than the actual commission of contravention of the social sanction. The implementation of such social sanctions was less complex as the forest resources were in abundance and the economic role of the forest resources was limited.

One of the customary sanctions still functional is the practice of *Reedum*. This is not reflected in any formal manner in any legislation. In Radhi the sanctions are strictly conformed to by the households. However, such a practice does not exist in Shaba or Chumey. The practice of *Reedum* is linked to the religious belief that the mountains are the abode of the local guardian deities. This practice is linked to Bon religion that is still practised in most of the eastern part of the country. For instance in Radhi, it is considered to be a serious offence if someone from the village extracts any forest product from the mountains above the village during summer when agricultural crops are still standing. During the field survey, more than 95 percent of the individuals interviewed said that the practice of *Reedum* is good for the whole community. In other words agricultural crops are protected from natural calamities such as floods, storms and insect epidemics by the deities residing in these sacred mountains. The ban on the extraction of forest products includes also bamboo and grazing. The ban extended to the cremation of dead bodies in the vicinity of the village during this period. All cremation is carried out in designated locations, which is usually by the riverbanks and away from the villages.

Even if the institution of *Reesup* in its original structure and functions has died away, the practice of *Reedum* is still enforced by the *Gups* (*Gewog* Head), *Chimis* (people's representative and member of the National Assembly) and *Mang Aps* (village head). This may be attributed on the one hand to the forbearance of the government on such issues and on the other hand on the religious belief that has been in practice for generations. This seems to be the case where religious sanctity of a particular resource is determined by natural factors such as the season of the year that has its expression in the environment. Whatever may be the exact interpretation, in actual practice it is very logical. In summer, forest operations especially harvesting, are likely to cause more environmental damage than during the dry season including grazing by cattle.

Sokshing

The term *Sokshing* is used inter-changeably as a physical resource, as a local resource management institution and a tenurial system. The differentiation of the meaning becomes evident when used in the context of the utility of *Sokshing* and in the manner used by the local communities.

Local resource management institutions such as *Sokshing* have demonstrated that forest resources can be sustainably managed if tenure is ensured and at the same time it has signalled that if proper monitoring is not carried out this may lead to their appropriation for other uses. The existence of an equivalent of *Sokshing* can not be found in other parts of the region but loosely it could be interpreted as wood lots.

Typology of *Sokshing*

Although the Land Act or Forest and Nature Conservation Act recognises only one type of *Sokshing*, there are two types of *Sokshing* which can be classified based on the species of the trees that constitute the *Sokshing*. In Radhi, most of the *Sokshing* consists of oak species interspersed with broad leaf species. In Chumey most of the *Sokshing* consists of conifer species, and rarely of oak or broad leaf species. In Shaba, conifers and broad species can be found in the Sokshing. The general quality and productivity of the *Sokshing* varies from region to region, but is usually better than the government reserve forests. This was very evident during the field visits where distinct difference can be observed between the *Sokshing* and government forests.

Legal Issues

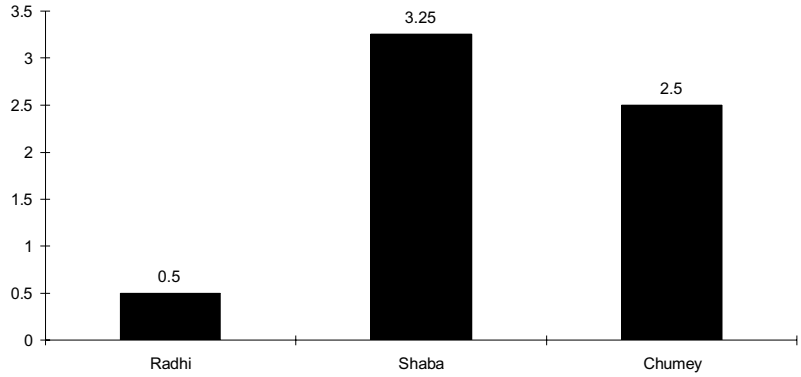
Like most of the other forest resources, prior to 1969 (the year the Forest Act was passed by the National Assembly) and later on in 1978 (when the Land Act was passed by the National Assembly) *Sokshing* ownership rested with owners who had registered it under their names. The definition as contained in the Forest Act of 1969 was not so clear on the legal ownership status as the definition of *forest* stated "*...forest means ... any land and*

water body, whether or not under vegetative cover, in which no person has acquired a permanent and transferable right of use and occupancy, whether such land is located inside or outside the forest boundary pillars, and includes land registered in a person's name as Tsamdo (grazing land) or Sokshing (woodlot for collection of leaf litter).' However, the definition of *Sokshing* in the Land Act made it explicit on the status of the legal ownership of *Sokshing*. The Land Act defined *Sokshing* as " *forest to be used as a source of leaf litter and fodder and the owner has no right over the standing trees and land over which Sokshing is established*".

Distribution of Sokshing

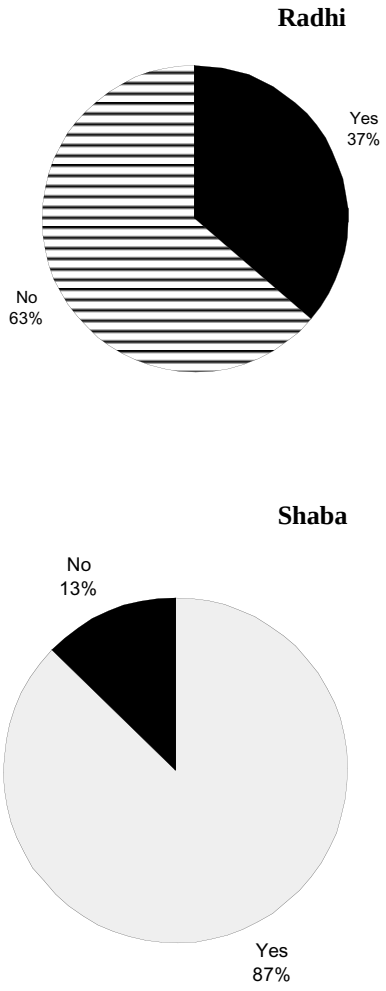
According to the field survey, 37 percent of the households in Radhi own *Sokshing* whereas in Shaba 87 percent own *Sokshing*, as compared to 69 percent in Chumey. In terms of area it works out to 40.8 ha in Radhi, 131.6 ha. in Shaba and 52.6 ha. in Chumey. *Sokshing* 'ownership' pattern is the same as that of agricultural land in the three *Gewog*s. However, their roles and extent of area differ. *In Radhi the average Sokshing holding is 0.5 acre per household while in Shaba it is 3.25 and 2.5 acres in Chumey.* However in Radhi the contribution of *Sokshing* both as a source of basic forest product needs and social interaction is very high. There is a definite pattern of *Sokshing* use in the three *Gewog*s. While 10 percent of the households get their firewood directly from *Sokshing*, 46 percent depend on *Sokshing* supplemented by nearby forests in Radhi, 58 percent of the households in Shaba collect pine needles from *Sokshing* and 70 percent said that the main function of *Sokshing* in Chumey is the provision of pines for compost. Less than 3 percent depend on *Sokshing* for firewood in Shaba and Chumey.

Figure 5: Average *Sokshing* Size per Household (in acres)

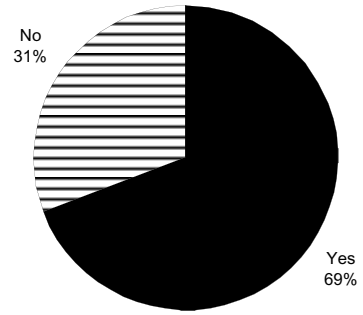


Source: Author's Field Survey, 1997

Figure 6: Perception of the Importance of *Sokshing*[6]



Chumey



Source: Author's Field Survey, 1996

Distribution or inheritance of *Sokshing* when a household member starts his/her own household is done in the same manner as agricultural land. This has resulted in a high degree of fragmentation of *Sokshing*. The field survey showed that 62 percent of the households own less than one acre of *Sokshing*. More than 10 percent of the households' *Sokshings* comprise of three to five trees. This illustrates that *Sokhsing* is as important for the household as agricultural land.

Sokshing Management

The institution of *Sokshing* plays an important role in the social energy flow. More than 50 percent of *Sokshing* owners said that firewood from *Sokshing* can be 'given' to the neighbour only when someone dies in family. While no direct cash or material is accepted for this favour, the *Sokshing* owner assumes a certain level of legitimacy of social authority over his neighbour. This pattern of social structure was observed and analysed from interviews with both those who own and those who do not own *Sokshing*.

Care and protection accorded by the owners to *Sokshings* can be physically observed by comparing them with the adjoining government forests. While most of the *Sokshings* are protected well from outsiders from destruction, government forests are seen to be at varying stages of destruction. One of the reasons for the efficient management of such a resource can be attributed to the existence of law that respects the right to a benefit stream by others. (Bromley 1989, p.5.)

The silvicultural practice for the management and harvest of *Sokshings* is sound. It has evolved over the years and the knowledge is passed on from generation to generation. Everyone interviewed in the *Gewog* knew all the tree species grown in the *Sokshing* or nearby forests. They are also aware of the specific silvicultural requirements and different species are harvested differently to suit their ecological resiliency. More than 80 percent of the people interviewed said that trees in the *Sokshings* are never felled from the ground level. For instance, in the case of oak (Quercus sp.), taking advantage of its sprouting capability, it is pollarded at two meters height. This ensures that the tree is not completely lost and also reduces the effort for protecting the sprouts from the cattle. Fodder trees (mostly *Ficus sp.*) are also never felled from the ground level. The biomass is usually harvested by lopping. This ensures that the regeneration takes place successfully. Therefore, it becomes evident that the concept of sustainability is incorporated into the management of *Sokshing.* Leaf litter of oak and pine needles from the *Sokshing* are used as bedding material for the cattle. They have a multiple functional role. While the leaf litter and pine needles keep the cattle warm in winter in their sheds, the decomposed material is the most ideal manure thereby contributing to the food production[7]. Gilmour 1991, p.60; Chhetri 1993, p.117; and v. Fürer-Haimendorf 1964 in Chhetri and Pandey 1992 describe similar use of forest products made by the hill people of Nepal including the Sherpas of Khumbu.

The institution of *Sokshing* can also be a source of social conflict in the *Gewog*. Although more than 50 percent of the households interviewed said that it would be a good idea to hand-over the full ownership title of *Sokshing* to the *Sokshing* owners, more than 40 percent of the *Sokshing* owners said that theft from *Sokshing* is increasing. Few of the respondents

of the interview were very vocal on the issue of transfer of *Sokshing* ownership. While the present *Sokshing* owners said that if the full transfer of ownership is done, it will encourage them to protect and plant additional trees, the households who do not own said that it will not be equitable. They contend that with the present mode of appropriation of firewood, they are sure to get what they need through the permit issued by the government. If their access is excluded to *Sokshing* by transferring full ownership, then it would become difficult for them to get one of their basic forest product need, i.e. firewood.

Although the Forest and Nature Conservation Act of 1995 and Land Act of 1978 clearly defined the legal status of *Sokshing*, it was only recently these provisions were imposed. The *Sokshing* owners enjoyed full authority and in many places the non-*Sokshing* owners did not know about the real legal status of *Sokshing* anyway. In Radhi, most of the *Sokshing* depletion can be attributed to the recent imposition of the legal definition of *Sokshing*. This generated a double negative impact. While on the one hand the *Sokshing* owners who had protected and nurtured them for generations suddenly lost control of their very important resource and therefore felt legitimised to use the *Sokshing* as much and as early as possible before others did, on the other hand, the non-owners felt that a resource that was locked up was suddenly available to them and started making higher demands from them. Furthermore, they perceived it as a question of equity that has been ensured by the government.

The institution of *Sokshing* seems to be as old as the agricultural crop production institution in Bhutan. This is evident from the legal status accorded to *Sokshing* in the land records of the households and the existence of the *Sokshing* inheritance system. The local people have also acquired the knowledge required for the sustainable management of the *Sokshing*.

The legal status or tenure of the *Sokshing* is presently the most critical factor in the sustainability of basic forest product needs and also as a resource for social interaction of the *Gewog*. If the tenurial rights are not ensured, the *Sokshing* owners will continue to over-use them and will have no legitimacy and interest to protect them from outsiders. Since the land

does not belong to the users, there is no incentive to improve it through enrichment planting or by other any means. This situation leads eventually to a conversion of *Sokshing* into an open access resource.

The Use of *Sokshing*

*General relevance: The d*efinition of *Sokshing* as contained in the Land Act 1978 and *Thrimshung Chenmo*, 1957[8] clearly states that *Sokshing* is a government forest, registered by an individual for collecting leaf litter, but the land and the trees belong to the government. In its entirety, it comprises a woodlot, usually located next to a village or human settlement. The main species in the *Sokshing* are oak (Quercus sps.) in Radhi, in Shaba and Chumey there are blue pine (Pinus wallichiana). In some parts of the country, it is a precious resource not only as a source of leaf litter and firewood but even as wood for cremation. In Radhi, oak is the preferred species for cremation and such species are now limited to *Sokshing*. The fact that a household owns *Sokshing*, commands some social authority within the communities. In other regions *Sokshing* is perceived as a potential source of land for appropriation for other purposes than leaf litter and firewood production. However, in other regions, it is perceived as a habitat for wild animals that is detrimental to agricultural crop production. The reasons attributed for the failure of such an approach are due to a lack of tenure entitlements to legitimise the local communities[9].
The regional variations in the use and perception of *Sokshing* are reflected in various elements that constitute a social structure of a community and that determine the capability of a particular locality.

Radhi Gewog: In some regions, for instance in Radhi, scarcity and the important role of *Sokshing* have stimulated the emergence of appropriate local[10] *Sokshing* management patterns. Firstly, *Sokshing* is considered a highly valued inheritance property and is shared among the family members just like any other property such as agricultural land and livestock[11]. As in the case of agricultural land, a fragmentation of *Sokshing* area has taken place. This is due to the absence of the joint family system as it exists, for instance, in Chumey and to some extent in Shaba where the joint family makes productivity at the household level more viable.

Secondly, in response to the scarcity of forest products, a sustainable silvicultural practice of managing *Sokshing* has emerged. It is based on the fact that most of the oaks (Quercus sps.) coppice successfully[12]. However, no *Sokshing* owner fells his trees from ground level but pollards. This reduces the risk of damages to the shoot by the cattle, which are legally and socially sanctioned to graze freely in the forest area. Through the application of such a silvicultural system, the *Sokshing* owner avoids extra costs of guarding the new shoots and at the same time the main trunk is saved for further growth and also acts as an "insurance tree".

Thirdly, the under-storey of the *Sokshing* is cleaned annually just before the commencement of the collection of dead leaves. The dead leaves not only decompose and form high quality natural fertiliser but also are a comfortable bedding for cattle during the cold winter months. In the region of Radhi, while most of the *Sokshing*s are managed sustainably, many degraded *Sokshing*s were observed during the field visit. State ownership of property rights and tenure of *Sokshing* have discouraged the households to carry out enrichment plantations in the degraded *Sokshing* as anything grown on it will be state property. Such varied interpretation is the key to understand the state legislation and the performance of local communities in the sustainable utilisation of forest resources. It also influences the genuine participation of the local communities in the management of forests.

Shaba: Socio-economic development processes that have taken place over the years has resulted in the emergence of a new *Sokshing* management paradigm[13]. There is a distinct difference in the social performance of the state legislation and of the local communities with regard to *Sokshing* management [14]. The field survey shows that firewood from the *Sokshing*s is only a secondary product as more than 40 percent of the households depend on LPG for cooking. State legislation and the social performance of local communities have been highly influenced by a scarcity of space for agricultural and horticultural production. With the increase in agricultural products, the population in Thimphu City, and a lucrative export market for horticultural products, every space of land has been brought under cultivation. Since the functions of the *Sokshing* could be replaced by cash income, the opportunity cost of *Sokshing*s as a source of leaf manure and

firewood became too high. Such a perception has led the local communities to a conversion of the *Sokshing*s to apple orchards and other economically more profitable forms of land use. The method used for converting *Sokshing* into apple orchards in Shaba is different from various other regions of the country. For instance, if the *Sokshing* owner is detected clearing *Sokshing*, the fine is paid without creating much bureaucratic problems.

The area becomes devoid of trees which takes the landscape of any agricultural field. This makes it convenient for the individual to use the land in a manner appropriate to him since it becomes difficult for the state with limited personnel to detect each and every case[15]. This is a reflection of a high degree of effectiveness of the local social performance since all this is happening within a limited extent of area and not like somewhere in the middle of the Amazonian forests where small clearings remain unnoticed. The sustainability of such a social performance contrary to the performance of state legislation will need to be influenced by a process of access-differential and a client-patron relationship.

The social performance of the local communities have been raised to yet another level in Shaba. For instance, while the *Sokshing*s, which legally are state property, are converted to other land use forms and finally to private property, some state forests nearby the *Gewog* are declared as *Drongsep ngagtshel* (village/community forest)[16]. The main function of this type of forest is to provide leaf manure and protection of the drinking water source of the *Gewog*. The distribution of benefits from the *Drongsep ngagtshel* is limited to its members only and through such a process, access to non-members are restricted. This is another level of social performance based on locality factors relating to forest resources

Chumey: The social performance of the local communities of Chumey is reflective of their position on the forest resources continuum - one that is in abundance[17]. No household member needs to walk for more than ten minutes to be in a forest. Moreover, Chumey has one of the most versatile tree species in Bhutan - blue pine (Pinus wallichiana)[18]. The households have no interest to expend time and energy for the management of the forest. They consider it a state responsibility since the state owns all forest. On the other hand, the local communities realise that forest resources are a

source of high income as logging contractors and the state earn substantial money from the sale of forest products[19]. In the case of Chumey, social performance has tilted towards the state. It becomes even more complicated when one considers that between the period when private land was first recorded (1955/56) in formal land registers and the landuse survey carried out in 1995, almost 50 percent of the agricultural land has become forest[20].

Biophysical limitations have also shaped the life-style of the local communities of Chumey. Horticultural development is constrained by physical limitations such as altitude (2800 mamsl). Cultivation of traditional crops such as buckwheat is considered too laborious as compared to what could be achieved in other areas through off-farm activities. Potato and wheat are cultivated with heavy labour input to protect these crops from wildlife damage. Therefore, such biophysical limitations have also influenced the social performance of the local communities[21]. State legislation has constrained the use of forests for cash income generation although the growing stock is healthy[22]. All logging is carried out based on an approved management plan and sale of timber including export and existing rules and regulations. Although the flow of forest resources is complicated, the existing over-stretched social elasticity has engendered a stable social energy flow. It is not raised as an issue of inequitable distribution of forest resources.

A resource[23] is never a resource as such or a commodity (Seeland, 1990, p.6) till a social meaning is ascribed to it within the respective economy and society. While *Sokshing* in Radhi is considered as a precious resource, in Chumey it is perceived as a liability, especially by the households who do not own *Sokshing*. The reason for a high percentage of fallow land (nearly 50%) in Chumey is that it is difficult to protect the crops from wild animals that are usually living in the *Sokshing*s which are generally close to settlements and agricultural fields and may destroy agricultural crops. The presence of *Sokshing* near the agricultural field increases the rate of invasion by blue pine species (Pinus wallichiana) through its sheer silvicultural characteristic of colonisation[24]. As per state legislation, it is an offence to cut any trees including saplings irrespective of their legal status of the land over which it is growing. This has to a large extent, hampered the social performance of the local communities and been an obstacle for the self-regulation of the villagers in shaping their environment.

Comparative Findings: The pressure on *Sokshing* in Radhi will grow as the population increases over the years. This will also lead to the fragmentation of *Sokshing* as there is no practice of a joint family system in Radhi *Gewog*. Firewood will still remain the main source of energy as possibilities to seek alternative sources such as cooking gas or electrical appliances are limited. The survival of *Sokshing* may depend on the ability to evolve appropriate approaches to its management. The degraded *Sokshing* must be allowed to be replenished by enrichment plantations otherwise further degradation of *Sokshing* will continue. This may also result in the increase of thefts of *Sokshing*, which could provoke conflicts among the community members. One possible way of resolving these issues is the creation of communal *Sokshing* out of the existing government forests accompanied by the establishment of appropriate local institutions to manage such a type of property.

Table 1: Social performance relating to *Sokshing*

Indicators	**Radhi (Eastern Region)**	**Chumey (Central Region)**	**Shaba (Western Region)**
Pressure	Will increase proportionally to the increase in population	No visible change. May also decrease as more *pangzhing* become forests	Not as a source of firewood and leaf litter
Change in land use	May further degrade if enrichment plantation of trees is not permitted	May become high forests	More may be lost to horticultural and other land use
Role as a source of firewood and leaf litter	Will continue at the present level	No visible change	Will decrease as more households look for alternative sources

Source: Author, 1997

The socio-economic environment for appropriate and most productive use of available land may end the survival of some of the *Sokshing* in Shaba. The present trend of converting *Sokshing* into horticultural land is likely to continue as it is shown by the present trend of social performance of the households. It will lead to an informal shift in property rights from state to private, illustrating one mode of resource appropriation. This mode of appropriation could be formalised in the next cadastral survey.[25] Local people are aware of this provision in the law and therefore build their strategy along these lines. This is reflected in their social performance and

justify their action as a response to the perceived needs and the ability of the local land resources to meet their needs.

The *Sokshing* in Chumey will become important to the owners only to the extent they are allowed to use it for commercial purposes. Biophysical conditions of the *Gewog* impose limitations to put *Sokshing* to more productive use other than as a source of needles for compost. The *Sokshing* will not be replaced by other land use forms as more than 33 percent of *pangzhing* has been abandoned and has now become high forests. The trend is that more *pangzhing* will be lost to forest. Restrictions on the use by the law for the owners of the *Sokshing* on one hand and allowing access to outsiders through official permits on the other hand may lead to conflicts in the long run. This may initiate a process of pressure for commercial use of the *Sokshing* by the owners.

Sokshing and Sustainability of Livelihood

The institution of *Sokshing* contributes to three important elements of livelihoods of the local communities. Among many communities, *Sokshing* acts a medium of social inter-action. Households who own *Sokshing* have some form of social authority over who do not own, and this authority is exercised through sanctions or denial of access to the resources in the *Sokshing*.

Sokshing also provides all the basic forest product needs, and contributes to the sustainability of agricultural production of the local communities. Firstly, it provides a steady supply of firewood for the households. The farmer can also cut the cost of firewood collection. Secondly, most of the construction timber requirements can be harvested from the *Sokshing*. Thirdly, *Sokshing* is also a source of fodder for the cattle. However, the most important function of *Sokshing* is its contribution to sustainable organic farming of the local communities. The leaf litter collected from the *Sokshing* is used as bedding material for the livestock. The manure that results is one of the best sources of organic fertiliser for agricultural production. Leaf litter of oak or pine mixes very well with the dung to form one of the most effective and safe manure. This sustains the agricultural production and thereby the livelihoods, particularly of the marginal farmers

who can not afford chemical fertiliser. Therefore, the institution of *Sokshing* can be considered as important element of low input with high level of sustainability.

The institution of *Sokshing* also contributes to environmental sustainability. Most of the basic forest product requirements are fulfilled from the *Sokshing*. This is being done through a tested and effective management practice as over-harvesting or mismanagement is avoided through customary sanctions, and self-interest of the local communities. Furthermore, *Sokshing* takes off substantial pressure from the government forests for firewood, construction timber, and fodder.

Notes:

[1] Question: Can local people manage the forest?

[2] See Bromley and Cernea, The Management of Common Property Natural Resources, (World Bank, 1989) p.7.

[3] Question: How is irrigation managed?

[4] Question: Is the *Shingsungpa* a useful person?

[5] Question: Do you usually accept the verdict of the *Shingsungpa?*

[6] Question: Do you own *Sokshing*?

[7] See Gilmour 1991, p. 60, Chhetri 1993, p. 117, and v. Fürer-Haimendorf, 1964 for discussion of a similar system in Nepal.

[8] Land Act of 1978 (Chapter III, Clause (A) 3-5 and Chapter V, Clause (A) 5-9) and Forest and Nature Conservation Act of 1995 (Chapter III, Section 12, Chapter IV, Section 16 (b)).

[9] See Guha, R., 1989, pp. 139

[10] Gilmour, D.A., 1990. p. 145 - 158. Resource Availability and Indigenous Forest Management Systems in Nepal. Discusses three scenarios of forest resource management in Nepal - plentiful supply; slight restriction; and severe restriction. He analyses the three different situations and the responses of the local people to each one.

[11] During the field visit, I was told that only at times of death would trees from *Sokshing* be given for use by a neighbour.

[12] Champion, H.G. and Seth, S.K., General Silviculture of India (Delhi, 1968)

[13] Among the three research *Gewog*s Shaba has the highest per capita income. This is reflected by a higher standard of living.

[14] For instance, 59 percent of the households depend on *Sokshing* for firewood, only 3 percent do so in Shaba. In Shaba, 58 percent of the *Sokshing* is used for collecting

leaf litter. In Chumey, less than 30 percent depend on *Sokshing* as source of firewood.

[15] This was observed in several sites during the field visit.

[16] The present care-taker said that this type of forest is useful as a source of leaf litter as agriculture in Shaba is one of the main sources of income.

[17] This situation is on the scale of abundance, similar to the one described by Gilmour, D.A., 1990.

[18] This species fetches the highest price in India among all conifers and regenerates well naturally if protected from forest fires at the sapling stage.

[19] Their expectations are heightened by the sight of large tracts of well stocked forests next to their homes.

[20] LUPP, MOA, 1995.

[21] There is an inclination for off-farm occupation as compared to Radhi and Shaba where agriculture is still the main occupation.

[22] By definition of forest in the Forest and Nature Conservation Act, 1995, all trees, waterbeds, sand, stones outside owns registered land, are the property of the state. Only the state and authorised agencies or individuals can harvest or trade in forest products irrespective of where such products are located.

[23] Seeland, K. (1990), Environment and Social Erosion in Rural Communities of South Asia. He states that the term resource is a relative one and has different connotations in different contexts.

[24] Troup, R.S. (1921). Silviculture of Indian Trees (Oxford)

[25] As per Chapter VI, Clause (A) 6-4, at the time of resurvey, if the land area is more than the official records, the individual has the option to pay the additional tax and register it under his name.

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ANNEXURE I

Religious Trees and Forests

Among the species that have been indicated to be of religious importance in the three *Gewogs* the following should be mentioned: *Pinus roxburghii, Castanopsis histrix, Ficus cordata, Bambusa species, Musa species, Orozylon species, Rhus species, Cymbopogen species, Artemesia species* and Quercus species. These species are used according to the rituals. During the field survey it was observed that all these species are used in Radhi. In Shaba and Chumey some of them are used. These plant species are used for performing rituals, mostly of Bon origin. For instance in Radhi, for performing "*Mingchang*" (Of Bon origin and performed usually every year for the general welfare of the household or an individual who may be sick at the time of the performance. This ritual is carried out by a local Shaman, usually passed on hereditarily), *Pinus roxburghii, Orozylon species, Bambusa species, Musa species, Castanopsis species, Cymbopogon species* are required for completing the ritual.

Although these species are used for such rituals, there is no special spiritual attachment to these spices. They are treated just like any other plant species while using them as firewood or for other purposes. Likewise, most of other Bon-based rituals involve the use of plant species. However, trees planted around *Lhakhang*s, *Chorten*s, community centres, resting-places along trails are considered scared and not cut or damaged. It is a taboo to cut or damage forests considered to be inhabited by local deities and evil spirits. This is also true for mountains, rocks, etc.

In the eastern part of the country, the most preferred species for cremation is oak. While it was not possible to get a plausible reason as to why only fresh oak for cremation are used, the logic seems to be that the only fresh wood that burns well was oak which was readily available in the *Sokshing*. In this context, the role of *Sokshing* goes far beyond providing just forest products. It becomes a source of social interaction between the households who have and those who do not have them, especially during such times as death and religious ceremonies where extra and specific species of firewood are required.

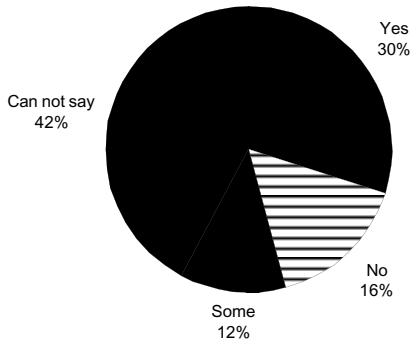
Two religious forests were observed in Radhi and Shaba *Gewogs*. 100 percent of the respondents of the interview in both the *Gewogs* said that

they would never destroy a religious forests or do anything forbidden by the local religious persons. For instance, a small patch of well stocked religious forest in Radhi has been in existence for many generations whereas the forests nearby have either been completely destroyed or being used frequently by the local people. The religious forest in Shaba has been protecting the catchment of the local temple for generations. Religious influence seems to have also restrained the people from setting forest fires deliberately for the benefit of new shoots of grass for their cattle as more than 95 percent of the people interviewed said that it is a sin to set forests on fire as millions of insects and animals are killed. Responses to my field interview in Radhi showed a hundred percent agreement that if religious forests are damaged, physical and spiritual harm will come to them.

ANNEXURE II

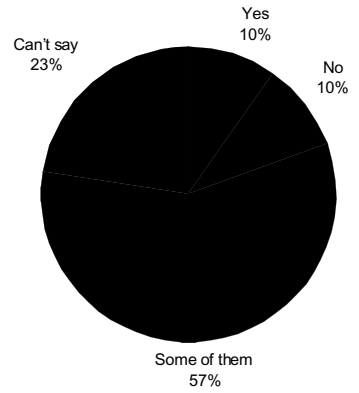
Traditional Sanctions and Offence Cases under the Forest Law

Figure 7: Perception of Customary and Formal Sanctions* **Radhi**

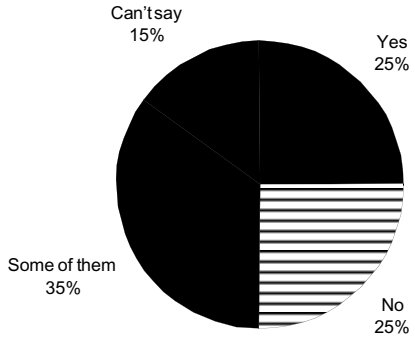


* Question: Should social sanctions be superseded by new laws?

Shaba



Chumey



Source: Author's Field Survey, 1996

There is no distinct pattern of perception on whether social sanctions should be superseded by modern laws. In Radhi 30 percent said that social

sanctions should be superseded by modern laws. Only 16 percent felt otherwise. 42 percent said that they are not sure about it. In Shaba, the response was 10 percent who agreed and 10 percent who did not agree. In Chumey the ratio between who agreed and did not agree were equally split. However, there was a high percentage of who were not sure and who felt only some of the social sanctions should be superseded.

Annexure III: Glossary of *Dzongkhag* Terms Used in the Report

(S) = *Sharchogpa*. All other terms in *Dzongkha*.
Most of the terms adopted from Eighth Five Year Plan (1997-2002), Vol. I, Main Document, Planning Ministry, 1996 and Ura, K. (1995), The Hero with Thousand Eyes.

Aikarpo	Cloth woven from raw silk with traditional patterns (generally from the east)
Bangchung	Bamboo basket
Bongkhay *(S)*	Share Cropping
Chilgi dumra	Thatch garden land
Chimi	Member of the National Assembly
Choghu	Annually performed ritual
Chorten	Stupa (Skt), Buddhist monument
Chusup	In-charge of drinking and irrigation water in a village
Chuopen	Village functionary (village informant)
Chuzhing	Paddy land

Drudom	One form of labour conscription
Drongsep ngagtshel	Village/Community forest
Dungkhag	Sub-division of a district
Dungpa	Administrator of a Dungkhag
Dzong	Fortress
Dzongda	Civil administrator of a district
Dzongkha	National language
Dzongkhag	District
Dzongsel Woola	Annual maintenance of *Dzong*
Gewog	Administrative unit (block)
Gomchen	Lay priest
Gungda woola	Obligatory labour services to be rendered by households
Gup	Headman of a block
Kamzhing	Dry land where non-irrigated crops are grown
Kasho	Court circular or Royal Decree
Khimsa	House compound land
Lhakhang	Temple
Mang	Inhabitants of a village/*Gewog*

Mang Rimdo	Village/community ritual
Mangap	Village elder (also assistant to *Gup*)
Meesup	Forest fire guard
Mencha (S)	Mithun bull/domesticated breeding bull
Mingchang	A form of ritual practiced in some parts of the east
Ngul thok dumra	Tree/cash crop garden land
Ngye (S)	Exchange of work for grains (practised mostly in the east)
Palang	Alcohol container made of bamboo
Pakshing zhing	Land under bamboo cultivation
Pangoleng garpa	Men from eastern Bhutan called to work in the buckwheat fields of the royal estates in Bumthang
Pangzhing	Barren land for shifting cultivation
Reezhing	Shifting cultivation land (Bumthang)
Reesup	Village forest guard
Rimpoche	Term of respect for a high lama
Saphang (S)	Share cropping where tenant keeps two thirds of the output
Saunam (S)	Annual offering to religious persons

Sharchogpa	Dialect spoken in eastern Bhutan
Shabdrung	Term used to refer to the Founder of Bhutan and his reincarnations
Shingsungpa	Agricultural crop damage arbitrator
Sokshing	Government forests registered in individual’s name for collection of leaf litter
Thrimshung Chenmo	Supreme Laws
Thram	Land register
Thrimpon	District judge
Trelpa	Household paying tax
Trulku	Reincarnate lama
Tsadrog	Grazing land
Tsarin	Payment for using someone's pasture
Tseri	Forest land registered in an individual’s name for shifting cultivation
Tshechu	Festival, which normally begins on the 10th of a lunar month - (there are mainly two types: religious activity performed in a house; celebrated where religious dances are performed during specific time of the year)
Tshesa	Vegetable garden land

Yak	High altitude domesticated animal (Bos gruniens)
Yathra	Colourful woollen textile of Bumthang
Zhapto lemi	A form of labour tax
Zow	Architect/carpenter