Shifting Cultivation Practices in Rai Community of Eastern Nepal

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Abstract

Shifting cultivation is a form of land use pattern with a rotation of cultivation followed in the same unit of land. Thousands of indigenous people, with majority households in subsistence living, are dependent on shifting cultivation practices due to the lack of alternate source of income generation. Shifting cultivation in Nepal, locally called as Khoriya or Bhasme, is a land use practice in which indigenous communities clear and cultivate secondary forests in plots of different sizes, leave these plots to regenerate naturally through fallows for medium to long duration. This practice is in transition these days due to rising population of shifting cultivators, and demand for more food. The study demonstrates the relationship among land use practices, people's livelihood and health issues of Rai community who are involved in shifting cultivation practices in Balakhu Village of Okhaldhunga.

Keywords: Shifting cultivation, fallow, Rai community, Khoriya land, livelihood, socio-economic importance, transition.

Introduction

Shifting cultivation is a dominant form of farming in the eastern Himalayas, practiced by a diverse group of indigenous people among the most marginalized social and economic groups. The survival of these indigenous people and the survival of their forests are intimately linked. However, policy makers and natural resource managers perceive shifting cultivation to be wasteful, destructive to forests, and unsustainable. Although policies have tried to ban shifting cultivators away from the practice by incentivizing them to take up alternative options, the practice of shifting cultivation persists. Others argue that shifting cultivation should be permitted as it is not only steeped in culture and tradition, but constitutes the main source of livelihood for many shifting cultivators (Phuntsho, Aryal, & Kotru, 2015).

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Shifting cultivation is a form of land use among resource-poor communities with a rotation of cultivation and fallow in the same unit of land. It involves the clearing of certain patches of forests by slashing and burning, followed by short span of crop cultivation and long span of fallow period. It involves the cyclical shifting of cultivation sites. In general, the shifting cultivation plots are cultivated for shorter periods than they are fallowed. In later years, more dynamic approach has been followed to define and characterize shifting cultivation. McGrath (1987) defined shifting cultivation as "a strategy of resource management in which fields are shifted in order to exploit the energy and nutrient capital of the vegetation-soil complex of the future site". Shifting cultivation is an adaptive forest management practice predicated on sound scientific principles that use hill and mountain lands productively, conserve forest, soil, and water resources, and is ecologically preferable to alternative agricultural and forestry activities. Shifting cultivation in Nepal, locally called as Khoriya and Bhasme, is a land use practice in which indigenous communities clear and cultivate secondary forests in plots of different sizes, leave these plots to regenerate naturally through fallows of medium to long duration (Fujisaka et al.,1996).

The principal characteristics of shifting cultivation in the tropics as the shift between fields rather than between crops on the same field, short cropping periods of one to three years, alternating with longer fallow periods of four to six years, cutting and burning of the fallow vegetation at the beginning of each cropping period, and the almost exclusive use of human energy in land management operations. Shifting cultivation creates unique landscapes composed of a dynamic patchwork of crop fields, fallows of various ages, secondary forest derived from fallows, and remnants of the original vegetation (Watters, 1971). Shifting cultivation practice in Nepal in many cases is characterized by 2 to 4 years of cultivation and 4 to 9 years of fallow. There seems to be a marked tendency of prolonging cultivation and shortening the fallow as the population pressure is increasing with a corresponding decrease in the

cultivatable land. In some cases, shifting cultivated lands are also being gradually converted to settled farms and regular cropping in some areas. In the case of the study area, most of the people of Rai community apply shifting cultivation as characterized by 2 to 3 years of cultivation and 3 to 5 years of fallow. The cultivation practice is their source of livelihood when they have no another option. Nowadays, since they have started to go to Gulf countries or cities for labor work, the practice of shifting cultivation has been decreasing. The practice of shifting cultivation has to be understood holistically within the domain of social and cultural analysis. However, their relationship to their Khoriya land and the agricultural practice cannot be understood only in measurable indicators and specific manners. For the Rai community, shifting cultivation is a good ecological adaptation to their surrounding environmental settings based on indigenous knowledge and skills developed in the particular geographical setting on the basis of trial and error.

It is the simplest method for growing their crops. With a little manual tool, it is simple to eliminate weeds and tiny bushes. Crops can be easily produced and harvested in a short period of time. There is no risk of flood or drought because this property may easily be routinely irrigated by stream water in the hills. Since only a small plot of land is used for such cultivation, numerous resources are saved. Since this process is organic, it is environmentally friendly too.

The objective of the study is to analyze the practices of shifting cultivation in among the Rai community of eastern Nepal. It is to assess the relationship of the Rai people to their traditional Khoriya land and to understand the socio-economic importance of shifting cultivation in the community.

Methodology

The study is structured to analyze the practices of shifting cultivation among the Rai community in the study region in descriptive framework. It is descriptive research

design since it describes and then concludes all of the socio-economic perspectives of shifting cultivation that take place in the studied area. The study considers all the Rai people who are engaged in shifting cultivation in Balakhu, Okhaldhunga as universe of the study. Likewise, 25 households were chosen using non-probability sampling method under judgment or purposeful sampling. A sort of non-probability sampling known as a "purposive sample" is one in which the subject is chosen which appears to fit the needs of the study for the sampling purpose. Individual respondents were considered as sample unit for the study.

In addition to being primary and secondary, the data are qualitative in nature. In-depth interview with the respondents were used and the research area was directly observed to get primary data. The secondary data was gathered from various journals, publications, newspapers, etc.

Collected data were at first coded and categories were developed according to similarity. On the basis of categories, the theme was developed and presented accordingly.

Locality at a glance

The Rai community is an ethnolinguistic group belonging to the Kirat and primarily Tibeto-Burman linguistic ethnicity. They mainly reside in the eastern parts of Nepal, the Indian states of Sikkim, Darjeeling and Kalimpong and southwest of Bhutan. The Rais are a group of people among one of the cultivating tribes of Nepal. They inhabited the area between the Dudh Koshi and Tamur river in Nepal. They claim that their country alone is called Kiratdesh, and they call themselves Rai (Britannika, 1998).

Sunkoshi Rural Municipality -1, Balakhu village which belongs to the Rai community, is located in Okhaldhunga of eastern Nepal. It is situated about 160 km and 4-hour

drive from Kathmandu. It can be reached by going via Dhulikhel, Nepalthok, Khurkot, Nawalpur and Thulme Ghat. On reaching Thulme Ghat, one needs to cross the sacred Sunkoshi River and go uphill 3 km from the river. This region belongs to the majority Rai people. Out of 448 households in ward number one of Sunkoshi Rural Municipality, there are 195 households that belong to the Rais. The Rai people's primary occupation is farming. Maize, millet, wheat, and mustard are mostly grown in dry terraces, while rice is grown in wet areas. The farmed grains are primarily used for their own everyday requirements such as festival food and animal fodder. They also utilize them to produce spirits and local alcohol (Raksi) which they sell at the local market. Women raise buffalos, pigs, and chicken in practically every household. They run small provision stores for extra money, primarily to sell homemade alcohol. In earlier days, they weaved their own garments out of Bhangra because their profession was hunting and used bows and arrows for hunting. Young women, particularly girls, are responsible for daily tasks such as cooking, and they are more likely to gather firewood from the forests and carry water from communal water sources. The males are more likely to engage in agricultural pursuits. Kirati people use the land inherently under the Kipat system, which gives them communal rights over land that is tax-free and includes sovereignty over all agricultural areas, forests, streams, and rivers within its boundaries. However, according to their law, if other organizations utilize the Kipat, they must pay a tax to the landowner. People used to farm on their own property, but now, fields are rarely rented. Rai women weave home spent clothes from the Khadi, cotton and Allo nettle plants. Most of the male people of the Rai community engage in shifting cultivation and produce several types of grains and crops for their subsistence.

Nepal does not have any specific policy on shifting cultivation. The terminology or word 'shifting cultivation' is not recognized by Government of Nepal in any land use policies. This has raised conflicts among indigenous shifting cultivators and

government authorities in regarding resource management and benefit sharing. Current agriculture, forestry and natural resources policies have not recognized shifting cultivation as a land use practice; hence policy ignorance is a prevalent dimension that hinder shifting cultivation practice in the study area.

Practices of shifting cultivation in Rai community

Shifting cultivation is an agricultural system in which plots of land are cultivated temporarily, then abandoned while post-disturbance fallow vegetation is allowed to freely grow while the cultivator moves on to another plot of land. In the practice of "slash and burn", farmers would cut the native vegetation and burn it, then plant crops in the exposed, ash-fertilized soil for two or three seasons in succession. As the original organic matter reserve in the topsoil decomposed and high rainfall leached out the nutrients from the root zone, the farmers would abandon the cleared plot and move to an adjacent patch of forest.

Practices and economic viability of shifting cultivation

The Rai people of Balakhu practice an extensive rotation (forest-crop-forest) that has been sustainable for many generations. Population pressure has forced these Rai people to return to the same plots earlier before the soil had been given the time to be completely revitalized. Soil fertility then begins to decline owing to the extraction of nutrients without replacement, and this has led to progressive erosion of the bared soil. Lands available for shifting cultivation are shrinking in Balakhu. A natural process of agricultural intensification under population pressure with increased frequency of land use in the community are supposedly breaking down the shifting cultivation practices. Traditional shifting cultivation in Balakhu integrates a relatively short cropping phase and a relatively long forest fallowing phase in a rotational system. The land productivity capacity is constant but population growth rate would require extension of the cropping phase and shortening of forest fallow phase. This extension would

eventually transform the shifting cultivation into the continuous cropping without fallow or sedentary cultivation among the Rai community. At present, due to rapid population growth rate, farming in shifting cultivation lands has become quite unsustainable and this is unable to support the livelihood systems within the Rai community in Balakhu.

Unfortunately, serious misconceptions about shifting cultivation have persisted for many years. Early misunderstandings led researchers to conclude that cultivators simply abandon their fields after one or two harvests. This made it appear that the practice was destructive and economically unviable, and that it was contributing to deforestation and soil erosion.

Relation between Rai community and shifting cultivation

Shifting cultivation system or Khoriya system has spiritual and religious relation in the Rai community. They feel shifting cultivation is their ancestral gift. According to them, Khoriya is the land conserved by their ancestors so that they pay great respect and give value to it. They believe that their ancestors and gods reside around it. Therefore, they organize Bhumipuja (worshiping of land) once a year in order to make their ancestors and gods happy. The Rais also celebrate different ceremonies. The Rais of the study area celebrate Udhauli (worshiping the ancestors) in the month of Mangsir and offer new crop produce usually after the harvest of paddy, maize, etc. to their ancestors. They pay great respects to nature like rivers, lands, forests, pastures, stones and consider them as the symbol of gods and goddesses. Since the Rais are worshipers of nature, it is believed that a Rai household must have at least a Khoriya land. The household that doesn't possess Khoriya is considered as incomplete in the community. It is seen that Rais have special relationship and special attachment to their lands and territories.

Shifting cultivation has played a great role in food security during the months when the Rai do not have sufficient food to eat. They collect wild food such as githa-vyakur (Doiscorea bulbifer) and other edible plants from fallowed fields. The wild foods have been an important source of food to tide during seasonal and emergency food deficit. Most of the respondents said that Rais are well known for eating wild food and products from shifting cultivation. Wild food including roots crops, herbs and fruits are collected from their own fallow land and nearby jungle.

Shifting cultivators are often seen as the primary cause of deforestation in the study region. Higher rate of deforestation is caused by over utilization of forest for agriculture, settlement and shifting cultivation. It has been observed that shifting cultivators do not go to community and national forest for this type of cultivation. They only use and shift to the lands where they have been conducting agricultural activities for generations. Nowadays, the Rai people are facing shortage of land for the cultivation since the government policy of community forest and leasehold forest is encroaching their Khoriya land. The Rai people of the study area are thus searching for alternative to shifting cultivation practices.

In the study area, it is found that the shifting cultivation may turn maladaptive contributing to environmental problems in at least three ways: by increase in population which causes old plots to be re-cultivated ealier; by wasteful or maladroit agricultural practices which sacrifice future prospects to present convenience; and by an extension into an insufficiently humid environment. In this regard, the local government needs to take serious steps to manage and nurture the practice of shifting cultivation which is has religious significance to the community.

Socio-economic importance of shifting cultivation

Fallow land happens because of dominance of wild plants and built-up ecosystem fertility. The following phase is essential to help restore soil fertility lost during the

preceding cropping phase. Many studies have demonstrated that wild plants become more problematic when the fallow period is short. When the fallow period goes below 3 to 4 years, soil fertility is not renewed, and this dramatically results in large erosion and increase in wild plants.

Production or output levels in shifting cultivation is influenced by a wide range of bio-physical, socio-economic and cultural factors, and it is difficult to isolate fallow period as a single determining factor. Products decline in shifting cultivation system when fields are cropped successfully. The declining rate of products are characterized by wild plants plague and soil nutrient deficiencies. Mertz (2002) questioned a theory that there exists a correlation between shortened fallow periods and yield decline in shifting cultivation in his review paper. Although most of the empirical studies support the theory, the data sets are often ambiguous and important parameters are insufficiently taken into account.

Several literatures and an empirical study in the study area revealed no relationship between fallow length and crops production. The study concluded that empirical studies focusing on this problem need to be conducted to fully understand this relationship and develop feasible steps for sustaining shifting cultivation practices. The study discloses that production and harvest of the principal crops grown under shifting cultivation has decreased during the last 20 years, whereas, there is a slight increase in area spread. It further shows that although a large group of Rai people are practicing shifting cultivation and growing subsistence cereals, their economic viability is significantly less than cash crops. As a result, a large section of indigenous people in rural areas is living below the poverty line. The study suggests that for sustainable livelihood, cash crops can replace subsistence crops and shifting cultivation can be converted into permanent cultivation through terracing the Khoriya plots.

Findings

Rai people have special and intimate relationship with Khoriya land which is a source of strong belief and value system for the people of their territory where they have been living for generations. The shifting cultivation is not only their income source but is also believed as an ancestral special gift. This practice has spiritual and religious relation.

Traditional shifting cultivation in Balakhu integrates a relatively short cropping phase and a relatively long forest fallowing phase in a rotational system. It is an important source of food security of Rai community. However, due to rapid rate of population growth, farming in shifting cultivation lands has become quite unsustainable and unable to support livelihood systems within the Rai community of Balakhu.

The study has also identified that shifting cultivation is a form of land use among resource poor communities with a rotation of cultivation and fallow in the same unit of land. Production or output levels in shifting cultivation is influenced by wide range of bio-physical, socio-economic and cultural factors, and it is difficult to isolate fallow length as a single determining factor. It found that shifting cultivation may turn maladaptive or lead to environmental problems. The study shows that the higher rate of deforestation is caused by over utilization of forest for agriculture, settlement and shifting cultivation.

The study discloses that production and harvest of the principal crops grown under shifting cultivation has decreased. It also reveals that the Rai community have special relationship and special attachment to their lands and territories. Lack of special policy by government regarding shifting cultivation has resulted in decreased motivation towards this practice in Nepal.

Conclusion

The study has analyzed the practices of shifting cultivation among the Rai community of eastern Nepal. It has assessed the relationship of Rai people to their traditional Khoriya land and socio-economic importance of shifting cultivation in the community. There are different practices of land use pattern in each community which is guided by some socio-cultural structure. Only after knowing the cultural value and meaning of land, it would be easier to understand the harmonious relationship of the Rai people and their land. Shifting cultivation is characterized as one of the primitive and traditional mode of production practices. However, this study shows that it is the best form of ecological and cultural adaptation to their natural environment by the Rai community. They not only harvest grains from their Khoriya, but also pay great cultural and religious respect to the land and their ancestral practices.

Shifting cultivation is an important component of the Rai people and their daily life. The value of system, ancestral history and identity are attached to the Khoriya cultivation. Most of the respondents in the study area stated that they cultivate Khoriya because they are Rais, and that it is a gift of their ancestors. It discloses that Khoriya cultivation is significant for their food security and cultural identity. However, this practice is in transition these days due to rising population of shifting cultivators and demand for more food stuff. This case study demonstrates the relationship among land use practices, people's livelihood and health issues of the Rai community who are involved in shifting cultivation.

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