

ETHNIC COMMUNITIES AND AGROBIODIVERSITY CONSERVATION IN THE EASTERN HIMALAYAS*

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INTRODUCTION

This paper records the findings from the Project 'Gender, Ethnicity and Agrobiodiversity Management in the Eastern Himalayas', funded by the International Development Research Centre (IDRC). The research project was conducted in three sites, Sikkim (India), Nagaland (Northeast India) and Sankhuwasabha (eastern Nepal), representing the three indigenous ethnic groups. The objective of the study was to understand the casual links between ethnicity and gender, and how these components affect the agrobiodiversity management practices.

The Eastern Himalayan Region and the People

The eastern Himalayan region is estimated to harbor over 9000 species of flora and fauna (Myers, 1988). The vegetation of this region varies according to the monsoonal climate and relief. The region is home for numerous ethnic groups, for most of whom survival necessitates the extensive use and management of natural resources because of subsistence farming. Besides producing many types of crops (mostly landraces), farmers rely extensively on wild plants to meet their needs for fiber, shelter, food, medicine, tools and household implements.

Among the numerous ethnic communities residing in this region are the Lepchas of Sikkim, India, the Nagas of Nagaland, Northeast India, and the Rais of Eastern Nepal, who are all Tibeto-Burman speaking ethnic communities and the indigenous people of their respective states/areas. Similar to other such ethnic groups that inhabit the middle mountain ranges of the eastern Himalayas, these groups too have been confronted with a myriad of influences: the Lepchas with the lamaist culture of Tibetan-Buddhism, the caste system of Hinduism brought by the Nepalis, the more 'egalitarianism' of Christianity; the Nagas with the British, Christianity and the lowlanders; and the Rais with the Tibetan-Buddhist culture and the low-land Hindu-Nepali culture.

The process of interaction with, and influence of, these external hegemonies were based on relations of inequity. Stratification on the basis of class, caste, wealth, religion and gender became the norm. In such a context, the external and more powerful groups came to be ranked higher in status, while the ethnic communities became "second-class" citizens in their own land. Adding to such historically embedded asymmetries are the

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present center/periphery relations and lowland/highland interactions. All these have led to the transformation in their socio-cultural values and systems as well as in the subsistence practices.

As a result of such encounters, Hindu gender ideologies and practices have had strong impact on the ways that gendered spaces and gender relations came to be conceptualized in the culture and practice of the ethnic groups. Traditional gendered spaces in the livelihood systems of ethnic groups have undergone transformation as settled agricultural practices gradually began to replace traditional subsistence systems of hunting-gathering and slash and burn cultivation. In the traditional system, cultivation was considered "women's domain" and hunting "men's domain". This gender division of labor and "spaces" was based on their cultural belief that women were the symbols of fertility and "caretakers and nurturers", and men the "active providers". In this system of division of domains the women and men were in complete control over their respective "spaces".

With the transformation in subsistence systems - which included not only new technologies and crops but also new beliefs and value systems that were attached to these activities and to the external communities that brought the new livelihood practices - traditional gendered spaces in the livelihood systems too underwent transformation: agricultural space gradually came under the control and domain of men. Thus women lost their control over this sphere of activity and came to be considered merely as "helpers". However, their workload in this sphere of activity in no way decreased.

Gender Relations and Agrobiodiversity Management Practices

Considering the agrobiodiversity management, it is found that the gender relations are well reflected by the ethnic groups in their management practices: Men and women's role, knowledge and 'spaces' are defined in all the levels of agrobiodiversity (agroecosystems level, species level and genetic level) on the basis of the gender relations. Furthermore, the roles/work and knowledge held also came to be valued according to the gender relations.

Agroecosystem level:

Traditionally, the three ethnic groups practiced only one type of land-use pattern - slash and burn - where they cultivated all their crops: the Lepchas cultivated upland rice, millet, buckwheat and maize; the Nagas cultivated upland rice, job's tears, millet and maize; and the Rais cultivated upland rice, millet, buckwheat and maize. As mentioned above, women were in complete control of this type of cultivation and they did almost all the work, with men helping them only in felling of trees and cutting or lopping bigger branches.

However, with the introduction of new technologies in agriculture, the most significant being terracing, there came about several types of land-use patterns, viz. wet terrace fields, home-gardens, swidden areas, and, in the case of the Lepchas, the cash crop area. These areas are classified as "male domain" or "female domain" on the basis of the prevalent gender relations.

a) *Wet terraced fields* - Among all the three ethnic groups - Lepchas, Nagas and Rais - wet terraced fields are classified as "male domain" despite the fact that women do equal, if not more, work here. Men are in control of this area and women are considered as advisors and helpers.

Lepchas have two types of terraces - irrigated terraces (*ari/yong* L.)¹, located in the lower elevations and marshy areas (crops grown here include wet land paddy (15 varieties), maize - 6 varieties, potatoes - 4 varieties, wheat - 2 varieties, pulses - 4 varieties and soybeans) and rain-fed terraces (*sukha bari* N.)², where upland rice (3 varieties), millet (4 varieties), maize, buckwheat (2 varieties), barley (4 varieties), mustard (2 varieties), *kaguni* N./ *kamdak* L., sorghum and tubers are cultivated.

Nagas (Angami tribe) have various types of terraces³, where approximately 50 varieties of paddy are cultivated. Apart from this, other crops like maize (7 varieties); millet potatoes are also grown here.

For the Rais, the irrigated terraces (*Khet* N.) are prized for their fertile soils and proximity to water sources and it is usually reserved for wetland paddy (35 varieties) and wheat (3 varieties). They also have rain-fed terraces (*bari* N.), which are located nearer the homestead, where maize (7 varieties), millet (14 varieties), barley, buckwheat (2 varieties), potatoes, vegetables, fruits, *Kaguni* N. (2 varieties) are cultivated.

b) *Home gardens*⁴ among all the three groups are considered "female domain". These areas are usually small in size and the crops cultivated here are minor subsistence crops and vegetables. Women do almost all the work here with men helping them in watering and staking, as and when they feel like it. It is here that a large diversity of crop species and varieties are found as women try to cultivate the maximum subsistence crops here to fulfil their responsibility of feeding the family and caring for their health.

c) *Swidden areas*⁵ have been classified differently in the three groups - among the Lepchas it is considered a "joint domain" of men and women, among the Nagas it is considered "female domain" and among the Rais as "male domain". The difference is largely based on the extent and type of external influence and interaction with the external hegemonies, and the policy adopted by the influencing or ruling powers:

Tracing the history of the three groups, it is seen that the Lepchas were exposed to both the Tibetan-Buddhist and the Hindu-Nepali cultures for a long time. However, the Tibetan-Buddhist influence, although longer, as a ruling power was concentrated in the cultural and religious sphere only. On the other hand, the Hindu-Nepalis who came in to make a living were not rulers and mixed freely with the Lepchas. Thus, there was a close

¹ L = in Lepcha language

² N = in Nepali language

³ *Dsuzo* (rain-fed terraces), *dzutsu* (irrigated terraces), *waluli* (terraces near homesteads and partially irrigated), *dzutse* (terraces near streams and irrigated throughout the year), *khuso* (terraces located far away from the homestead and water sources), *wakhra* (dry terraces located near dzutse and khuso).

⁴ Lepchas call their home gardens *leeden sing* L.

⁵ Lepchas call the swidden areas *sadlium*, Nagas call it *jhum* and Rais call it *khoria*.

interaction between the two groups in the sphere of livelihood practices. Consequently, the Lepchas adopted a combination of the practices and values of both groups: since this work is considered "outside work" it becomes "male domain" and since minor subsistence crops are cultivated it becomes "female domain", thus this area is considered "joint domain".

Among the Nagas the external influences of the lowlands is fairly recent and the Christian influence and interaction with the Christian missionaries was mostly concentrated only to the religious sphere. Therefore, the impact has not been so deep. Furthermore, the policy of non-intervention in the internal and personal matters, followed by the British, allowing the Nagas to follow their own traditional customary laws and practices, is also another reason for the traditional gender spaces/spheres of control to be still relatively strong. Therefore, swidden farming is still very much a woman's farming system.

In the case of the Rais, they were exposed to the Hindu-Nepali cultural influence directly for a long time and the policy of the ruling Hindu-Nepali group was to have complete influence in all spheres of life. As a result, their socio-cultural pattern is leaning more towards this culture where patriarchy is stronger and gender roles more defined. And since swidden areas, situated further away from the homestead, it falls under the "outside" purview, which is exclusively "male domain".

However, despite these different ways of classification, in all the three groups, the work done by women and men are almost equal and similar. Men do the heavy work of cutting trees and branches, while women clear the undergrowth; burning is done by both depending on whoever is free; sowing and weeding is done mostly by women although the Lepcha and Rai men do help sometimes, but this work is done solely by the Naga women; harvesting is done by both.

d) *Agroforestry area (punzok L.)* - This land-use type is particular to the Lepchas. These are areas in the forest where cardamom (5 varieties), the main cash crop, is cultivated is considered "male domain". Women have no control over this area. The men do all the work here - planting, weeding, pruning, harvesting, curing, and marketing. Women act only as helpers when there is a shortage of male labor.

Species Level:

Traditionally, the ethnic groups cultivated only the traditional crop species mentioned above. However, they had numerous varieties of these crops, e.g. the Lepchas had more than 27 varieties of upland rice (Gorer, 1938) and more than 12 varieties of millet (Siiger, 1967). Furthermore, all the crops were of equal value and importance.

However, with the transformation of farming practices, numerous new crops were introduced. The most significant of these new crops was wetland rice. As a result of all this, various crop species are associated with either men or women based on the value (status and cash) of the crop and the gender relations. In all the three ethnic groups the crops having a higher status or cash value are considered "major" crops and are

associated with men, while traditional and subsistence crops that have lower cash value or status value are considered "minor" crops and associated with women.

As in the gendered classification of land-use types, this type of gendered classification of crop species too disregards the fact that women do most of the work in the cultivation of the "major" crops also as they are involved in all stages of work (sowing, transplanting, weeding, manuring, harvesting, storage, seed selection, seed keeping and also seed exchange to some extent).

A negative impact of this type of classification is decline of the traditional crops as people gradually gave up cultivating them. For instance the Lepchas, who used to cultivate twenty-seven varieties of dry rice and twelve varieties of millet, now cultivate only two varieties of dry rice, that too only in the remote areas, and four varieties of millet. Similarly, the Nagas traditionally used to cultivate several varieties of millet and Job's tears but the varieties of these crops have been decreasing gradually, while the number of wet paddy varieties is increasing. Now there are approximately thirty varieties being cultivated even in the one small village, Viswema, which was one of the research sites of the study.

Genetic Level:

This is the only sphere where there has been no change: Traditionally too, this sphere was "women's domain" and at present too this sphere of work/activity is classified as "women's domain" amongst all the three ethnic groups. At this women do the actual seed selection and storage of all crops, major and minor, except cardamom, the cash crop, in the case of the Lepchas. It is particularly the older women who do this work. Men have no knowledge of this work. This role of women is given legitimization in the culture of all the three groups as women are considered symbols of fertility and also the caretakers and nurturers. Besides, this work is considered "inside" work therefore, women's job.

However, there has been one very significant transformation in this sphere, and that is in the value of the work and knowledge. Traditionally, this work and knowledge was given its due importance, but once agriculture became the domain of men and women lost control over it, the work done and knowledge held by women in the genetic resource management stopped being considered of importance and came to be undervalued. But when this role gets changed due to whatever circumstances and a man takes over this work, the value and importance immediately increases and his status in the society too rises. This is very clear in a case where a man had taken up this work as he was physically weak to carry out other heavy work ascribed to men. He came to be considered as the seed expert not only in this village but also in the neighboring villages.

Thus, the value of work/role of, and knowledge held by, women and men in the management of agrobiodiversity is also based on this type of gendered classification. Although in all the three groups women do equal, if not more, work as men, their work is not given as much value or importance as that of men not only by the men but also by the women themselves.

Women's Role in Conservation of Agrobiodiversity

Women's role in the conservation of agrobiodiversity in these three ethnic groups of the eastern Himalayan region occurs at three levels – domain level, genetic management and in food habits, food preferences and preparation methods.

a) "Domain" level:

Women cultivate a large diversity of crop species and varieties in their "domains" i.e. the home-gardens and in the case of Nagas. the swidden plots. Home-gardens, which are the main source of vegetables and medicinal plants for the family, have extensive diversity of crop species and varieties. For instance, Lepcha women cultivate a range of 24 vegetables (and many more varieties), 7 spice and 8 types of fruit crops in their home-gardens; Naga women grow 30-40 varieties of beans, 30 varieties of squash, 2 varieties of mustard leaves, 2 varieties of cabbage, 3 varieties of garlic, 2 species and 2 varieties of tomatoes, 3 varieties of solanum, and several other vegetables like carrots, mint, spring onions, etc.; similar diversity can be found in the home-gardens of Rai women.

In the case of the Nagas, where swidden plots are exclusively "women's domain", the women cultivate a mix of about 70 crops that include 34 varieties of upland rice, 7 varieties of maize, 4 varieties of job's tears (*coix lachryman-jobi*), millet, taro, ginger, chilies and cotton.

To optimize diversity with maximum yield, women try to utilize land as much, and in many ways, as possible. As most of the farmers have small landholdings, women practice various crop combinations and crop rotation methods.

b) Genetic resource management level:

Genetic management is the sole responsibility of women. Theirs role in seed systems makes them the principal actors in conservation of agrobiodiversity. Therefore, genetic resource management is the exclusive domain of women, both in terms of practice as well as control of decision-making processes. As a result, women's control, experiences and knowledge of seed selection, savings/storage and exchange is very significant not only for the sustainability of the farming systems of these groups but also for the conservation of agrobiodiversity since seed management systems are a vital for species and varietal diversity in crops.

It is not unusual for men to become involved in seed selection and saving activity, especially when physical disabilities hamper them from doing other heavy agricultural tasks. However, this knowledge gets passed down to the daughters and not the sons, thus such a change of roles are temporary based on the current practical needs of the family.

Seed management systems constitute of three stages - seed selection, seed storage and seed supply/exchange. Seed selection is done on the basis of several morphological criteria such as health, disease free, drought resistance, resistant to wind and rain, and grain quality. Besides this, since women are the ones who do the actual seed selection, they select according to their preference. For instance, they select for early ripening,

palatability, ease in grinding, preparation (time, procedure and varieties), fodder, etc. It was found that they rarely look for market value. Women also have various traditional and indigenous methods of saving and storage of seeds.

The major source of seeds for most farmers in all three ethnic groups is their own household, which account for approximately 90% of the seed supply. In addition to this, there exists elaborate terms of exchange between family members, neighbors and neighboring villagers. Women are not only the decision-makers in regard to exchange of seeds, but when it comes to within village exchange, they are the ones who are directly involved. In this level of exchange, women exchange views and information regarding seeds exchanged. This information covers how seed is selected and stores, and what varieties and seed qualities others have. In this way, they serve as seed conservers in the sense that they know who has what seeds and their quality.

Besides, in all the three ethnic groups, visiting female relatives, especially married daughters always carry seeds to and from their husbands' homes/villages. During such visits too women exchange views and information regarding seed selection and storage.

Example from the Chekasang tribe of Nagas

Among the Chekasang Nagas, it was not uncommon for a daughter married and living in another village to carry seeds when visiting her natal home. Traditionally, in times of war between tribes, such daughters were known to carry seeds to their natal village hidden in the goiter of chicken and it was not unknown for some girls to be sent off in marriage to enemy tribes to learn the secrets of seed management. While preparing to come home, such women known to feed the choicest grains to chickens that would then be slain upon arrival in her natal village and in this; a new seed source was maintained.

c) Food habits, food preferences and preparation methods:

Crop diversity is inextricably linked to the numerous food habits of the ethnic groups. Since food preferences and preparation methods have to be taken care of by women, they possess extensive knowledge of the particular characteristics and their varieties. It is not to say that men do not possess this knowledge. However, they do this in regard to the major crops and other cash crops, whereas women who shoulder the responsibility of feeding the family and preparing the numerous foods possess this sort of knowledge about the various minor varieties and the subsistence crops too. Based on this knowledge they select and share seeds of those varieties that have all the required characteristics.

Women continually experiment and try out new varieties in their "domains" so that they can have options. For instance, Naga women first try out new varieties in small plots near the field hut where they can observe its growth regularly, and if it meets all the characteristics they require to fulfil the food habits, the variety is accepted and cultivated in their home-gardens and swidden fields.

Some Examples

Among all the three ethnic groups, white rice grown in wet terraces is the most important crop in terms of taste as well as social prestige. They have numerous way of preparing rice - Lepchas - 5 ways, Nagas - 7 ways and Rais - 10, and the number of varieties cultivated is also the highest

Due to the significance of wet land rice, the traditional upland rice (ghaiya N.) has gradually lost its importance, especially among the Lepchas and Rais, leading to a drastic decrease in the varieties cultivated. However, among the Nagas, this crop is still an important food and have many ways of preparation, as such even today 34 varieties of upland rice is cultivated.

Maize is an important crop especially as it is an alternate source of food during scarce periods. It is prepared in numerous ways by all three ethnic groups, and they all have many varieties of this. However, since this crop is not considered of social and cultural value, but only for "filling the stomach", the number of varieties is as much as that of wet land rice.

Millet, a traditional important crop has lost much of its food value. It is till of religious and cultural importance to the Lepchas. However, as they use this crop only for religious rituals and social ceremonies in the form of chi L. (a fermented alcoholic brew) the number of varieties of millet has decreased drastically.

For the Rais too, millet is an important crop for religious and social reasons, in the form of jhaand N. (fermented alcoholic brew). At the same time, they use it as an important alternate food item in the form of dhendo N. (a thick gruel made from millet flour), and due to this they cultivate many varieties of millet.

Among the Nagas, job's tears (coix lachryman-jobi), a traditionally important crop when people used to give Feasts of Merit (it used to be given to the ritual specialist along with rice and meat) has lost its importance, as it is Feasts of Merit are rarely, if ever, given, and the crop is also not eaten as food these days. It is only used as fodder for pigs. As such the number of varieties has decreased.

Among all the three ethnic groups, the traditional crops that have lost their importance as food, has now given way to various vegetable, spice and fruit crops. These have become important accompaniments to rice and other major food, resulting in an increase in the number of species and varieties of such crops. This can be seen in the home gardens and swidden plots maintained by women.

Thus, traditional systems of seed management the food habits, the food preferences and preparation methods, the ritual and socio-cultural significance attached to certain crops, are all factors on which crop diversity depends.

Conclusion

The past events in the region and the movements of human populations had enormous impact on the gender relations of the ethnic communities of the region whereby 'provider' (men) have become more dominant than 'caretakers' (women). This dynamics and complexities of gender segregated power relations within households and communities, which came about in its present form as a result of historical encounters, and movements of people and hegemonies across borders of the Himalayan region, influences the systems of, and is reflected in, agrobiodiversity management of the community. In such a system, women are the principal custodians of agrobiodiversity due to the role and responsibilities assigned to them.

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