

Regenerating forests: degenerating pasture -a case of Murkha Ghari, Gorkha

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Abstract

Based on a brief observation in the concerned location, the paper makes rather unusual remarks. This points out of a case of regeneration of forests but at the cost of degeneration of pasture resource. It is pointed out that though the new development seems to have been contributing towards enriching the landscape with woody vegetation, it may have serious implications in the socio-economic as well as the environmental arena. An attempt has been made to trace out the possible attributable reasons for bringing about the said changes. Suggestions are made in favour of more detailed empirical study for the purpose of having a better understanding of the situation.

Key words: *Goth taking, Herders, High altitude forests, Pasture regeneration, Forest degeneration*

Herders of Khimpu

Khimpu village

Khimpu village (altitude 1570 m) is located in ward number 4 of Khari Bot Village Development Committee (VDC) on the foot hills of Murkha Ghari Lekh in northern part of Gorkha District. The total numbers of households (HHs) count 70, which are dominated by *Tamang* ethnic group. Mainstay of life, like in other hilly parts, is agriculture where crops like maize, wheat, millet and potato in the *bari*¹ land and rice in the *Khet*² land. The main livestock include cattle, sheep and goat. While substantial number of households may have enough to eat all the year round, at least dozen of them have to struggle hard to feed themselves. While pensions form important source of supplementary income for the relatively well off, the poor add up to their meager income through Lokta extraction and the wage labour in the village. Remittance from the Arabian countries has become important source of income in recent years.

Goth taking

Goth lane or *Goth taking* is age-old practice in Khimpu, which means taking herds from village to the high altitude pastures. The process starts every year sometimes during the mid February when the temperature in the village starts rising and the green fodder supply in along, they tend to be selective. The draft animals, the ones that are sick and those requiring special diet are held back. Beside this some extra animals may also be

¹ Unirrigated farm land

² Irrigated farm land

held as deemed necessary for manure. Thus many animals are taken along excepting plough-oxen, animals under treatment, the goats planned to be slaughtered for *Dasain* festival and a few others selected heads.

Destinations

Destinations vary. While some plan to return from the outskirts of the villages, many others plan their destinations as far as Murkha Ghari, a large pasture unit almost at the summit. Many sheep and goat herders plan to cross the ridgeline to reach as far as the Tibetan border.

Those who want to return from the outskirts include households lacking enough manpower or the ones who cannot afford losing farmyard manure for crop production. The later category decides to limit their distance only in so far as the dung from the place could be carried to their fields. Those who have too little manpower to spare might return from half way or any locations that would be felt appropriate. Size and richness of the pasture unit and the existence of drinking water source govern choosing a particular location.

Herders normally would not choose to have independent location particularly when they reach a distance away from the village outskirts. This would be inevitable given that they may require each other's help in case of wildlife depredation or for sharing rations during emergencies. Sometimes they would take turns to return the village intermittently as and when rations run out. However, on occasions the herders split and in the others they merge. This is largely determined by fodder availability of the particular location.

Duration of stay at a certain location is largely determined by richness of the pasture being used and by tentative scheduled to reach next destinations, which in turn is governed by the planned return date home.

Those who keep sheep and goats reach Murkha Ghari prior to monsoon, as per their planned schedule to reach the Tibetan border by monsoon. The cattle grazers on the other hand reach Murkha Ghari by monsoon for whom that is the final destination from where return journey would begin. Murkha Ghari is the location where the herders from other villages too join where the herders graze their stocks on to the rich lush green grasses under warm summer temperature and monsoon rain.

Changing pasture conditions

Since some years in the past, the herders clearly feel the difference in the pasture condition particularly the one of Murkha Gari and the smaller units like Sainduku Kharka in its vicinity. They are grieved over the perceived current development that the pastures those were rich in nutritious herbaceous forage is being taken over by alien thorny berberis bushes that they never saw before. The change very conspicuous and has turned to be a real 'headache' to the herders. Firstly and most importantly, available forage for all types of animals has substantially decreased. Second, the thorny bushes sometimes cause major injury to the sheep in particular which are less efficient grazer than the goats are. Third, the thorny bushes decrease visibility and the access and are a bane for

protecting the livestock against predatory animals. No wonder the herders tried to uproot the species with a hope that they could get rid of the alien species but to no avail. Apparently, the species is too deeprooted to get eradicated so easily. Consequently the thorny species is bringing more and more area under its ambit thus causing the grass species underneath to exterminate. This has remained a matter of great distress to the herders of Khimpu.

Degenerating pasture-regenerating forests?

It may be taken as a surprise that while the pasture resource is degenerating; it is not necessarily contributing towards degeneration of the forests. In fact, it seems to be just the reverse! The alien thorny bushes for the pasture may well have been a 'boon' for the regeneration of tree species! Apparently the very thorns, which are alien for pasture, seem to act as a 'nurse' crop for the regeneration of the tree species that would follow.

The first species that would volunteer to come inside the thorns is rhododendron. Apparently berberis bushes trap rhododendron seeds amidst the high windy alpine conditions and ultimately provide a chance for them to germinate. The germinating seedlings may be nursed well by berberis owing to its impenetrability to sheep and cattle that would otherwise be trampled easily by the grazing animals. While Berberis protects rhododendron from animals, rhododendron tends to self defend for its own survival. Rhododendron is impala table to animals. Besides, its young shoot, in particular, is fatal to animal. Thus it is apparent that pastureland in Murkha Ghari is slowly being converted into a rhododendron forest.

While the first generation of trees in the 'pasture-forest transition' is rhododendron, this may not be universal. More tender Species tend to come up in better sites. It is apparent that these new species improve the site condition to the extent that species like abies finally emerge. It was apparent that when the area finally gets converted into large tree-bearing forests, the berberis species will start being automatically suppressed and forests tend to be converted into abies forest. Evidently, there is no ecological collapse at least when looked from the viewpoint of forest conditions.

Change agents

Obviously the pasture situation is in the process of change. While environmental factor (e.g. Global warming, erratic rainfall etc) may have had some roles to play, the socio-economic factors clearly seem to have been the major attributable reason for the change. It is apparent that there has been a dramatic decrease in the number of Goth takers and in the number of animals they took with them in their herds. Apparently the number is not just enough to maintain the conditions of the age-old pasture system.

Murkha Ghari has now witnessed conspicuously less number of grazing animals compared to situations that existed until some years ago. Villagers agree that until about two decades ago the household who did not take herds to Murkha Ghari was exception rather than rule. Now the number of Goth takers is limited to a maximum of twenty on a

single year. This seem to have implications both on fertility conditions of pasture and in minimum biotic pressure that may be required to maintain a specific pasture ecosystem.

Obviously, the animals while do not only graze but also enrich the fertility conditions of the same through their droppings. Decreased numbers of animals over the years thus have implications on maintaining the fertility of the pasture eco-system.

Besides, the decreased biotic pressure would not necessarily favor the grass growth but the reverse may be true! A certain degree of pressure may actually be required to suppress the growth of alien species and that decrease in the number of animals in the pasture unit may not have played a positive role.

Why less number of *Goths*?

Exposure to the outside world and the availability of possible economic opportunities both locally and non-locally seem to be the reasons why people are giving up the age-old practice of Goth taking. Increasing numbers of people are known to recognize the practice as primitive and would like to find alternatives. More intensive farming as well as *lokta* collection for local hand-made Nepali paper appear to absorb more number of people locally than was the situation previously. More adventurous people temporarily leave the place to work in Nepal's urban areas like Kathmandu and Chitwan or the overseas. People find more value in sending their children to local primary school and high school than sending them with herds.

Possible implications

Some may even be tempted to interpret that the new development may have brought good news than bad. Especially this may hold true to many forest officials who are often desperate to see the landscape with full of trees. The implied assumption here is that forests rich with trees is wealth aspired by the society for social wellbeing and environmental conservation. This view is rather simplistic when viewed over the fact that forests rich with trees might not necessarily benefit the communities dependent on it nor would it be useful in any environmental sense.

The sociological and environmental implications of conversion of Murkha Ghari meadow into a rhododendron or abies forests is not well understood. However, there are enough clues to suggest that such alterations may have serious implications.

No doubt, the number of people who want to use the Mrkha Ghari pasture for the purpose of seasonal grazing is diminishing every year. It may however be noted that such decrease may not be universally applicable to all segments of the society. Possibly the wittier and the more privileged ones tend to find alternative source of income inside the country and abroad than being stuck himself into rather hard and less appealing herding tradition. However, the ones who are politically, socially and financially less potent tend to find little options than sticking to the occupation no matter how measurable it might be. A couple of examples may illustrate the situation. Ram Tamang (dummy name), like others in the village, had wished to go to Saudi Arabia for more income but he thinks that his dreams would never come true. Money has been the real bottleneck to him. He would

like to borrow money from any body at any interest rate but has not been possible. The case of Thule Tamang is even more sentimental. Some years ago he managed to go to Saudi Arabia for work. However the workload there was so much so that he decided to return to Nepal with virtually no remuneration. At the moment he has again switched herding and finds no option but to be happy with what income it fetches.

Likewise, the environmental implications may be equally important. Apparently the unique alpine meadow, rich in diverse flora and fauna may have witnessed serious degree of stress under the changed conditions and may be revealed only after a more thorough study.

More research required

The observations that were made though interesting and useful needed further clarifications in terms of several issues. Provided support, the study team is keen to do further fieldwork in the following area to be eventually published the findings.

- How and why the forests are taking over the pastureland?
- How widespread is this phenomenon?
- What are its potential implications in terms of;
 - Environmental dimension [e.g. species diversity; floral (grasses, and trees) and faunal (mammals and birds)]
 - Social dimension [for example, how the herders are coping with the new situation? are they finding appropriate alternative livelihoods strategies?
- Is the new development likely to lead towards a desirable end both in terms of environmental and societal dimensions?
- If not, what could be done?
- Possible policy implications

Given that even the remote locations may not be free from exposure under fast changing national and international political and socio-economic context (e.g. market economy and free trade), one can assume that the pastures in other parts of remote Nepalese mountains too may have similar fate to that of Murkha Ghari. This calls for a study on pasture-people dynamics with special emphasis on implications on local socio-economy and the environment in a much wider scale.