The limits to agriculture

A greater focus on NTFPs could help improve livelihoods in Nepal's upper Humla

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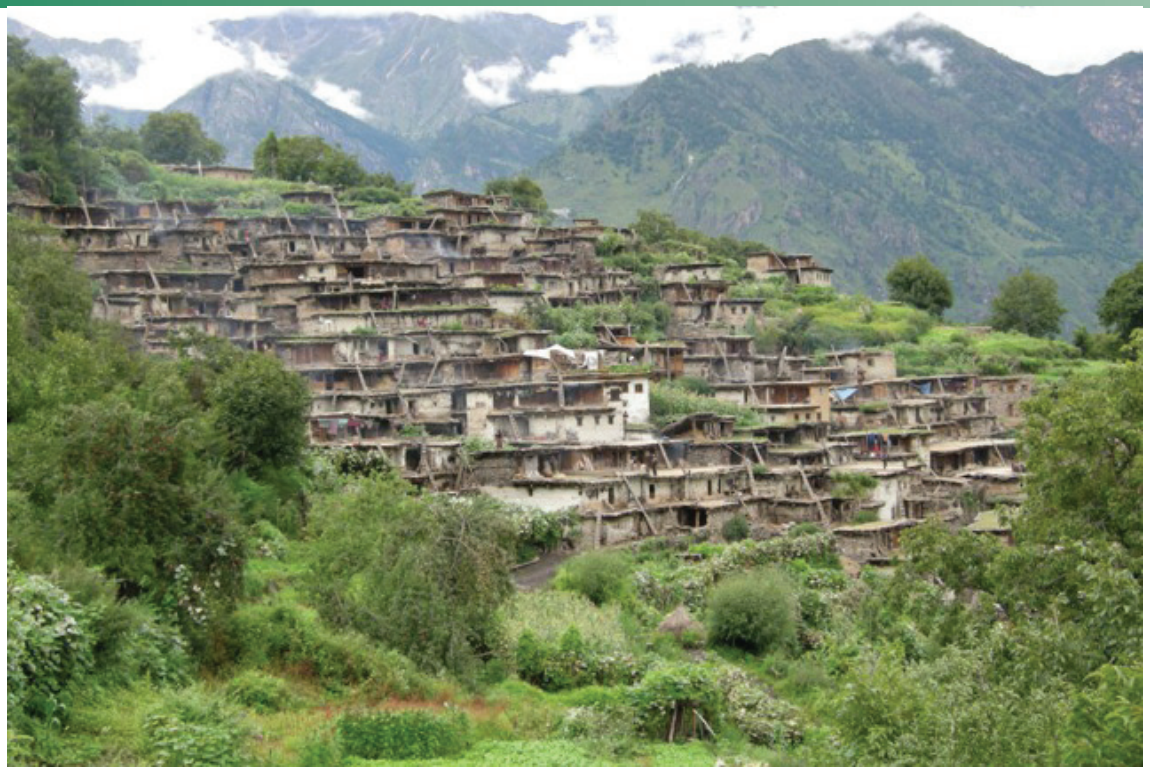

Rooms with a view: Syaandaa village, Syaandaa VDC, Humla, Nepal. *Photo: R. Roy*

Situated in the northwestern corner of Nepal bordering the Tibet Autonomous Region of China, Humla is one of the country's poorest and least developed districts. It possesses harsh climatic conditions—it is in a rain shadow—and rugged mountainous terrain. The district belongs geographically to the Karnaali region and administratively to the Mid Western Development Region. It spans an area of 5655 km2, with elevations ranging from 1219 m to 7337 m above sea level. Subtropical and arid vegetation are found on the valley floors and the Tibetan plateau, respectively (DDC 2004).

Humla has a population of about 41 000 people distributed in 7000 households. The average household size is 5.8 people, the population density is 7.21 persons per km^2 and the population growth rate is 1.99% (CBS 2003). The people of Humla (known as Humlis) live in compact settlements with flat-roofed, two-and-half-storied houses built in the Tibetan style.

The study was conducted in two village development committee (VDC)[1] areas in upper Humla—Khagaalgaun and Syaandaa—with the aim of examining the contribution of non-timber forest products (NTFPs) to livelihoods in the two VDCs. The Khagaalgaun VDC has a total of 195 households with a population of about 1300 and the Syaandaa VDC has 302 households with a population of 1800. Family size per household was 6.8 people in Khagaalgaun and 6.1 in Syaandaa (Roy 2010).

Study area

The Khagaalgaun and Syaandaa VDCs have unique attributes in terms of social groupings. All four villages in the Khagaalgaun VDC are peopled by the Lama social group, which belongs to the Tibeto-Burman language group. The Chhetri-Thakuri and Dalit social groups dominate all four villages of the Syaandaa VDC; they belong to the Indo-Aryan language group. The language spoken by the Lama social group is known as Lama. The language spoken by the Chhetri-Thakuri and Dalit is generally called Humlis Khas, which is similar to Nepalese (the national language of Nepal), although the pronunciation differs. The Lama social group is known locally as *bhote* and *jadaan*, and the Chhetri-Thakuri and Dalit social groups are called *topitaale* and *khasaan*.

Bishop (1990) remarked that very few studies had been carried out in the Karnaali region and that it was therefore difficult to find reliable secondary data on the region. To some extent this statement is still true, and Humla is still neglected. Government officials posted in Humla tend to feel that they are being punished (Adhikari 2008), and try to get transferred to other districts as soon as possible. Thus, development in Humla has lagged behind other parts of Nepal. This neglect was part of the motivation to conduct this research.

Methods

Quantitative and qualitative information was collected in June–August 2007 and May–September 2008. Fifty-seven percent of all households in the two VDCs were surveyed. Semi-structured questionnaires were administered at randomly selected households without replacement.

1 *Nepal is divided administratively into five development regions, 14 zones and 75 districts. It is further divided into 3915 village development committees (VDCs), 58 municipalities and one city. Every VDC is composed of nine wards, which is the smallest administrative unit in Nepal (CBS 2006).*

Questionnaires were pre-tested (10% of the total sample size) and revised accordingly. This primary data collection was supplemented by social and anthropological tools such as key informant interview, focus group discussion, informal interaction and participant observation. A herbarium was collected to identify the scientific names of NTFP species.

Findings

Livelihood activities in upper Humla

In Humla, agriculture combined with trading is the mainstay of livelihoods. Most cultivated lands, however, are marginal in terms of soil fertility and situated in difficult terrain (Fürer-Haimendorf 1975). As a result, agricultural production alone cannot support households year-round. This study revealed that the total average food-sufficient months in both Khagaalgaun and Syaandaa VDCs was 7.83 months (235 days) per year. Food deficits are generally experienced from mid February to mid June and from mid August to mid October.

Trade is the other important pillar of livelihoods in upper Humla; it involves NTFPs, timber, pack-animal transportation, *furu*[2] trading, and the operation of small shops. However, the movement of traders has been inhibited by internal changes in Nepal such as the establishment of community forestry, which is closing off areas to herders and obstructing the passage of traders who use sheep and goat caravans (Roy *et. al.* 2009). Some residents of Humla also find regular and seasonal employment in governmental and non-governmental organizations. Cash income from these activities is used to buy food, clothes, medicine and other household requirements, and to meet expenses associated with children's education.

NTFP species: a livelihood option

The author collected a wide range of NTFP specimens from settlements and from agricultural lands within one-and-a-half hour's walk of the settlements. The primary focus of the inventory was to document NTFP species that were being used directly in daily lives. Thus, most specimens were collected from the *aoul*[3], although some were also collected from the *lek*[4], where livestock is grazed during summer.

The study found that 47 species were used in households in the VDCs for food, medicine and other purposes. Of these, 22 species were wild edible plants, 15 species were used as medicine, and ten species were harvested for other uses. Wild edible plants were consumed with daily meals, while medicinal plants were used in households as required for primary health care and were also traded for cash income.

Wild edible plants in daily meals

Humlis eat two meals a day. *Lakkad*, *roti* and *chino bhaat* are the major foods consumed in regular meals in the study areas. *Lakkad*, the most commonly and regularly consumed food, is made from bitter buckwheat and prepared as a pancake. *Roti* (flatbread) is made from wheat flour or a mixture of wheat and millet flour. Humlis eat *chino bhaat* prepared from panicum millet (*Panicum miliaceum*) and cooked as rice *bhaat*.

The *lakkad* and *roti* are supplemented with wild edible plants such as the tender leaves of stinging nettle (*Urtica dioca*); these are available throughout the year except between mid May and mid June when the plant is often infested with insects, and between mid December and mid January, when the plants are dry. The period of peak consumption is between mid March and mid May, when food grain supplies are diminished and the household food deficit peaks. Humlis mix stinging nettle with bitter buckwheat flour and cook it in water and prepare soup they call *faando*.

Honoured: The author (left) receives a 'Nepal Bidhyabhushan-Ka' award for his research from Nepal's president, Dr Ram Baran Yadav. *Photo: R. Roy*

Humlis actually prefer stinging nettle to vegetables such as cauliflower, cabbage, pumpkin and brinjal: they say that vegetables grown from the hybrid seeds supplied by the District Agricultural Office and some NGOs working in the sector do not taste as good as wild edible plants and they need chemical fertilizers and pesticides, while the stinging nettle is found in the natural environment and is organic. Additionally, stinging nettle is readily available in nearby settlements, farmlands and pasturelands.

Dry leaves of *baanko* (*Arisaema flavum*) and *bhaande paaltaa* (uncultivated bitter buck wheat—*Fagopyrum tataricum*) are used as curry in winter, when stinging nettle is less available due to snowfall. Tender leaves of *baanko* are collected between mid May and mid July, sun-dried and stored for winter.

Tubers of *baanko* are used as the main course in meals between mid August and mid September, when there is less food grain in store (the food grain harvested from *jethaansi baali*—summer crops—has been consumed by this time and the winter harvest—*kaartike baali*—is yet to take place). When *baanko* tubers are consumed in regular meals the Humlis call it *chhaaka taarne,* meaning 'saving food grain'.

Tradable NTFPs

The sale of NTFPs is a key livelihood strategy in both VDCs. People in the study area collect NTFPs in nearby government forests and pasturelands and sell them to local brokers. About 72% of households are involved in this business as primary collectors. The main tradable and economically valuable NTFP species are *atis* (*Delphinium himalayai*),

2 *Furu is a wooden bowl used for drinking Tibetan tea and local liquor known as chhyaang.*

3 *Aoul is land at lower elevation than the settlement that can be used for agricultural production. Aoul is warmer than lek.*

4 *Lek is land at higher elevation than the settlement that can be used for agricultural production and livestock grazing.*

jatamansi (*Nardostachys jatamansi*), *kutki* (*Picrorhiza scrophulariiflora)* and *guchchi chyaau (Morchella conica*).

A the time of the survey, primary collectors were selling *atis* at the rate of NPR600–800 per kg at village markets. *Jatamansi* was priced between NPR60 and NPR100 per kg, while the price of *kutki* was fixed at around NPR180–230 in village markets. *Guchchi chyaau* was sold at NPR10 per piece (NPR10 000 per kg). The price was fixed according to market demand at *Nepalgunj* and the quantity available at the household level. Thus, if a household collected more of any NTFP it earned more and the household had more bargaining power with local traders. People from both Khagaalgaun and Syaandaa used only their free time to collect NTFPs—it was considered as a secondary source of income.

Economically valuable NTFPs were found to be depleted due to over-collection and premature harvesting. Because of the food deficit, people are under pressure to make money from NTFP collection. There is competition among primary collectors to collect more NTFPs, sometimes encouraged by local traders.

Conclusion

In the upper Humla, Humlis are engaged in agriculture, trade and employment in governmental and non-governmental organizations to fulfill their basic household needs. Agriculture alone is incapable of addressing the problem of food insecurity. The cultivation and trade of economically valuable NTFPs has considerable potential to mitigate the existing food deficit problem in the two VDCs. Humlis invest most of their time and labour in agriculture, and government agencies and NGOs working in the development sector have also given priority to boosting agricultural production, even though production will always be limited by the harsh climate and rugged terrain. In this context, this study concludes that the cultivation of economically valuable NTFPs on otherwise unproductive private agricultural land has greater potential to improve the precarious livelihoods of people in Khagaalgaun and Syaandaa, but this development pathway does not yet receive due attention from development agencies.

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NTFP soup: A Lama woman prepares food using stinging nettle, Kermi village, Khagaalgaun VDC. *Photo: R. Roy*

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Dr. Roy's work as summarized in this article has been published online; see https://www.morebooks.de/store/de/book/mountain-livelihoods-in-upper-humla,-nepal/isbn/978-3-8433-6374-7.