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# “Humla Development Initiatives” for Better Livelihoods in the Face of Isolation and Conflict

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Humla, situated in the north-western corner of Nepal on the border with China, is one of the poorest and least developed districts of Nepal. Constraints are imposed by low agricultural productivity in mountainous terrain under

harsh climatic conditions. Food subsidies and other forms of external support have created a state of dependency, stifling local initiative and reducing reliance on local resources. Development efforts were hampered until recently by the Maoist insurgency. It was under such conditions that “Humla Development Initiatives” was formed to identify problems by

conducting a needs assessment and work out solutions in close cooperation with local communities. Introducing improved water mills, promoting local food to substitute for subsidized rice, and cultivating nontimber forest products (NTFPs) on marginal farmland are some of the activities recently carried out to increase food security while reducing dependency on external support. Future activities include the establishment of community-based monitoring systems and cooperatives as the basis for the sustainability of the program as well as for transferring ownership to the villagers.

**Keywords:** Food security; Humla; livelihoods; development initiatives; monitoring; nontimber forest products (NTFPs); Nepal.

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## Humla: livelihoods, challenges, and constraints

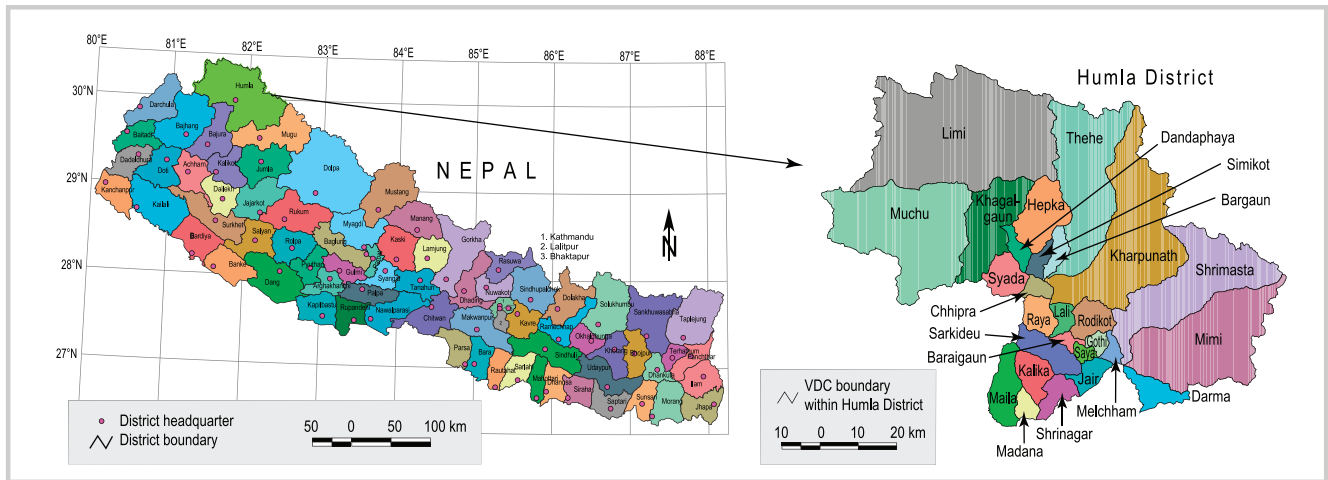
Humla district is located between 29°35' to 30°70'N latitude and 81°18' to 82°10'E longitude and covers an area of 6134 km<sup>2</sup> (DDC 2004) (Figure 1). The population of 40,749 persons consists in the majority of Chhetri, Thakuri, Brahmin, and Dalit of the Indo-Aryan language group, representing 79% of the total population. Lama of the Tibeto-Burman language group and others make up the remaining 21% (CBS 2003). Like other districts in the Mid Western Development Region [MWDR] of Nepal, Humla belongs to the category of least developed districts. According to the Human Development Index (HDI) 2001, which measures development on the basis of parameters such as life expectancy, literacy, and standard of living, Humla ranks 68th out of 75 districts of Nepal (UNDP 2004). Most Humlis, irrespective of their ethnicity, live in compact settlements with flat-roofed, multistoried houses built in the Tibetan style (Figure 2).

Livelihoods are uncertain, mainly on account of harsh climatic conditions, land degradation, remote location in a border area, and the recent political instability. Agriculture alone is not capable of supporting livelihoods and must be supplemented by trade, which is vulnerable due to long and precarious trade routes as well as political and economic changes in the countries linked by border trade. The situation in Humla thus resembles the situation in other

border areas of the Hindukush-Karakoram-Himalaya, such as the Hunza Valley in the Northern Areas of Pakistan (Kreutzmann 2006) or the Annapurna-Dhaulagiri region of Central Nepal (Füer-Haimendorf 1975; Schrader 1988; Van Spengen 2000), where vulnerability due to dependence on trade and external support has recently been exacerbated by violent conflict.

Agricultural production in Humla meets household food requirements for only 3 to 9 months of the year. Food deficits are generally experienced from mid-February to mid-June. This is the time when the crops planted in winter (called *jethaansi baali*) may not yet be ready for harvesting. Another food deficit period is from mid-August to mid-October, when the crops planted in early summer (*kaartike baali*) may not yet be available. Food deficit periods are experienced by every household in Humla (Table 1). Their extent and intensity depend, however, on the amount of land available to each household and on its productivity. Staple foods are naked barley (*Hordeum nudum*), barley (*Hordeum vulgare*), wheat (*Triticum aestivum*), bitter buckwheat (*Fagopyrum tataricum*), sweet buckwheat (*Fagopyrum esculentum*), panicum millet (*Panicum miliaceum*), amaranth (*Amaranthus* spp.), foxtail millet (*Setaria italica*), finger millet (*Eleusine coracana*), and bean (*Phaseolus vulgaris*). In order to overcome food deficit periods, these staples are supplemented with wild edible plants (Field survey, 2008).

**FIGURE 1** Map of Nepal and Humla District, showing VDC boundaries. (Map by Rabindra Roy; Source: Department of Survey 2001)



**FIGURE 2** Overview of Kermi village, Khagaalgaun VDC, Humla, Nepal. (Photo by Dietrich Schmidt-Vogt)





**TABLE 1** Food deficit months in the sampled VDCs. NOTE: The sowing and harvesting periods can be earlier or later by 1 week, depending on weather conditions and availability of farmyard manure. (Source: Field survey, 2008)

Local name	English name	Scientific name	Season		Food deficit months
			Sowing	Harvest	
Jethaansi baali (winter crops)					
Uwa	Naked barley	Hordeum nudum	3rd week of Nov	2nd week of Jul	Mid-Feb to mid-Jun
Jau	Barley	Hordeum vulgare	3rd week of Nov	2nd week of Jul	
Ganhu	Wheat	Triticum aestivum	3rd week of Nov	2nd week of Jul	
Kaartike baali (summer crops)					
Tite fapar	Bitter buckwheat	Fagopyrum tataricum	3rd week of Jul	2nd week of Oct	Mid-Aug to mid-Oct
Mitthe fapar	Sweet buckwheat	Fagopyrum esculentum	4th week of May	3rd week of Sep	
Chino	Panicum millet	Panicum miliaceum	3rd week of Jul	2nd week of Oct	
Marshya	Amaranth	Amaranthus spp.	2nd week of Jul	2nd week of Oct	
Kaguno	Foxtail millet	Setaria italica	4th week of Mar	2nd week of Oct	
Kodo	Finger millet	Eleusine coracana	2nd week of Apr	1st week of Oct	
Simi	Bean	Phaseolus vulgaris	3rd week of Jun	3rd week of Oct	

To cope with these limitations, the people of Humla have in the past supplemented their livelihoods by engaging in trade between Tibet and regions to the south of Humla in a 6-month cycle, using sheep and goat caravans as a means of transport (Fürer-Haimendorf 1975; Bishop 1999). Traditionally, only salt and rice were traded; at present, these staples are supplemented with other consumer goods. Trade, however, has declined not only on account of border movement restrictions, such as the closing of the border in 2008 because of the Olympic Games in Beijing, and other obstacles such as community forestry, which impedes the grazing of sheep and goats on the Nepalese side, but also because of economic development and the emergence of a cash economy that reduces the need for trade goods, especially on the Tibetan side. Difficulties besetting trade with Tibet have aggravated the isolation of Humla, which is linked to other parts of Nepal only by trails that require a journey on foot of 8 to 10 days, or by air. Air transport relies on only one airstrip—without tarmac—at Simkot and is highly susceptible to weather conditions.

The high cost of air travel prevents average Humlis from using this mode of transport. Apart from transporting people, the flight connection is used mainly for delivering subsidized rice and other cargo. This practice, as well as a largely rice-based diet, or *bhaate* culture, has made Humlis more dependent on external support.

### The “Humla Development Initiatives”: help for self-help in the midst of conflict

In December 2004, with the help of the Nepal Institute of Development Studies (NIDS), the Development Fund (DF)—a Norwegian nongovernmental organization (NGO)—undertook a needs assessment and documentation of local NGOs working in Humla. The objective of the study was to explore people’s priorities for development in Humla. For this purpose, interviews were carried out with concerned stakeholders such as government officials and representatives from nongovernmental organizations working in Humla, local intellectuals, journalists, and politicians, as well as focus group discussions with both men and women from different social groups. The main challenge of this task was that it had to be carried out during the Maoist insurgency when development efforts were at a standstill (McKay et al 2007). In Simkot, a daily curfew was imposed from 7 PM to 5 AM. People were afraid to interact with outsiders. To build rapport with local people and gain their trust, frequent visits were made to Simkot by NIDS staff from Kathmandu, and occasionally by DF officials from Norway. Confidence was built by practicing transparency and honesty about the scope and limitations of the planned project in 2005 and its capacity to provide support and by direct contact with local beneficiaries as well as the warring parties.



## The HDI approach

HDI is envisaged as an umbrella, under which NIDS and Local Initiatives for Biodiversity, Research and Development (LI-BIRD) are working together through local organizations and with communities. The mission from 2005 to 2023 AD has been divided into three phases, namely, the pilot, expansion, and consolidation phases for 4, 10, and 5 years, respectively. The program is funded by the DF Norway.

The concept of the HDI emerged during the pilot phase. The livelihoods of poor Humlis had remained unchanged or actually worsened despite 3 decades of project support by various donor agencies such as SNV-Nepal (Netherlands Development Organisation), WFP (World Food Program), DFID (Department for International Development), WUPAP/IFAD (Western Uplands Poverty Alleviation Project/International Fund for Agriculture Development), and ANSAB (Asia Network for Sustainable Agriculture and Bioresources). Hence, HDI decided to develop its programs in cooperation with local people, addressing the needs and priorities that they themselves had identified, such as improved water mills, rather than imposing its own agenda. Further, HDI involved villagers from all segments of the community by forming groups for community development and by facilitating the identification of development needs and priorities.

Most of HDI's activities, which will be explained in greater detail below, can be categorized under the Participatory Technology Development (PTD) approach, which builds on the premise that lack or deficiency of technology is the main cause of poor livelihoods, and which aims at developing (or reviving) better technologies in close cooperation with local communities. Noordwijk (2005) has raised the question whether PTD approaches or participatory approaches in general can also lead to empowerment. This is exactly what HDI is trying to achieve through its focus on overcoming the "local elite wall" and supporting underrepresented groups in communities. HDI activities are also embedded in the context of natural resources management and violence. While violence is usually associated with conflicts over the control of resources (Buckles 1999), the influence of violence caused by political conflict over resource use and management is less well understood (Bohle and Fuenfgeld 2007). Moreover, benefits captured by the elites are another reason for conflict in Nepal (Upreti 2004).

The HDI approach in a nutshell is to reduce dependency on external support by exploring and developing local resources in cooperation with local people. The main focus is food security, which was identified during the needs assessment conducted in 2004 as the most fundamental development need of Humla. Activities are carried out in 5 intervention areas: sustainable agricultural development; income generation;

rural technology improvement; a specific Dalit (untouchable low caste) program; and advocacy, lobbying, and creating awareness. In order to address food security, activities have so far concentrated on enhancing the contribution of indigenous cereal crops to the overall food supply and on earning additional income from NTFPs (nontimber forest products). HDI's activities currently take place in 4 Village Development Communities or VDCs (the basic administrative unit in Nepal), Khagaalgaun, Syaandaa, Simkot, and Gothi, and will continue in all 27 VDCs of Humla until the year 2023.

## Supplementary studies for HDI

The first author of this paper has been involved with HDI since 2004. From June to August 2007 and from May to September 2008, he spent 5 months in Khagaalgaun and Syaandaa VDCs of Humla to collect the primary information for a PhD thesis, which is a part of HDI research inputs in the program design and implementation. Semistructured questionnaires were administered to 57% of sampled households; key informant interviews, focus group discussions, informal interaction, and participant observation were other tools for collecting primary information. The objective of the study was to assess the contribution of NTFPs to the livelihoods of Humlis. The experience gained and the rapport established during field research will enable the first author to more effectively utilize the insights from his research for development work in Humla when resuming his position with HDI.

## The HDI programs and activities

The programs and activities of the Humla Development Initiative are classified into immediate, short-term, and medium-term programs.

### Immediate programs (2005–2008): reducing dependency on imported crops

The supply of airborne subsidized rice since the mid-1970s has increased the dependence on this staple and led to a decline in the cultivation of indigenous cereal crops such as barley, buckwheat, etc. However, more than 50% of subsidized rice is allocated to civil servants working in Simkot, including police and army personnel (Adhikari 2008). In addition, poor people do not have enough money to buy even subsidized rice. During food deficit periods, people supplement their diet with wild edible foods, such as the tuber of *banko* (*Arisaema flavum*) in August and September and stinging nettle throughout the year. Dry *banko* leaves and bitter buckwheat are used as supplementary food during the winter season when the ground is covered with snow (Field survey, 2007).

*Activities: promoting indigenous foods and improving production:* To reduce dependency on subsidized

**FIGURE 3** Woman preparing *lakkad* made from bitter buckwheat. (Photo by Rabindra Roy)



rice and boost cultivation of local grains, HDI promotes indigenous and nutritious foods such as *lakkad* (pancake made from bitter buckwheat) (Figure 3) and *saatu* (barley flour which is taken with Tibetan butter tea).

Another activity to promote local grains is the introduction of improved technology and crops. NIDS has been providing improved watermill turbines or *paani ghatta* on a group savings and credit basis. The improved watermills are much more efficient than traditional ones for grinding cereal crops. LI-BIRD is engaged in broad-scale indigenous crop diversification in Syaandaa VDC and conducts on-farm research on different varieties of barley.

#### **Short-term programs (2007–2013): generating income from NTFPs**

Another strategy of HDI to reduce poverty and to overcome food shortages is to provide income opportunities from the sale of NTFPs on the basis of sustainable management of this resource. This is a complex

issue that involves biodiversity conservation, community organization, trading patterns, access and communal property arrangements, and income generation through value addition, about which relatively little is known. In order to fill this knowledge gap, a study at Khagaalgaun and Syaandaa VDCs is currently being carried out by the first author of this paper. The VDCs contain 195 and 302 households with populations of 1,318 (53% male and 47% female) and 1,844 (49% male and 51% female), respectively (Field survey, 2007). Average food sufficiency per year is 9 and 7 months in each of the VDCs, respectively (Field survey, 2008). Moreover, Khagaalgaun and Syaandaa VDCs consist of 4 villages each: Chyaaduk, Kermi, Khagaalgaun, and Lamakholsi for the former and Hitaankholsi, Syaandaa, Saantaa, and Yaangu for the latter.

**Activities:** cultivating *atis* (*Delphinium himalayai*) at *Kharkas*: The main NTFP species are *atis* (*D. himalayai*), *jatamansi* (*Nardostachys jatamansi*), *katuki* (*Picrorhiza scrophulariiflora*),



and *guchchi chyaau* (*Morchella conica*). Altogether 90% of households are involved in collecting and selling them in the sampled VDCs. Travel time from the villages to the nearest collecting areas varies between 3 hours and 3 days (Field survey, 2008). HDI has initiated a program of cultivating NTFPs starting with *atis*, a perennial herb whose rhizomes are used for medicinal purposes to treat fever, cough, diarrhea, and dysentery. The rhizomes were priced at NPR 600 to 800 (US\$ 9 to 11) per kg on village markets in 2007. However, *atis* is no longer as available as it was 10 years ago due to overharvesting and/or premature harvesting. As Irnaa Lama (55 years old) of Kermi village says, “*atis* will completely vanish from the forest after 10 years so there is an urgent need to conserve it.”

HDI started trial plots for the domestication and propagation of *atis* at two *kharkas* in Syaandaa village, namely, Chokhechaur and Nikathaalaa, where 9 and 21 households, respectively, have been involved. A *kharka* is a plot of land at upper elevations which can be used both for cultivating supplementary crops and as temporary pasture for cattle. It can usually support only one crop per annum, such as panicum millet or bitter buckwheat. Productivity is low, because *kharkas* are far from the settlement and people do not have time to look after the crops properly or carry up farmyard manure. *Atis* can thus be regarded as an alternative source to make money from the otherwise underutilized *kharkas*. HDI also plans to promote *atis* cultivation on private land closer to settlements, which either is not used for cereal production or is low in productivity. The private sector is to be involved for technical support, for example, cultivating and marketing of NTFPs (Sharma et al 2004). *Atis* can be harvested 3 to 4 years after planting. According to local NTFP trader Namgyal Lama of Khagaalgaun village (45 years old), “there is a great demand for *atis* at Nepalgunj market, which ultimately supplies India. The market can absorb the production of cultivated *atis*. Hence, there is a need to cultivate it. Moreover, some semiprocessing and value addition work could be done to assure quality.”

#### **Medium-term programs (2009–2018): promoting local innovation in farming natural products**

Introducing sophisticated agricultural technology such as chemical fertilizers and pesticides is not economically feasible due to remoteness and high transportation costs. Hence, it is more sustainable to use locally available resources and to promote local innovation. In this context, farmyard manure is used, but the quantity is insufficient. Dawa Lama (31 years old) says that “using chemical fertilizer makes the soil more compact and leads to difficulties during plowing. So, we prefer farmyard manure made from animal dung and its bedding.”

Similarly, wild edible fruits such as walnut (*Juglans regia*), wild apricot (*Prunus* sp.), and wild peach (*Prunus* sp.), which are found abundantly, can be promoted for

greater food diversity and income from sales. Oil from the kernels of wild apricot, walnut, and wild peach is currently extracted for household consumption (Figure 4).

The fruit flesh of wild apricot is left to rot so that the kernel can be taken out more easily and thus goes to waste (Figure 5). It could, however, be used to produce wine, candy, jam, and jelly as a postharvest product. HDI is creating awareness among the villagers about the nutritional value of these fruits as well as their economic value. Orchards could be established in difficult terrain where agriculture and *atis* cultivation are impossible.

**Activities: creating awareness of organic farming and wild edible fruits:** HDI has started creating awareness of the benefits of organic farming and wild fruits by conducting formal and informal group discussions and training and during individual interactions. Employing the traditional knowledge of Humlis, HDI has introduced on an experimental basis a liquid biopesticide made from 51 different locally available medicinal herbs. It also introduced time- and labor-saving technology for oil extraction from walnut and apricot.

#### **Results, experiences, and future prospects**

Full-fledged programs were launched only 2 years ago. Results from the interventions are therefore tentative and limited to the immediate and short-term programs. In 2008, the first author noted that local people were in some cases beginning to prefer local dishes made from indigenous grains (eg *lakkad*) over chartered rice, which is distributed through Nepal Food Corporation at Simkot under a quota system. Raghu Lama (59 years old), formal VDC vice chairman of Khagaalgaun VDC, stated that “In our village, one household received about 40 kg of rice per year at the rate of NPR 32 per kg, which is not even enough to feed all family members for a week. We ultimately have to rely on our indigenous crops.” Hence, HDI is now stepping up activities to increase indigenous cereals production by establishing a farmer’s field school and by reviving traditional irrigation canals. Also in 2008, people started cultivating *atis* at the *kharkas* and are willing to extend cultivation to other unproductive private lands, once the market for *atis* is ensured.

Gaining the trust of people in the face of isolation and conflict was not easy. HDI’s approach of practicing honesty and transparency was the main instrument for overcoming distrust. HDI is now implementing its programs through community groups in the villages. However, there is the usual practice of benefits captured by a handful of local elites who are educationally, economically, and socially advanced. They have more access to projects due to personal networking and relations and are more active in appropriating project benefits. This ultimately creates an invisible “local elite



**FIGURE 4** Manual extraction of oil from walnut kernels. (Photo by Rabindra Roy)





**FIGURE 5** Wild apricots left to rot prior to extraction of kernels from the seed. (Photo by Rabindra Roy)



wall” between the program and the poor. The “elite wall” is one of the main reasons why poor Humlis have remained poor, even though many programs have been launched on their behalf by different donor agencies in the last 3 decades.

#### Developing a village-based monitoring mechanism

One of the most important lessons learnt from the field studies in 2007 and 2008 is that HDI needs to develop a monitoring mechanism for its activities. In remote areas with a high rate of illiteracy such as Humla, participatory monitoring is more feasible and effective (Mather 2000). In addition, monitoring, if done in an inclusive manner and at the field level, can break down the barrier between actors and create a system of checks and balances between them. It will also help the actors to understand the program better and to modify the program when it deviates from the agreed objectives. One of the reasons behind the failure of many projects in Humla in the past was lack of proper and timely monitoring at the field level, mainly due to remoteness and difficult geographical terrain. Monitoring, when conducted at all, was done either in Simkot or in other VDC headquarters, where the process quickly came under the control of the local elite, which prevented or hindered consultation and interaction with poor people.

In consideration of these problems and of the fact that external monitoring from the central level would cost more money and time, it was realized that there should be a self-monitoring mechanism in every program that involves all development actors such as representatives of the poor, local HDI officials, and the local elite(s). To establish this mechanism, all actors must agree on result-based monitoring indicators for impact, outcomes, and outputs over the long, medium, and short terms,

respectively. These indicators must be verified semiannually and at longer time intervals such as annually, biannually, etc.

#### Establishing community-based cooperatives

HDI plans to establish community-based cooperatives at the village level, of which every household will be a member. In a similar manner, a successful community-managed enterprise, namely, Humla Oil Pvt. Ltd, an important oil processing unit for NTFPs, was established in the southern part of Humla during the late 1990s and gave employment to more than 3000 people as NTFP collectors (Subedi 2006). The cooperative’s role will be to provide guidelines and be accountable for monetary transactions such as fixing the sale and purchase prices of *atis* and other NTFPs or agricultural products. Primary collectors and producers, when not organized in a cooperative, will not be in a strong position to bargain over the selling price, which the local trader can then easily manipulate. Other functions of the cooperative could be to establish small-scale industries for postharvest products such as candy, jam, and jelly from wild apricots at the village level and to organize and oversee the marketing of surplus products using already existing trade links, such as the links with the Tibetan market. People go to Taklakot, Tibet, to buy foodstuffs, cloth, and other household goods and transport them by *jhhupa* (a cross-breed of yak and cow), horse, and mule. The same means of transportation can be used to sell Humla’s products in Taklakot until a road link is established.

#### Conclusion

The most immediate value of the HDI experience lies in having been able to establish a socially inclusive program for the improvement of marginal livelihoods in a time of armed conflict and in a hostile mountainous environment in the border area of a least developed country. To have achieved this and to have gained the confidence of so many different social and political groups, including the Maoists, is already a remarkable feat that would be worth the attention of projects to be established or already operating under comparable conditions. How successful the flexible and adaptive approach to problems such as food security will be remains to be seen and will depend largely on HDI’s ability to further mobilize communities who have become used to handouts and to maintain momentum over the long period of its operations. HDI’s defining features are a participatory approach focusing on underrepresented segments of communities, integration of indigenous and scientific knowledge, reliance on local structures, technologies, and resources, and a long-time perspective. By applying these approaches under the extremely difficult conditions in Humla, HDI will provide a valid test of their feasibility.

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