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Development and the Marginalization of Traditional Knowledge and Societies in High Hills of Central Himalaya

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ABSTRACT The traditional knowledge acquired on the medicinal herbs and other plants of high altitude, reveal the broad exposure of natural resources and its utilization developed by the transhumant socicty, where resources are scarce, but this traditional specializations by the tribals known as "Bhotiyas" are breaking down. The impact of modernization and development on this system of cure, and the institutional attitude towards this knowledge has been quite discouraging. This paper tries to document the traditional knowledge of some important herbs in their society, and the impact of development on such knowledge systems. How infrastructural development and processes of commercialization have denied the access of these high landers to their traditional resource base, and their knowledge has been put to commercial use in certain medicines without any acknowledgement to them.

The study was carried out in Darma and Byans valleys of Dharchula block (29° 31' to 30° 2' N latitude and 80° 40' to 81° E longitude). The region is situated between snow fed Kali and Dhauli rivers, in the Central Himalaya at the trijunction of India, Nepal and China (Fig. 1). The settlements 19 villages are spread between an altitude of and above sea level 1200 m to 4100 m. These settlements are characterized by the maintenance of two dwellings and are located one for the winter (November to April) in the lower valleys; and the other on high altitudes for the summer where they stay along with their livestock from May to October. The entire region of the studied area lies within the Greater and Trans-Himalayan zone with deep gorges and steep precipitous hill sides. There are a number of snow clad ranges ranging upto 7800 m.

The climate is characterized by extremely cold winters with frequent snowfall in higher elevation from October to March, and mild summer from May to August, and with very erratic rainfall. About 60 per cent of annual rainfall occurs over a short period of two months (July - August). Monthly maximum and minimum temperatures range between 20.5° C to 5.5° C and 15.2° C to - 2.4° C, respectively. The entire region is inhabited by one ethnic community called as the Bhotiya, belonging to the Mongoloid race and a number of their variants.

METHODS OF STUDY

A preliminary of the study area which includes 19 migratory villages was conducted. The villages highlighted in this study were selected to represent the cultural, political, and ecological diversity of the region. Statistical procedures to draw samples of village populations for interviews were not used, mainly because such knowledge was not available with a common man, and also because a high percentage of pastoralists were mostly in the alpine meadows during a major part of the year. A number of techniques have been utilised in the study ranging from participant observation and group interactions to more conventional household surveys over a period of four years (1991-94). A list was made up of those persons who were identified by their community to have the knowledge of medicinal use of various plants. These persons were further interviewed in depth and were called for discussions a number of times in order to obtain the required informations.

An inventory was also developed in each village to determine the family structure, agricultural output, cropping patterns, monetary values of farm inputs and outputs, monetory values of off farm produce, medicinal herbs, marketing of medicinal herbs, and all other sources of their income. All the households in each village were covered to elucidate the local knowledge and uses of these medicinal plants,

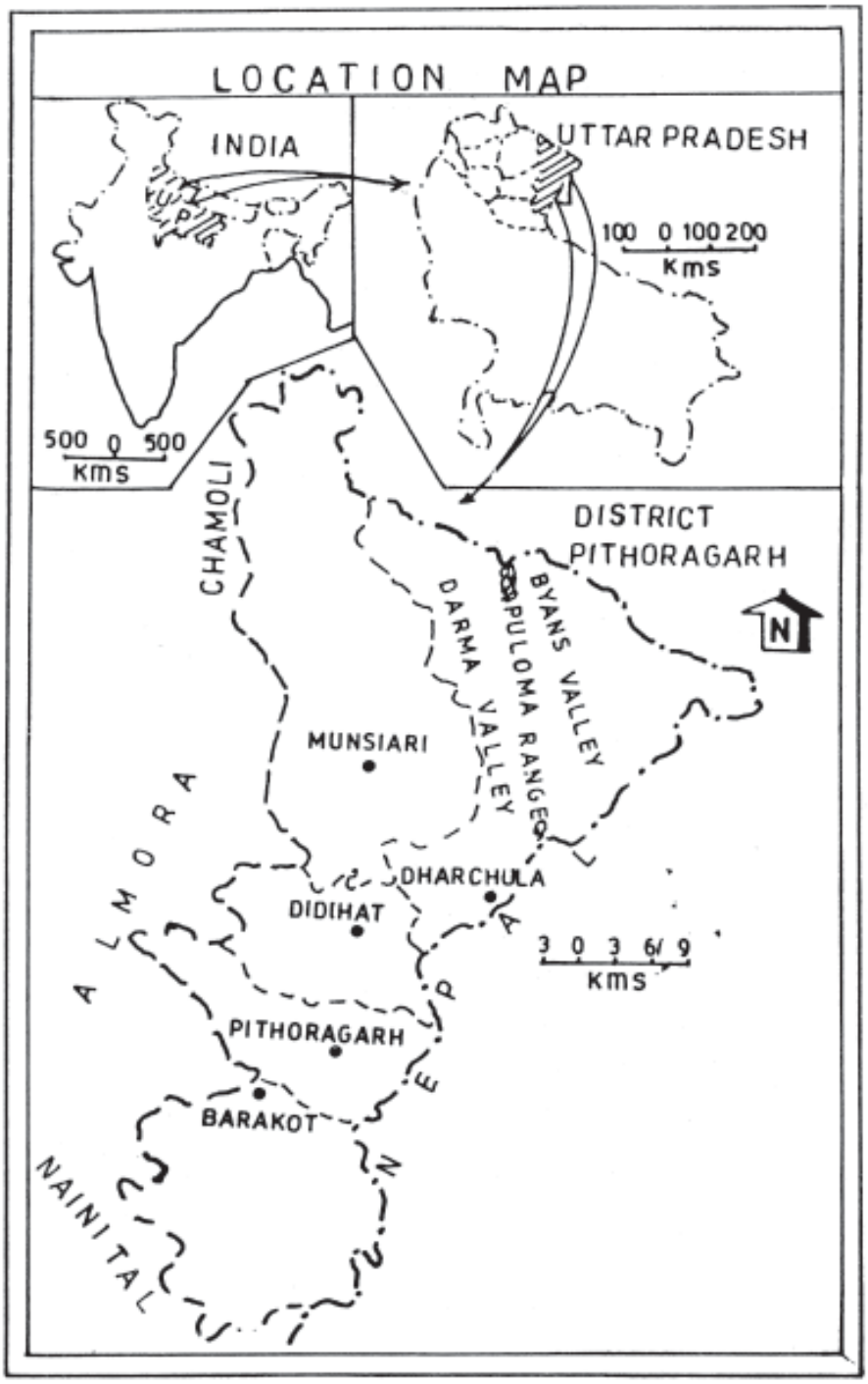

Fig. 1. Location Map

human labour involvement in extraction of these medicinal herbs and farming system attributes like agricultural patterns and animal husbandry.

RESULTS AND DISCUSSION

Traditional Medicine System

The local knowledge of medicinal herbs in the Bhotiya society had developed over a long period of time, due to their frequent movements during their trans-border trade. Later, when trade was called off due to Sino-Indian conflict in 1962, they adapted themselves to pastoralism and agriculture for their survival, which entailed seasonal movement between their agricultural lands in the lower valleys and grazing lands in the alpine meadows. As a result, these people were exposed to a wide range of natural resources, and hence had to depend on such resources for their survival during their regular movements. The effectiveness and popularity of Himalayan medicinal herbs was so much that it was used in all forms of traditional medical system through out the country. It has a definite channel of distribution, through a number of trading communities of the country. The Bhotiya traders had trade links with a number of trading communities like the Banjareas, Gawariyas, Ghattiwala Jogis, Lombadis and Kathurias, who provided the distributive function in different parts of India.

The sedentary societies in general had less exposure of medicinal plants, and hence they all depended on the Bhotiya system of traditional treatment. People residing in the remote and inacessable high attitude of Himalaya were not exposed to any other form of medical treatment till 1960, and hence depended totally upon their traditional form of treatment for all kinds of ailment. Their knowledge of medicinal plants is reported to heal and overcome the various problems of gastric, digestive system, dysentry and diarrhoea, liver malfunctioning, kidney stone, fever, blood purefier, common cold and cough, skin diseases and for vigour and vitality of the body (see Table 1 and 2).

Table 1: Medicinal plants of alpine meadow in Central Himalaya

Name/Family/Common name	*Type*	*Altitude*	*Location*	*Useful Part*
Salampanja *Orchis latifolia* (Orchidaceae)	Bush	10000 to 12000 ft.	Open place Alpine meadow	Root
Dolu *Rhum emodi* (Polugonaceae)	Bush	11000 to 13000 ft.	Dry slope Alpine meadow	Root
Jambu *Allium* sp (Liliaceae)	Grass	8000 to 12000 ft.	Open place Alpine meadow	Full plant Root
Jatamanshi *Nardostachys jatamansi* (Valerianaceae)	Small plant	11000 to 13000 ft.	Open place Alpine meadow	Flower
Kutki *Picrorhiza kurroa* (Serophuloriceae)	Small plant	10000 to 13000 ft.	Dry slope	Root
Aatis *Aconitum hetrophyllum* (ranunculaceae)	Bush	12000 to 15000 ft.	Rocky slope	Root
Gandrayani *Angelica glavca* (wenbelliferal)	Bush	10000 to 13000 ft.	Rocky slope	Root
Gugul dhup *Balsmmodendion mukul* (Bursebaceal)	Small plant	10000 to 15000 ft.	Dry slope	Root
Mithavish or Vatsnabh *Aconitum ferox* (Ranunculaceal)	Small plant	10000 to 14000 ft.	Open place	Root
Vantulsi *Origanum valgare* (Libiatal)	Grass	6000 to 12000 ft.	Thick grass	Leaves seed
Bhoot keshi *Corydalis gobanieana* (Fumariaceae)	Bush	11000 to 15000 ft.	Open place	Root
Balijadi or Ratanjot *Onosema echioides* (Boraginaceal)	Small plant	9000 to 12000 ft.	Rocky slope	Root, Stem
Vankakri *Podophyllum hexandrum*	Small plant	10000 to 15000 ft.	Moist slope	Leaf, Branch

Table 2: Traditional Bhotiya knowledge of medicinal herbs

Ailment/Purpose	*Name of the Herb*	*Useful Part*	*Processing*
Antiseptic	Dolu *Rhum emodi* (Polygonanceae)	Root	- Sun dried -Boiled in water -Grinded before application
Antibiotic	Pangar *Asculus indicus*	Seed	-Used as antibiotic on external
Appetiser	Jambu *Allium* sp. Liliaceae)	Full plant except root	- Sun dried - Used as condiments in
Arthritis	Jatamanshi *Nardostachys jatamansi* (Valerianaceae)	Flower	-Sum dried - Boiled in water before its consumption
Asthma	Dhatura kala *Datura-alba metal* (Solanaceal)	Seed	-Sun dried -Its smoke used for Asthma patients
Blood purifier	Majethi or Majistha *Rubica cardifolia* (rubiaceal)	Root	-Air drided
Constipation	Kins or Kinjadi *Discorea deltodea* (Discoreaceal)	Root	-Air dried -Boiled in milk before its consumption
Cough and cold	Vantulsi *Origanum valgare* (Libiatal)	Leaves	- Air dried
Diarrhoea	Hansraj *Adiantum venistum* (Polipodiaceal)	Full plant except root	- Sun dried
Digestive system	Goochi *Morchella esculenta*	Flower	- Air dried
Fever	Gurjar Gudchi *Tinsopora cordifolia* (Manispermmaceal)	Stem	- Sun dried - Boiled in water before grinding
Gastric	Satuwa *Paris plyphylla*	Root	- Sun dried
	Insect repellant *Samewn Sugandh Valeriana walichana* (Valerianaceal)		Full plant -Air dried
Jaundice	Mamira *Captis teeta* (Ranunculaceal)	Root	- Air dried
	Kidney stone Paashan Bhed *Bergenia ligulata* (Saxifragaceae)	Root	-Sun dried
Leukederma	Chirayata *Swertia chirata* (Gentionaceal)	Full plant	- Air dried
Liver malfunctioning	Mamira *Captis teeta* (Ranuculaceal)	Root	-Air dried
Malaria	Kutki *Picrorhiza kurroa* (Serophuloriceae)	Root	- Sun dried
Pain killer	Gugul dhup *Balsamodendion mukul* (Bursebaceal)	Root	- Sun dried
Piles	Dhavephul *Woodfordia flonibunda* (Lytheraceaal)	Flower	- Sun dried
Skin diseases	Dolu *Rhum emodi* (Polygonaceae)	Root	- Sun dried - Boiled in water - Grinded before application
Sprain	Gurbach or Gurbaj *Acorus calamus* (Araceal)	Root	- Sun dried
Urinary tract in fection	Solam Mishri *Eulophia compestris* (Orchidaceal)	Root	-Sun dried
Vigour & Vitality	Salampanja *Orchis latifolia* (Orchidaceae) Kalihari *Glocioza*	Root	-Boiled with salt - Air dried - Grinded before use
Wound	*superba* (Liliaceal)	Root	- Sun dried

Most of the traditional plant based medicines could not be preserved due to lack of any preservent and scientific chemical analysis for their preservation; they were also limited and restricted to only few persons as they were not documented in any form, so people also forgot the exact proportions of different elements. Such medicines also required often combination of two or even more plant elements in different forms, and in most of the cases the non-availability of one or two plant elements would not form the medicines, as a result, they went out of use sometimes for years. This local healing system lost its valadity with introduction and more exposure to modern allopathic medical system by the modern society, where the local medicine system is termed as traditional, superstitious and unscientific.

The Impact of Development, Modernization and Commercialization on Traditional Knowledge

The planned development initiatives by the Government of India since 1950 aimed at providing basic infrastructural facilities, like roads, communication, electricity, and health care facilities in terms of provisions for the availability of several allopathic medicines free of cost or at highly subsidised price in the rural areas. In the mid-1970, the government made concerted effort to shift its focus to the development of the country's numerous tribal groups, the objective being to bring these "backward people" into the Indian mainstream (Deogaonkar, 1980).

With the construction of roads in such remote Himalayan region over a period of time, there began commercialization process, which increased the demand of medicinal herbs. Due to the huge margin of profit in this trade, a number of middle men and contractors had joined the traditional tribals in this trade. Today, this trade in the Himalayan flora has grown into a vast, yet secretive marketing network that continues to flourish, providing critical economic inputs to forest dependent peasants in Nepal, India, Bhutan and Tibet, and fuelling multi-million dollar industries in India, China and beyond (Aryal, 1993). Construction of roads in remote areas though provided avenues for further infrastructural development (Rawat and Sharma, 1997), but it also had a negative impact on traditional culture, resource use patterns, and the existing traditional knowledge system. The roads provided communication channel to various urban centres for marketing, trade, employment, education and this began the frequent movements of these people to different urban centres. All these gave tremendous exposure to these people of the changing world, lifestyle and values. As a result, these tribals started considering themselves inferior and backward, and the modernized urban dwellers as superiors. Thus, prejudices among both the local population and the government functionaries at large has favoured the modernization over the indigenous traditional system.

In the spite of such a rich knowledge of their traditional cure, and avaiability of medicinal herbs in the region, the attitude and inclination of local people towards allopathic medicine systems has grown greatly. And, so much so that they have developed more confidence for the allopathic systems over their own traditional system of cure. This decline in their traditional cure system was also due to a number of other facts : (i) Due to the value of superiority of western science and technology as prevalent in Indian society. (ii) The establishment of dispensaries and public heath centres by the Government in rural areas under various government sponsored health care programmes. (iii) The easy availability of allopathic medicines even in small shops and markets in remote areas, and non-availability of traditional medicinal herbs in open market. (iv) The longivity of allopathic medicines due to various preservants and safe air tight packing keep it hygenic and protected from the weather. (v) Most of the traditional herbs are used in raw state, and hence cannot be preserved for a longer period of time. (vi) Lack of laboratory tests and non-documentation of traditional herbs have restricted its popularity. (vii) Non promotional attitude of the Government towards the traditional medicinal cure systems.

While growing market economy emphasised on modernization and imposition of urban value system, simultaneously, it also eroded the traditional social and cultural ethos in the

traditional societies. Though, cultural and religious traditions have resisted the complete abandonment of traditional institutions and knowledge, but could not preserve the traditional knowledge of medicinal plants. As a result, there has been a loss of huge quantity of traditional knowledge about medicinal herbs. Realizing the long term implications of the prevalent development, planning and initiatives by the government, views from various sections of society have been voiced for the preservation, conservation and sustainability of such societies and ecosystems. Accordingly, mountain features and specifics have been interprted in different ways, in order its tress the importance any urgency for reorienoting conventional development planning in the Himalayan region (Ives and Massereli, 1989; Jodha, 1990; Ramakrishnan, 1992; Scot and Walter, 1993 and Stadelbauer, 1991).

Eradication of Traditional Knowledge and Ecological Ethics

The commercialization of medicinal herbs collection on the high altitudes had gathered momentum since 1990. As a result of commercial exploitation of these herbs, the forests of the region had been severely disturbed, and some much so that the region was declared a sanctuary in January 1992 in an attempt to save its rich floral and faunal diversity. This resulted in banning the people's entry into these forests for any kind of economic activity. But, the illegal collection of such plants and their trade continued to contribute 11 to 13 per cent of the total income of the Bhotiyas (Table 3). The availability of medicinal plants, as a part of surrounding natural vegetation, and the knowledge about these plants acquired traditionally has helped these indigenous people to collect, process and trade in them. Of the total income, agriculture accounted for 34 per cent woollen products 20 per cent, sale of livestock 32 per cent, and sale of medicinal herbs 14 per cent (Fig. 2).

Traditional societies in general and the high altitude pastoral Bhotiya communities in particular still follow the basic morals which is required for mutual co-existence in nature. Some of the main tenents of their morality are helping each other, living frugally, speaking the truth, working hard and respecting the nature. Quite contrasting to these are the materially

Table 3: Revenue share from illegal trading of medicinal plants in 1994 (Per cent of total income)

Village	*Percentage of share*
Sela	12
Dantu	12
Nabi	13
Boondi	11

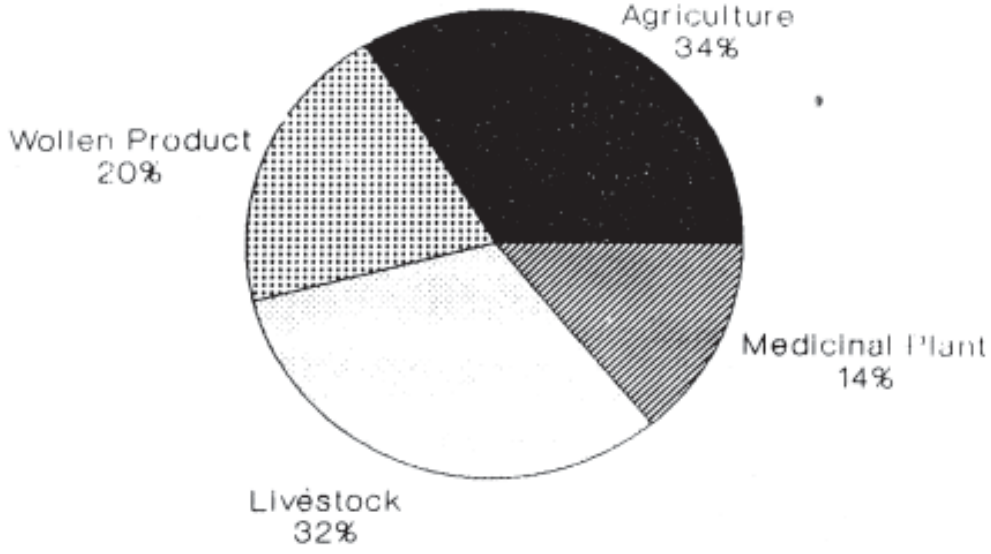

Fig. 2.

prosperous people, who in the made rush to accumulate wealth have severely disturbed the ecological balance of the planet and jeopardised their own survival.

The Bhotiya community, however, has traditionally not participated in the 'development' race and has led a life total in tune with nature. Though, they have sustained to some extent. The modern development threats which tried to displace them totally from their roots, it is very difficult to comminution their traditional survival. This synthesis of traditional and modern has denied them from their access to their traditional medicinal a plants grown in forests on the one hand, and the forces of development have taken some of their knowledge on the use of medicinal herbs and have began the commercial production of herbal medicines and cosmetics without any acknowledgement of them. Further, such forces of development have taken up production of only those medicines which were commercially viable, and have left many others without any mention regarding their existence. Thus, the forces of development has marginalised the traditional knowledge and society to the verge of their total disappearance.

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