SOCIETY NATURE RELATIONS AND TRADITIONAL KNOWLEDGE OF INDIGENOUS COMMUNITIES – A CASE STUDY OF UTTARANCHAL

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In partial fulfillment of the requirements for
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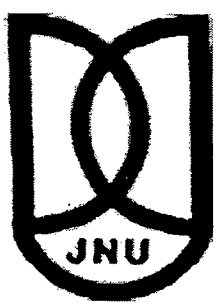
MASTER OF PHILOSOPHY

BY

WAQUAR AHMED



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CERTIFICATE

I, **Waquar Ahmed,** certify that the dissertation entitled **"SOCIETY NATURE RELATIONS AND TRADITIONAL KNOWLEDGE OF INDIGENOUS COMMUNITIES – A CASE STUDY OF UTTARANCHAL"** submitted by me for the degree of **MASTER OF PHILOSOPHY** is my bonafide work and may be placed before the examiners for evaluation.

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With Love and Gratitude to

Ammi And Papa

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WAQUAR AHMED

CHAPTER – 1

INTRODUCTION

There has been a perceptible shift in paradigm from the modern to the post-modern in social sciences research including geography. The meta-narratives have had to give way to acceptance of diversity in views and analysis. Simply put, post modernism speaks of multiple possibilities. It stresses openness to a range of opinions in social enquiry, artistic experimentation and political empowerment. Postmodern methodology is based on the strategy of deconstruction. Deconstruction may be defined as a mode of critical interpretation. It seeks to demonstrate how multiple positioning of an observer in terms of culture, class and gender has influenced his observation (his writing or reading) of the text. Today, resources are increasingly being recognized as attributes of identity formation rather than simply being labeled as inputs in the process of profit maximization or 'congealed labour'. One of the strengths of this new paradigm is that it suggests that the practices and 'knowledge' of indigenous communities be seen in their specific, culturally embedded context. It challenges the modernist hubris and the Euro-centric belief that only the 'West' epitomizes knowledge and shows the path that all others should follows.

With the leeway and scope that this new paradigm provides, there is a need to re-discover the power of traditional knowledge. This study highlights the role of traditional knowledge as important ingredient in forging the identity of indigenous people. An understanding of the impact of traditional knolwedges over space and over the entire gamut of the socio-cultural existence of

indigenous people; assessing its relevance in empowerment politics vis-à-vis modernization and globalization has been attempted.

This work has confined itself to five indigenous communities of the state of Uttaranchal in India to make up for the case study. These five communities are the Bhutia, the Buksa, the Jaunsari, the Tharu and the Raji. The state of Uttaranchal is essentially a mountainous region. Here, these five communities have been notified as scheduled tribes. They live in areas that are geographically commonly denoted as 'areas of relative isolation'. Such areas are relatively unattractive for the purpose of commercial agriculture and industry. Through one cannot say that nature, in the areas these communities inhabit remain unspoilt, yet, compared to areas inhabited by non-tribal communities, it remains less altered. Besides, these communities live in close proximity to forested areas and many of them are still attached to their traditional life style. They live. These five communities have been selected for this study on account of the fact that they live in relatively similar physical environment interacting with the same differently.

LITERATURE REVIEW

There seems to be absence of any book or article that directly dealt with the issue being taken up. However, a large numbers of articles and books touched upon various sub aspects that this work deals with. One may classify the available literature into various categories based on these sub issues that have been taken up. They have been put under the following sub headings:

(a) The philosophical Aspects related to this research

(b) Indigenous communities – their society and culture

(c) Political aspects

(d) Miscellaneous issues

PHILOSOPHICAL ASPECTS RELATED TO THIS RESEARCH

Books and articles dealing with the philosophical aspect of this research look into issues pertinent to building up the theoretical dimensions. It brings to light debates and concepts related to cultural capital, nature as material as well as culture, praxis, post modernism, identity and development of geographical thought.

Crang[1] in his book *Cultural Geography* takes up issues related to culture from a geographical perspective. He focuses on how cultures work in practice and looks at cultures embedded in real life situations, as identifiable and specific phenomena. The book is divided into eleven chapters dealing with issues like people, landscape and time; the symbolic landscape; literary landscape; self and other; multiple mediated environments; place or space; geographies of commodities and consumption; cultures of production; nations, homelands and belonging in hybrid worlds and cultures of science; translation and knowledge. Of special significance are the definitions given of material culture, cultural capital and the views of Carl O. Saur. Besides, the section on self and others deals with the process of 'othering', especially on account of prejudices, very well. This book is among a series of twelve texts offering stimulating introductions to the core sub-

disciples of human geography. The book has been written very well with ideas flowing from one chapter to another in a lucid and easy to understand manners. It aptly displays the ken and richness of Geography in general and cultural geography in particular. This book provides the leading light to the theme under exploration. Issues like identity, construction of 'the other', knowledge, culture with relation to artifacts and lifestyle and construction of space that have been taken up by the author have been very helpful in conceptualizing the research taken up.

Foster[2] in *Marx's Ecology* brings to light the fact that Marx understood alienation to encompass human estrangement from the natural world. Contrary to the regular assumption that Marx cared only about industrial growth and development of economic forces, the author examines Marx's neglected writings. These are on capitalist agriculture and soil ecology, philosophical naturalism and evolutionary theory. The book is divided into six chapters dealing with the materialist conception of nature, the really earthly question, parson naturalists, the materialist conception of history, the metabolism of nature and society and the basis in natural history for our view. The book covers many other thinkers including Epicurus, Charles Darwin, Thomas Mathus, Ludwig Feuerbach, P.J. Proudhon and William Palely. The theoretical and philosophical aspects with relation to nature and society that this book covers is a must read for an in-depth understanding on issues relating to ecological crisis and sustainability. This work has added to the understanding of nature from the modernization perspective, an important ingredient in this research. However, it

has nothing to say on nature as part of culture, the most important dimension of this study.

Soja's[3] book *Third Space* proposes that spatial thinking has primarily been confined to two approaches. Spatiality has been seen either as concrete material forms to be mapped, analyzed and explained or as a mental construct. This book re-evaluates this dualism to create an alternative approach, one that comprehends both the material and mental dimensions of spatiality but which also moves beyond them to new and different modes of spatial thinking. Issues like Henri Lefebvre's conceptualization of social space as perceived, conceived and lived, issues of the margins as a space of radical openness and feminist interpretations of the interplay of race, class and gender have been taken up. Besides, post-colonial critique and the new cultural politics of differences and identity, Michael Foucault's heterotopologies and trialectics of space, knowledge and power are also dealt with. From the perspective of this research, it has helped in gaining an understanding of the construction of space and brought to light the postmodern understanding of the same, an understanding that has made valuable inputs. The book is well written. However, Soja's more than required attempt to create a balance between the modernist and post modernist paradigm becomes all too apparent which leaves the reader confused at times. On the other hand the lucid style helps one to go through the book quickly and helps one to clear doubts that had cropped up in between.

Vazquez[4] in his book *the Philosophy of Praxis* proposes that praxis is central to Marxism. In his study of the development by

Marx of the concept of praxis and its political consequences the author considers many areas of human activity and distinguishes between conscious praxis and a practice realised with no transforming purpose in view. He deals with productive and non-productive labour and gives particular attention to the work of the artistic creator. The book has been divided into two parts, namely, 'the philosophical sources of the study of praxis' and 'some philosophical problems of praxis. According to the author, praxis presents itself as material transforming activity adapted to specific ends. Anything else is merely theoretical activity, which never goes beyond the realm of pure spirit. On the other hand, praxis is never simply material activity; one of its conditions is the production of the ends and the knowledge that characterizes theoretical activity. Understanding of the same has helped in philosophizing the material transforming activity adapted by indigenous communities and the knowledge associated with the same later in the chapter dealing with traditional knowledge. This is a well-researched work and intellectually stimulating.

The book *Identity* edited by Harris[5] consists of essays based on Herbert Spencer lectures given in the University of Oxford. The book consists of contributions from Bernard Williams on Identity and Identities; Derek Parfit on the Unimportance of Identity; Henry Harris on an Experimental looks at Identity; Michael Ruse on Sexual Identity: Reality or Construction?; Terence Cave of Fictional Identities and Antyomy D. Smith on the Formation of National Identity. Though there are several other aspects and concepts for which the word identity does duty, but this collection of essays

covers a good deal of ground from the perspective of this research. It brings to light as to how identities are constructed and whether there is any reality in such construction.

The central theme of John H. Marx's[6] works is concerned with identity models in the postmodern cultural movement. The questions of how identity changes occur and what role cultural free spaces and ideological primary groups play in them have been treated in depth. The essay does not limit itself to global, historical characterizations but also offers rather close up analysis of identity construction. The essay may be said to be interesting and thus, a recommendable sources of literature on identity construction and cultural movements, issues that are very important to this study.

Harvey[7] in his work *Postmodernism* sets out to clear out the conflicting opinions that have been generated. Accepting Huyssen's statement that more or less defines what postmodernism is, he has written about what this concept means to a variety of fields like planning, art, architecture and epistemology. Borrowing from Hassan's work, he has presented the schematic differences between modernism and post modernism in a tabular form. The work draws attention towards the works of Foucault and Lyotard to make the concept clearer. It is an important work to gain elementary understanding of post modernism as a paradigm. Thus, it has enriched this research which has presented indigenous communities' traditional knowledge in this paradigm.

Dikshit[8] in his book *Geographical Thought* traces the history of Ideas that had an impact on Geographical learning from the time

of Homer to the 1990s. It lucidly explains the contribution of various thinkers in the past and moves on to bring to light the nature of Geography at present with the focus being on issues like place, space and locality, Geography of Gender and Modern versus Postmodern Geography. The author has drawn heavily from some of the finest references available in this field of study thereby summarizing and presenting various relevant issues in a conscised manner. The very fact numerous emerging issues in philosophy have been dealt with a geographical perspective is of relevance in the current research

Mukherjee[9] in his article *The Evolution of Human Knowledge*, deals with issues of the reconstitution of the history of human thinking in the primitives; cognitive process of the primitives where he deals with the contemporary primitive societies and primitive states on the development continuum. He sights cross-cultural evidences for a slow and retarded cognitive development of the primitives and variables affecting evolution of knowledge. This is certainly amongst the better studies available on the complex subject of the evolution of human knowledge thus a recommended reading material. Development of a critique of the arguments presented by Mukherjee was of great relevance in developing arguments for this research.

It is evident that works contributing to the philosophical aspects of this research have drawn heavily from the field of philosophy. Though contribution of geographers to the same has been accounted for, yet these seem to be rare. Geography is a subjected that explores inter-relations with various other fields of

study including philosophy. The shortage of work available that analyses the philosophy of spatiality in probably reflected upon shortage of theories in geography. The present work draws heavily from the studies reviewed, which are extremely thought provoking and fascinating.

THE INDIGENOUS COMMUNITIES – THEIR SOCIETY AND CULTURE

Studies available on this theme come from scholars who have specialised in diverse fields. These include Geography, Anthropology, Sociology and Economics. Works included in this section deal with the tribal way of life, their habitat, economy, society and culture.

Majumdar[10] in his book *Himalayan Polyandry* studies the polyandrous societies of the Himalayas. He focuses his attention on the Jaunsar-Bawar region, which emphasizes on the Jaunsari community in particular. He has dealt with a number of aspects, including the area they inhabit, occupational division in this society, gender related issues, marriage, economic activities, occupational specialization, family economy, education and training, religion and material culture. It is possibly the best available study on the Jaunsari community not only for its comprehensiveness but also for its lucidity. This work has been used to ween out facts that highlight peculiarities of their technology with relation to agricultural practices and social relations. These are peculiar in the sense that these practices are starkly different from those which form a part of the mainstream

society. This brings to light the fact that these practices of the Jaunsaries are part of their traditional knowledge.

Mathur[11] in his article Marriage among Tharus of Chandanchowki has made a study of the marriage regulations among the same. He has studied the concepts of endogamy and exogamy among them as well as the age of marriage. While explaining the settlement of marriage, he has explained concepts like 'Tika', 'Puchachau', wedding among them, 'Gauna' and 'Kaj'. While writing about remarriage of women, he has discussed issues like levirate, 'Urari' or elopement, sorrorate, polygyny as well as divorce. This is a good source of reading material available about Tharu marriage. However, the study seems to be only cursory and lacking in-depth analysis specially related to social and economic dynamics so pertinent to issues related to marriage.

Majumdar and Anand[12] had studied the functioning of school system among the polyandrous society in the Jaunsar Bawas region of Dehra Dun district. This study forms a part of the series of reports of the study of culture change among the Khasas of Jaunsar Bawar. The study lays emphasis on the changes that may be attributed to the community development programme and traces the elements in Khasa culture which help or hinder the changes. The study has depth and the author correlates the issue of education, development and culture remarkably well.

Joshi[13] has made a study of the traditional medical system in the Central Himalayas among the Khos community. The article deals with issues like the ethnomedical ethos, the types of healers,

perception and understanding about illness and the implications about the same. The article is able to give a cursory view on this issue in a simplified manner. Of special significance to this research is the issue related to how the khos community understands illness. This has been used in documenting the traditional knowledge of Jaunsaries pertaining to nutrition and medicine.

Krishnan-Kutty[14] in his article *Levi-Strauss and the Analysis of Myths* sets out to make known in India the importance of the contributions of Claude Levi-Strauss to the field of study about tribals or primitive communities. The article gives a cursory view of Levi-Strauss' work with special attention devoted to 'Le Cru et le Cuit'. Discussing the theme of 'Le Cru et le Cuit' he answers various queries one may have about the content of this book. This article is recommended reading to get an idea about the genius of Levi-Strauss and his in dept analysis of issues that may seem unscientific or of very little significance at first glance. Taking a leaf out of this, such an analysis is done later while dealing with particular indigenous communities in India.

Brown[15] has written about ecology, trade and former Bhotiya Identity. He has proposed that the mountain ecology of the Himalayas confronts its inhabitants with special problems and each of its different ecological zones reflects a concomitant local adaptation in the integration of subsistence production and ecological finality. In this light he analyses the Bhotiya identity with relation to their economic activity in varying Himalayan zones.

This is a good piece of work analyzing society-environment relations which forms an important ingredient to this research.

Misra[16] has written about the *Belief in Supernatural among the Jaunsaries*. The data for his paper were collected during 1976-77 from sixteen villages of Khat Baunder. The paper has been divided into three parts. Part one, briefly presents the data. In part II, the concepts of 'supernatural' and 'belief' have been explained and part III has been devoted to the psychoanalytic interpretation of the data. The effort has succeeded in analyzing supernatural belief in a scientific manner and looking at this entire issue in a new perspective, a perspective that highlights hidden and inner meaning to practices that seem irrational at a cursory glance.

Srivastava[17] in his paper *Rang-Bang* in the changing Bhotia life has take up the issue of this social institution that connotes a social gathering of young boys and girls. It describes the functioning of Rang-Bang, and liquor, music and dance. Rules for sleeping, Rang-Bang and marriage, post martial participation in Rang-Bang, restriction and issues related to changes and reforms have also been taken up. The article is able to throw light into this institution of the Bhotias in a simple manner. Deconstruction of this work brings out the issues related to sexuality and gender relation, an important ingredient in this research.

Srivastava[18] in his article *The Diwali among the Tharus* throws light on how the Tharu community celebrates the festival of Diwali. As to what they do before the diwali day and what they do on the diwali day to celebrate the same has been distinguished.

The celebration has been described and the popular folk songs sung have been presented. The article succeeds in bringing out the scuttle nuances of the celebration of diwali among the Tharus.

Kapoor, Prasad and Tiwari[19] have tried to look into the nature and extent of the semi-nomadic and transhumance life of the Bhotias and the Rajis that has been associated with their trans-Himalayan trade and food gathering activity respectively. It attempts to explain the factors responsible for the continuance of their itinerant life even after the cessation of their trans-Himalayan trade and encroachment in their food gathering and hunting activities. The changes that have been effected through the adoption of different welfare measures by the government are also brought out through direct observations. The paper is well written and gives an insight into the semi-nomadics and transhumance economy that exists in the backdrop of government sponsored development.

Singh and Shukla[20] in a short paper titled *Trends of Menarche in five-endogamous groups of Tharu tribal females of Uttar Pradesh* deal with the mean menarcheal age of 450 rural girls belonging to five endogamous groups of Tharu community. The genetic and non-generatic factors involved in the age are discussed as the data reveal the heterogeneous distribution of mean menarcheal age. The results are compared with similar studies of Indian populations. Through only a short paper, the analysis and observations are concrete and comprehensive, thus, forming an important source of information.

Roy Choudhary[21] in his paper on Tharus starts off with Risley's description of this tribe. He gives a present picture of the community as compared to that during Risley's time i.e., 1891. Other issues dealt by him are on the cast origin of tharu women, caste consciousness, religion, language, village life and their aspiration, which form important ingredients in this research. The paper makes interesting and conscised reading on the tharu community.

Atkinson[22] in his volumes published as *The Himalayan Gazetter* discusses in detail the Himalayan districts of the North-West provinces of India as during his time. It is a well researched and comprehensive piece of work dealing with a variety of aspects like topographical, climatic, vegetational, economic, religious and socio-cultural aspects of the region. Of particular significance here is the details related to the social, cultural and economic life of the tribal communities. On account of the fact that the book was published way back in 1882, it is able to bring forth the traditional life style of these indigenous communities. These volumes are a must read for those working on the region and its people.

Rizvi[23] in his paper *Folk Concept of Health and Disease: A Case Study* deals with the specific concept of health and disease among the Jaunsari. It attempts to discuss the common beliefs of the Jaunsari people concerning health and classification of disease and disabilities which are closely associated with their belief in luck, charms, talisman, horoscopes, fear of spirits and demons. Rizvi succeeds in presenting the perspective in which the Jaunsaris

see health and disease, thus making interesting reading and source of information.

Samel, Chauhan and Fernando[24] in their paper have proposed that marriage as a social institution, particularly among traditional communities is something more than just a regulated sex relation. Likewise, among Jaunsaries, it is a matter of sustainability in the form of a catalyst that helps in evolving family types that are eco-cultural adaptations to the community's ecological and cultural needs. Jaunsaries, once mostly adhering to polyandry, have now undergone remarkable change in their marriage pattern. Polyandry at present is fast disappearing. This paper tries to analyze polyandry from an eco-cultural perspective. The analysis carried out is presented in lucid, logical and simplified manner, thus, making the paper reader friendly.

Dev and Mazumdar[25] in their paper *Birth Customs among the Tharu* have gone on to describe the entire life cycle of Tharus. Starting off form the stage when the mother is pregnant, the paper beings to light the delivery, naming ceremony, hair cutting ceremony, betrothal and marriage, the 'apna-paraya' ceremony, the declaration ceremony, the wedding proper, the 'gauna' and moves over to Death customs among the tharus and the life after death as is believed. The paper is interesting and presents a comprehensive view through the title of the article is misleading in the sense that the reader, on seeing the title, may believe that it pertain only to birth customs among the Tharus.

Pant, Rawat and Samal[26] in their paper *The Changing Scenario of Polyandry Culture: a Case Study in Central Himalayas* studies the changing situation through investigation of the system of polyandry occurring at Matiyawa village in Jaunsar Bawar. They look into the role of developmental activities, population growth, emigration and education in bringing about the changes. The paper presents this complex issue in a simplified form and makes the study interesting and informative with the help of simplified tables.

Jain[27] in his paper *Some Features of Fraternal Polyandry in Jaunsar Bawar* looks into the institution of polyandry among the Jaunsari. The paper focuses on issues such as chastity, jealously and others which form dimensions in the matrix of this relationship. It is a god piece of work backed by a lot of information especially from the Census.

Pangtey[28] in his paper *The Folk Songs of the Bhotiyas of Kumaon* looks into and translates various songs sung by the same. He has classified the folk songs of the Bhotiyas into auspicious songs, ring dance songs and seasonal songs. His work focuses on the cultural life of the Bhotias, which is reflected in their songs. On account of the proposition that culture is a manifestation of the understanding of environment, the songs presented form important information on traditional knowledge of this community.

Hasan[29] in his book *Meet the U.P. Tribes* give an account of the various tribes of this state. He has dealt with the socio-cultural and economic life of the each of the tribals separately. His work is comprehensive, lucid and very informative. It is a must read for all

who want information on the tribals in the present states of Uttar Pradesh as well as Uttaranchal.

It may be said that the books and articles contributing to the understanding of the indigenous community's society and culture are primarily from the perspective of anthropology, though, works of scholars from other fields have also been analysed. These works are of a high standard. What they lack is a spatial dimension to the issues taken up. This is an aspect that this research tries to overcome.

POLITICAL ASPECTS

Studies reviewed pertaining to the political aspects is to gain an understanding of contestation over space be it social, cultural or legal. It attempts to understand the position of the culture and way of life of indigenous communities where non-tribals are an advantaged lot in terms of influence over what is to be considered rational by the state.

Panekar[30] in his paper has dealt with the issue of ethnicity. He has gone on to propose that ethnicity has become a 'resource'. Affiliations at different ethnic levels carry a premium for a section of the society. These in turn create ethnic groups. The articles analyses the role-played by the constitutional provisions, the reorganization of states and voluntary associations in strengthening ethnic identities and thus rivalries. The paper puts forward strong arguments to back its hypothesis. Though well researched its view is a bit one sided.

Rao[31] in his paper on recent developments in international patent system proposes that the international patent system is witnessing rapid developments in its fields. The revision of Paris Convention in the lines suggested by the developing countries, has almost failed. The demand of the developed countries for the GATT – based approach to patents had shown rapid progress in the Uruguay Round. It also points out that US pressures on the developing countries for an 'improvement' in their patent system is weakening the negotiating position of these countries. This paper, in all, is useful in the understanding of developments in the international patent system.

Debroy[32] proposes that there is a popular impression that through the Uruguay Round agreement, India has had to grant an enormous lot in the area of intellectual property rights. There is also an impression that India has no tradition or legislation of protecting intellectual property. However, such propositions are inaccurate. The paper furthers points out that the same has an element of quid pro quo with India standing to gain in some regards and loose out on others. This paper puts forward its arguments logically and provides a balanced opinion on the issue. On account of the fact that it brings to light both sides of the coin, it is worth the effort taken to read the same.

Asif[33] in his paper firstly clarifies whether tribal medicine is a system of medicine or not. Later, in the backdrop of the proposed changes in the intellectual property rights regime and biopiracy, he discusses the problems that are being faced by the tribal communities in conduct of their medical traditions. It highlights

the inadequacies of the adopted measures in intellectual property protection and biopiracy. The paper's arguments are interesting and well presented. The work itself in thought provoking and commendable.

Dasgupta[34] has divided his paper *Patent lies and Latent Danger* into five sections. Section I consists of the introduction. In section II he examines the concept of intellectual property right and arguments justifying and opposing patents. In section III this paper examines the main features of the international patent regime established by the TRIPs agreement at Marakesh in 1994, which is being implemented by WTO. Section IV specifically deals with the issue of biopiracy. It suggests various ways of protecting the biological wealth against poarching by Multi National Corporations. Section V deals with the political economy of patent in the Indian context, in particular the controversy around the amendment to the Indian Patent Act of 1970. This is amongst the best article available on the political economy of patent with special reference to India. The paper is very well written and the analysis is very good.

Shiva and Holla-Brar[35] have edited *Protection of Plants, People and Intellectual Rights*. This consists of basically proposed amendments to the draft Plant Varieties Act, 1993. This particular publication is for the purpose of public education as the authors feel that the issues involved in plant variety protection, whether viewed from the environmental perspective, the developmental perspective or the democratic perspective, are too significant and too complex to be rushed through without the contribution of all

affected groups. The book is divided into seven chapters, namely, plants, piracy and intellectual property rights; intellectual property rights or intellectual piracy rights; UPOV conventions and farmers rights; the politics of language; Plant Varieties Act, 1993 – daft legislation prepared by the government of India; amendments proposed to the draft legislation; and explanations for the amendments. It is a good piece of work with the expertise of the authors on such issues on display.

Articles and books reviewed in this section bring to light the marginalization of indigenous communities in terms of their cultural capital and genetic resources. What came out most strongly was the fact that globalisation and the new intellectual property regime have been oblivious to the special needs for protection of the traditional knowledge of tribal communities. Besides, it also brings to light that the underdeveloped nations like India stand as losers in this new regime and it is in such underdeveloped nations that most of the tribal communities reside. However, most of these articles highlight upon the economic dimension of this marginalization but on account of this being a new an emerging issue, no measurement or empirical study of the same has been carried out.

MISCELLANEOUS

Works reviewed here, though not fitting into any of the sub sections dealt with earlier, are of inspirational value to this research. Though not dealing directly with this research, it helped in formulation of ideas.

Sensarma[36] has studied the Vayu Purana, an ancient Sanskrit work from Ethno-botanical point of view. The information dispersed in various chapters of Vayu Purana has been collected and grouped by him under the following heads: (a) Importance of plants (b) Forests (c) Medical plant (d) Plants as cleaning materials (e) Plants in religious rituals (f) Fibre-yielding plants (g) plants in weapon making. The paper reflects a particular view of the traditional culture of India centering on the world of plants. India's Vedic texts are a storehouse of such knowledge and they need to be explored with a scientific dimension. Thus, this work is few among its kind thereby demanding attention so that more such work may be done in the future. Since ethno-botany with respect to the indigenous communities studied has been proposed to be a part of their cultural capital and traditional knowledge, this work contributes to strengthening this argument.

The Savage Mind by Levi-Strauss[37] is a classic in the field of study on indigenous people. The genuis of Levi-Strauss is shown in his analysis of the life and life –style of the 'primitive people' where he explores the fact that knowledge of these people can be unearth with the help of structural analysis. Their understanding of their physical environment is strong and they interact with the same in their own distinct manner. The author has even worked on the logic of totemic classifications and shown how these too are practical acts in the 'primitive society' and are not irrational as perceived by the 'civilized world'. This is an excellent book which must be read by one and all that are keen to unearth the complex mind of 'savages'.

Emphases that these works lay on culture, scriptures and ethno-botany and on structural analysis of practices of indigenous communities are unique. They are manifestations of human desires to explore new frontiers of knowledge. Besides, these works are proof of very high scholarly abilities the writers.

To sum up, the whole range of articles and books reviewed bring to light various aspects related to indigenous communities. Issues related to identity, identity construction praxis, culture, cultural capital and power relations are well highlighted. However what is missing in these works is the analysis of the same with a spatial dimension attached. Besides, the analysis of the life style and culture of indigenous communities, though at times having been looked sympathetically, is unable to leave behind the stereotyping of the same. This research tries to attach a spatial dimension to the identity of the communities studied. Looking at these issues in the context of society – nature relations, it also looks at their culture from a post-modernist perspective and deconstructs their position as compared to the non-tribal communities over the changing eras.

OBJECTIVES AND RESEARCH QUESTIONS

This dissertation seeks to fulfill multiple objectives that are inter-related to one another. On accounted of these objectives, certain research questions emerge. The objectives and the research questions are as follows:

1. To look into society nature interaction in the context of indigenous communities and their physical environment.

- ❖ Thus, how do indigenous or tribal communities interact with their natural surroundings?

2. To look into such an interaction which gives rise to a particular identity perceived by self and at times constructed by other.

   - ❖ Thus, what is the role of nature in the construction of identity?

3. To look into the role of material culture and knowledge of indigenous communities.

   - ❖ Thus, how do the indigenous communities use their understanding of the space they occupy to develop distinct cultures and how they use their knowledge related to the same to develop agriculture, medicines, meet nutritional necessities and develop technology?

4. Look at the position of this traditional knowledge of indigenous communities' vis-à-vis the non-tribal societies.

   - ❖ Thus, how do non-tribal societies look at indigenous communities and their culture?

5. To look at the indigenous communities and their cultural capital in the context of globalisation and a standardized intellectual property regime.

   - ❖ Thus, in the context of globalisation and a standardized intellectual property region, is there a threat that the right to the cultural capital of the indigenous communities may

be appropriated by others or the benefits to the knowledge developed by the tribal may be denied to them?

6. To look into issues of indigenous communities rights.

- Thus, how do we handle issues related to the questions of their rights nationally as well as internationally vis-à-vis non-tribal societies and in the context of globalization?

- How do we ensure that the indigenous communities could benefit from the cultural capital that they have sustained, harnessed and developed?

In order to meet these objectives it is necessary that we take up a case study to show the kind of cultural capital indigenous communities posses. In this context, the scheduled tribes of Uttaranchal have been taken up for this study.

DATA BASE

In order to meet the multiple objectives, data has been collected from numerous sources. Issues related to society – nature interaction, particularly related to indigenous communities, as well as issues related to identity and construction of the same is largely dealt with in books and journals related to philosophy, Geography, Anthropology and Environment. Information available in them has formed the basis in analyzing the mentioned objectives.

Secondary data available in ethnographic notes as well as journals like 'Man in India' and 'Eastern Anthropologist' has been used for gaining an understanding of material culture and

Traditional knowledge of the indigenous communities that have been studied. In order to understand the place of these material cultures and traditional knowledge vis-à-vis the modern world, we have firstly looked into how these are popularly constructed and secondly, the prospect related to the same in future. Thus, the data to meet these objectives has been through secondary sources i.e., studies on the issues and through primary sources in the form of informal talks held with people around to gain an understanding of their perception of the same. Besides, observations made during a field trip to Uttaranchal in 1999 have also been made use of.

To look into the political issues in the context of indigenous communities and modernization, documents published by the government of India and acts specially pertaining to tribes, forests and forest use have been used. These are:

1. Constitution of India
2. The Indian Forest Act, 1927.
3. The Forest (Conservation(Act, 1980
4. The Forest (Conservation) Rules, 1981.

Besides, statistical data and reports published by the United Nations and other international organizations have been used i.e,

1. Our common future brought out by the world commission on environment and development in 1990.

2. Report of the Director General of the World Intellectual Property Organisation in 1995.

3. Global Bio-diversity Strategy brought out by the United Nations Environment Programme in 1991, have been used.

Studies available in numerous journals and on internet have contributed to the database. Issues related to rights and justice in the context of globalisation and indigenous communities again been dealt with the help of the above mentioned data source. Further, the census reports and atlases published by the government of India and the gazetteers have been used as data source and so has the reports of forest research institute, Uttaranchal. These have been used to analyze the distribution of the communities studied, the forests and other physical aspect of Uttaranchal. Data published by the meteorological department of India has been used for studying the distribution of rainfall and temperature in Uttaranchal. As a whole, data has come from numerous sources including studies conducted by scholars, government documents and documents published by international agencies.

METHODOLOGY

It would be important to map out the region occupied by the communities taken up as part of the case study. In this context, cartographic method has been used. Since literature from various fields of study has form the backbone of issues handled related to society nature interaction and identity, the method of assimilating facts from the same have been employed. This would be analyzed by the method of deconstruction, a method very popular with post modernists. This very same method has been used to gain an

understanding of material culture and traditional knowledge of the communities taken up for this study. Binary values will be used to represent presence or absence of a particular knowledge i.e., one and zero respectively, and given weightages on account of subjectivity of the researchers. Knowledge that is a manifestation of modernization or not apart of the indigenous knowledge has not been considered. Traditional knowledge of the five indigenous communities of Uttaranchal has not only been assessed quantitatively but qualitatively as well individually as well as cumulatively. Model building has been done in the context of these communities' interaction with nature as against non-tribal or pre modern society's interaction with nature. Besides, a model for nature society interaction as per the postmodernist's perspective has also been given. A model has also been presented to understand the construction of the identity of indigenous societies.

Field observations, fact gathering, participatory observation and discussions on their issues have been employed to understand the construction of these communities, their culture, material culture and traditional knowledge in the modern world. These methods have also been employed to gain an understanding of the political implications of modernization. This is in addition to deconstruction of available studies to analyse the same. Besides, statistical techniques of correlation analysis have been used with relation to data available from the documents published by the United Nations. These data pertains to intellectual property rights and national income, country wise.

ORGANISATION OF MATERIAL

It is necessary to introduce the theme and review the literature available pertaining to this research. Besides, we need to look at the objectives and research questions, data base and methodology employed thus laying down the foundation of this study. This has been done in chapter 1.

Laying down the theoretical aspects of the work being carried out is necessary towards the beginning of the study. Thus, the second chapter would discuss the place of this research in geographical knowledge and its theoretical groundings. It also gives an account of how the study of society nature interaction has evolved over time. It proposes as to why these communities be considered indigenous people. It also bring to light as to how identity formation of such indigenous people take place With the background of this theoretical knowledge, we need to carry out a case study to substantiate the arguments put forward. In this context, the third chapter introduces the region and the communities taken up for study. Once this has been done, we need to look into the core issue, that of the society, economy and culture in the context of traditional knowledge of these communities. Thus, the fourth chapter deals with the same. Once we know what these communities have and what they have developed, in the context of the physical environment we need to deal with tissues related to their identity construction in the modern world and the rights of these communities over their cultural capital and habitat, specially in context of modernization and globalization, and this is done in the fifth chapter. The sixth or the final chapter concludes the

dissertation. It has been the conscious effort of the researcher to ensure that the ideas flow in a logical sequence as one moves from one chapter to another.

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CHAPTER – 2

SOCIETY – NATURE RELATIONS AND THE INDIGENOUS COMMUNITIES – HISTORICAL PERSPECTIVE AND THEORETICAL FORMULATIONS

Society-nature interaction has been one of the most dominant factors that have influenced civilizations. Variations that exist, both in terms of society as well as nature, has led to creation of distinct spaces. Society nature interaction in terms of indigenous communities has distinct and intrinsic significance. This is on account of the fact that indigenous communities have altered this natural environment significantly less than the non-tribal community. Besides, the indigenous communities are relatively more dependent on their natural habitat. These aspects have drawn the attention of scholars since ages and perspectives on the study of the same have undergone change. Thus, it is important to discuss the development of such a study and analyze factors that are outcomes of such interactions. This chapter look at the following:

1. Historical perspective on study of society nature relations with special reference to the field of geography.

2. As to how society nature interaction has changed from the pre-modern era to the modern era and how the same is looked at with a post-modern perspective.

3. As to how we can consider scheduled tribes in India to be indigenous people.

4. How does environment play a role in the identity formation and construction of indigenous people?

HISTORICAL PERSPECTIVE

Relationship between society and environment is a theme that has drawn human attention since the beginning of civilization. Societies in the past have generally viewed nature as the stage setter for human development. However, the approach to the same has varied. Where as in regions like South and South-East Asia, where nature of the habitat has been friendly, nature has been viewed as the gift from the benevolent God. In fact, for Indian thinkers, human being have always been a part of nature, and there has been a basic faith in the cosmic brotherhood between humans and other species in the plant and animal kingdom, so that one of our ancient Rishis was Sukhdev (Parrot Saint), one of our mythological Gods was Varah (boar), not to mention the most popular God form, Hanuman (The Monkey-Vanar-Avatar).[1] Even prior to this, the people of Indus region worshipped trees.[2] Besides, worship of elements of nature like the wind, sun, etc. has been an important part of the Indian civilization. As opposed to this, culture like Hebrew and Greek growing through the process of hard struggle against an unfriendly and harsh environment believed that nature had to be vanquished, conquered and won over in order to clear the path for cultural development.[3]

Developments interms of study of society-environment relationship in the modern times may be traced to Darwin's biological evolution theory. According to Dereck Stoddart, this theory, establishing the human place in nature, made possible the development of Geography as a science; specifically, the study of human-environment relations and the missing link between nature

and society was forged with particular effect by the sociologist Herbert Spencer's notion that societies are social organisms which diversify and specialize under the influence of external environment and their own intrinsic structures.[4] Taking a leaf out of this and further developing upon these ideas, Ratzel Hanford Mackinder, Ellen Churchill Semple. Ellsworth Huntington, William Morris Davis and many others developed an approach that is popularly known as environmental Determinism. They proposed that the physical environment determine various aspects of human society, and progress of human civilization.

The French human Geographer, Vidal De la Blache, took up a different position. He proposed to look at the influence of natural milieu on human association, groups and societies, emphasizing the life styles, or genres de vie, which evolved through history. He emphasized the role of human intelligence in overcoming natural obstacles. This idea came to be popularly known as possibilism though Lucien Febver rephrased possibilism in Marxist terms as the fashioning of natural conditions by human labour, a process which ended natural determination as it producted new effects on nature as well as society.[5]

According to Paul Vidal de la Blache "the region is a medal struck in the likeness of its people". His ideas had commonalties with the Berkeley School and the local history approach in the United Kingdom. In each, geographers have studied the role of different groups in shaping their landscape into characteristic forms or cultural regions, marked by landscapes typical of the group in question. This in turn raised questions about the

relationship of culture to people.[6] Carl O. Sauer in his essay entitled "The Morphology of landscape" argued that landscape above all implies a collective shaping of the earth over time. landscapes are not individual property; they reflect a societies–a culture's – beliefs, practices and technologies and landscapes reflect the coming together of all there elements just as cultures do since culture are also not individual property and can ony exist socially.[7] In particular, Sauer was critical of the school of thought based around environmental determinism, which saw development of culture as a process of human adaptation to climatic factors. To him it went against evidence about the diversity of cultures and subjected them all to a monocausal explanation.[8] He disliked the approaches that reduced complexity of cultures to only one factor driving the whole systems. He pointed out that 'scientific laws' seemed misguided since 'the complex reality of areal association was sacrificed in either case to a rigours dogma of materialist cosmology.[9] All these streams of thought enriched the field of Geography. This study, infact, draws heavily from these developments that have taken place in the study of society-nature interaction. Ideas and philosophies that developed during the post war era too have provided a foundation to this research. However, a special mention of structuralism and postmodernism needs to be made.

Structuralism attempts to build a science of human existence by delimiting and ordering its components. It accepts the basic notion of 'determination', meaning that the elements and events of life are linked by discernible, knowledgeable causal

relations, but is dissatisfied with unicausal explanations in which prior change in a single cause triggers change in an effect; and with mechanical versions of causality, in which the linkages between causes and effects are direct and automatic.[10] Instead, historico-geographical events are 'overdetermined' by multiple "causes" (web of related elements) to which they are directly and indirectly related. Yet structuralism does not understand multiple, indirect and interdependent causality as chaotic, random, or unique – they are still structures to existence which exert pressures, even if the particular form of these pressures varies between cases.[11] This forms an important ingredient in the analysis of practices and knowledge of indigenous communities with relation to this physical environment. Though many aspects of the lives of these communities, at first sight or with a unicausal explanation might seen primitive and at times even irrational, in reality, an open mind and multiplicity of explanations may help us unearth developed and advanced meanings in the same that are not chaotic.

Post-structuralism preserved many aspects of its modernist predecessors. Analysis remains ontologically grounded in immanent forces of desire and power and, in a connected move, a radical politics of marginal groups remains as a vestige of eventual purpose.[12] Frederic Jameson[13] argues that around 1960 high modernism in art, literature and philosophy were exhausted and a new era of post-modernism, most dramatically visible in architecture, came into being. For him, postmodernism does not represent the hegemony of a new overall style, rather, it allows for the coexistence of a range of different yet subordinate features. By

the mid 1980s, postmodernism and postmodern theory began to draw the attention of geographers. Michael Dear[14], professor of geography, argued that postmodernism makes geography an offer it cannot refuse. This implied that there cold be no grand theory of human geography, yet he is "unhappy with the extremes of deconstructive relativism". It is from this paradoxical position, enticed by post modernism, worried by its anarchy, remaining modern, that Dear wanted to reconstruct human geography. Post-modern consciousness in human geography drives from diverse perspectives – debates on social theory, work on cultural landscapes of modernity, and the notion of flexible specialization. Among the areas in geography that this steam of thought has most influenced according to Dear, includes cultural landscape and place making; the construction of the individual and boundaries of the self (i.e. the issues of identity); reassertions of natural and environmental issues. These are the areas on which this study concentrates upon. In such areas, Dear thinks that postmodernism entrenches and empowers those outside the traditional centres of scholastic authority, legitimizes differences, undermines the hegemony of existing power systems.[15] Edward Soja[16] too points out that a postmodern critical geography is spatially deconstructive, in the sense of exposing the intellectual history of critical social thought, and is spatially deconstructive, in the sense of an emphasis on the struggles of peripheralized oppressed people.

This research is not designed as a critique to any of the paradigm or steam of thought that has influenced the field of geography in general and study of society nature interaction in

particular. Rather, it derives strength from the positive aspects that have been upheld by them, though, it should be remembered that every paradigm attempted to overcome the drawback of the previous paradigm. The attempt is to build inter-linkages among steams of thought to further the cause of knowledge. Besides, this work is not ontological in nature. Rather, it is epistemological. The effort is not towards finding something new, but towards looking at environment, traditional knowledge, culture, indigenous communities and the power relations that affect them in a new perspective.

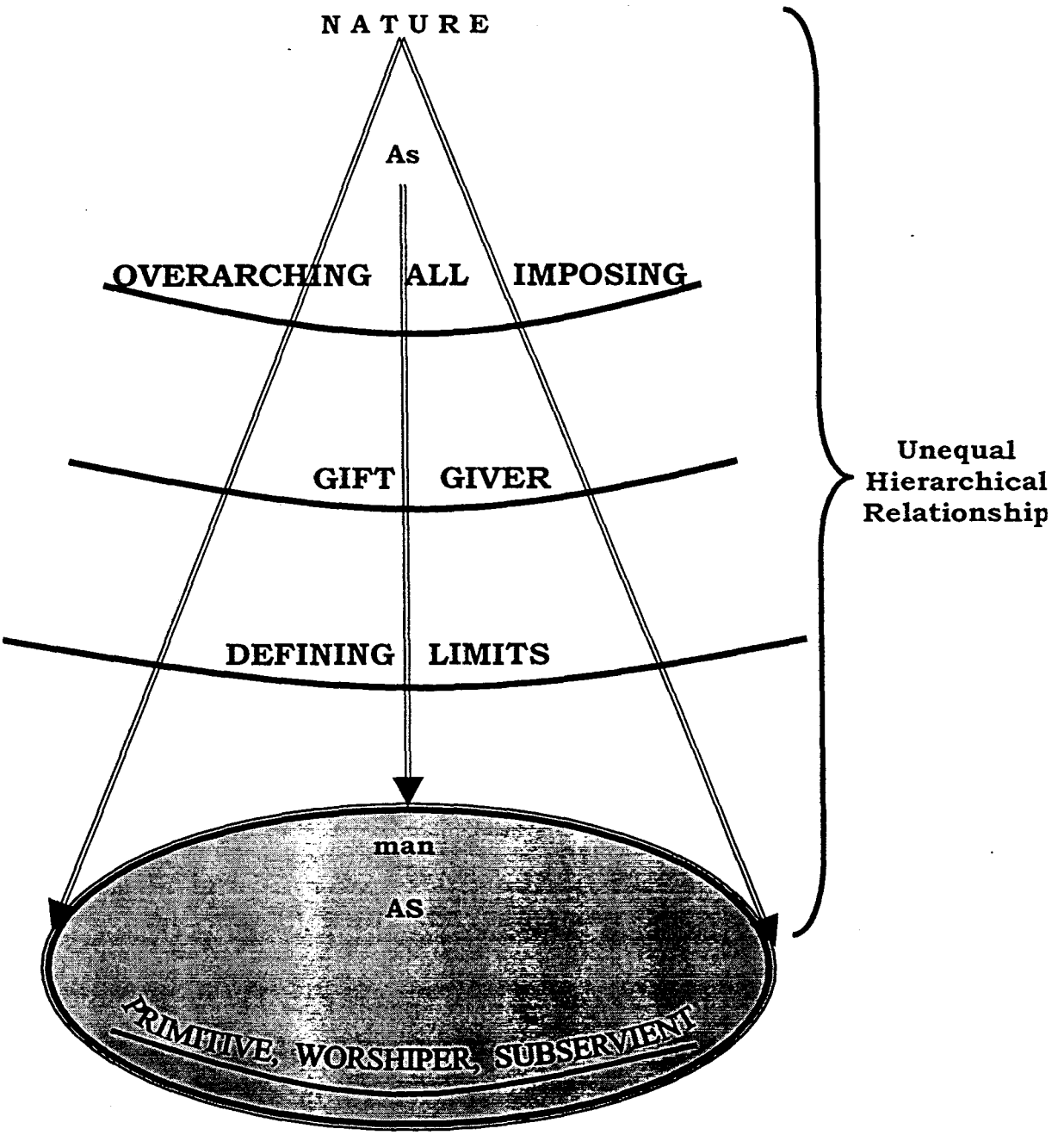
FROM PRE-MODERN TO POST-MODERN

Human perspective on environment or nature has undergone a sea change since human beings started interacting with nature. The perspectives may not have been homogenous across space. However, there has always been dominant or overarching perspective. Similarly, change in perspectives cannot be demarcated with dates and time. Impact of dominant view or discourse was felt differently across space and there was no homogeneity in time as a variable in this regard.

Human nature interaction may be classified as that in the pre-modern stage, modern stage and post-modern stage. As shown in Figure 2.1, the pre-modern stage may be labeled as 'Nature-man unequal relations' stage. Relationship at this stage was unequal and hierarchical. Nature stood at the apex and man at the bottom. Nature has been spelt with a capital 'N' to signify it dominance over man with the small 'm'. At the pre-modern stage, technology was

FIGURE: 2.1.

NATURE-MAN UNEQUAL RELATIONS



primitive and human beings lay at the mercy of nature, which was over arching and all imposing. Human survival was dependent on the benevolence of the land, the climate, the soil and the vegetation. In order for 'man' to survive, 'Nature' had to be the gift giver. It was also understood that nature defined the limits for man's survival. Primitive man's dependent on nature was very high. They understood that their needs were subservient to the whims and fancies of either the benevolence or fury of nature. On account of lack of understanding of nature and fear of its fury, worship of nature was rampant. However, when we talk of the pre modern society, it should be remembered that the era may be divided into (a) primitive-hunting/gathering stage and (2) pre capitalist class or feudal society. Similarity between these two is borne out of high dependence on nature, lack of large-scale surplus at the societal level and absence of market space for this surplus. Difference between them lies in the fact that the feudal society, unlike the primitive society at hunting/gathering stage, was a classed society. Feudalism or the feudal lords derived their strength from possession of land and exploitation of serfs or for that matter, kings from their subjects, masters from their slaves, etc. Thus, their existed marginalised groups on the vertical / hierarchical plane or / and horizontal or spatial plane.

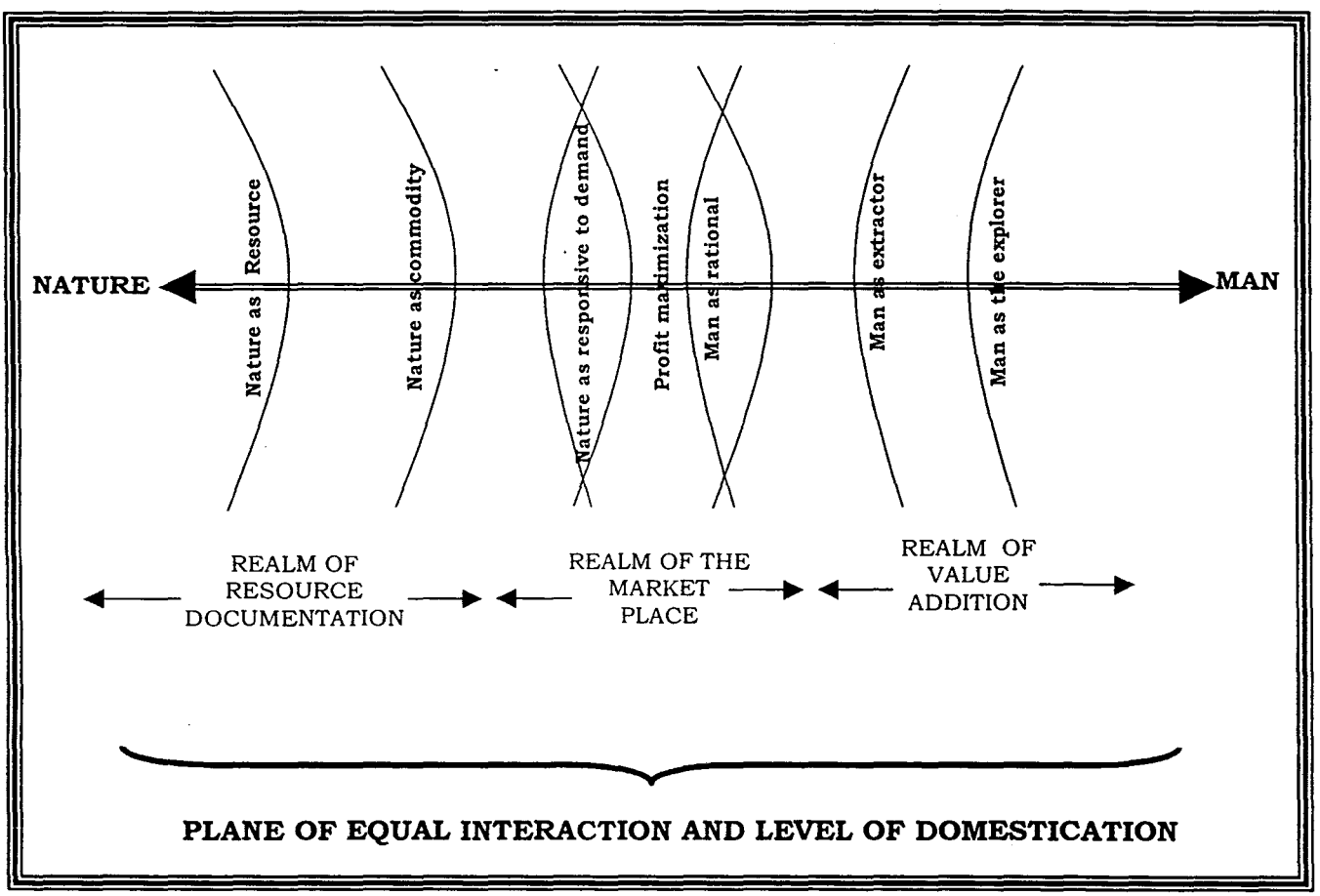
During the modern period, man nature interaction has taken place on an equal plane followed by high level domestication of nature by man. This has been shown in Fig. 2.2. The beginning of modernity can be traced to the industrial revolution in England and colonization of the land in the tropics. Nature, from being

overarching and all imposing, now began to be seen as a resource that needed to be harnessed. Deconstruction of Rydyard Kipling's Jungle Book brings to light this relationship. In a passage, it is pointed out that the naked Mowgli, standing god like before a blazing fire, is told by Muller that he commanded five to ten thousand forest guards, and that Mowgli's new job as a forest guard is "to drive the villager's goats away when they have no permit", to watch the game and "to give sure warning of all fires in the Rukh". After this he would be paid and given "at the end .... A pension." Loving the rule of British forest law that protected his home and playground, Mowgli readily accepted.[17] Thus, the jungle boy is tamed and 'civilized' by the 'West'. This boy who had earlier been an intrinsic part of nature is now made to understand that he has to protect the forest not only from fire but also from the goats and cattle of the native population. The 'games' are to be protected so that the 'Sahebs' (white man) may come for 'shikar' or hunting. Besides, the British law is to be implemented so that the forest resources are prevented from being the property of the natives and instead is exploited by the colonizers.

The modern paradigm has looked at nature as commodity. This nature has had to respond to the demands of increasing usage. With the commodity and material concept of nature holding sway, the need for resource documentation was upper most. Thus, mapping of empires so as to take stock of its resources became a priority.

FIGURE: 2.2

NATURE-MAN EQUAL RELATIONS

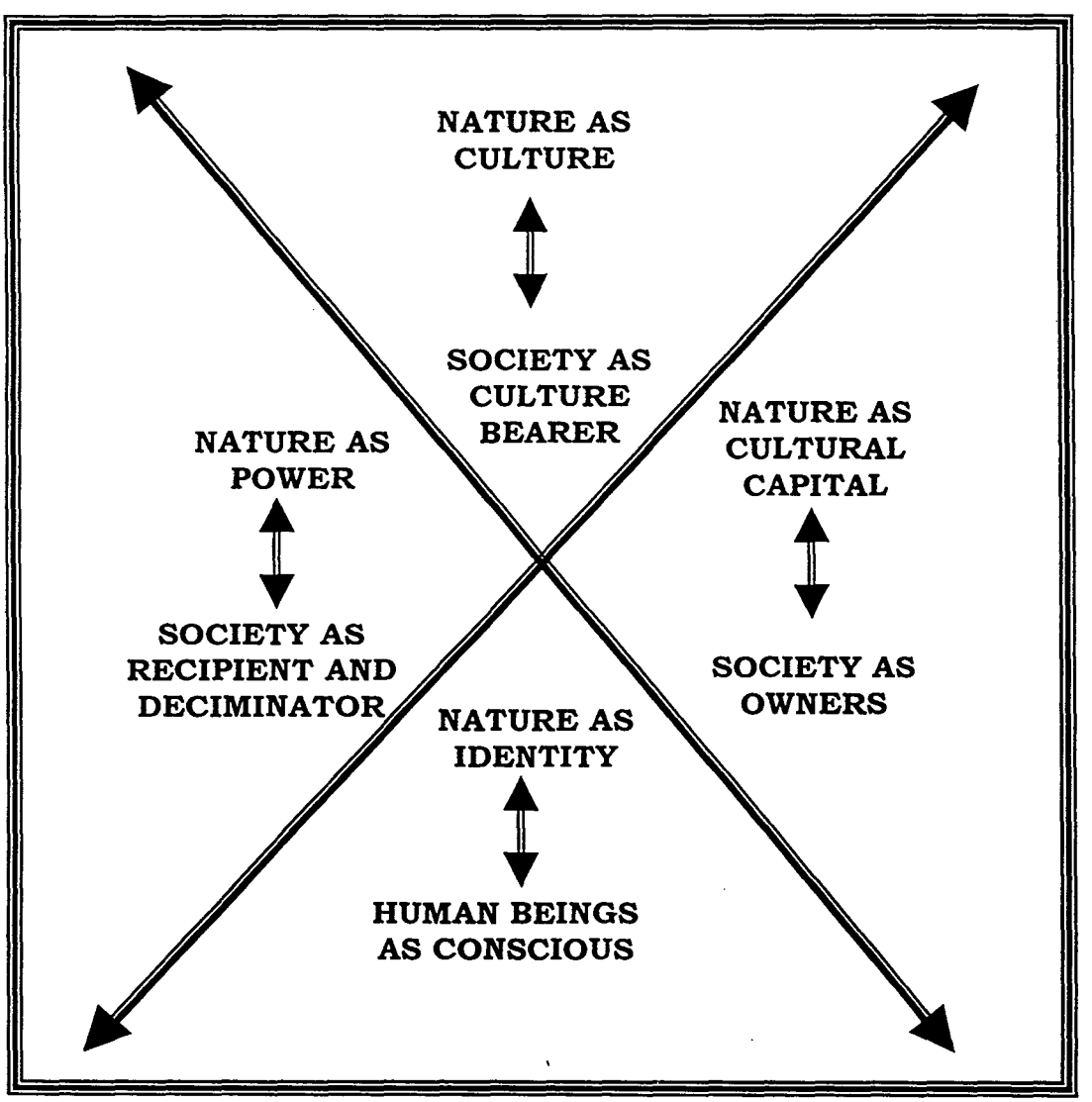


Interaction of man and nature also led to the creation of the realm of market place. This market place itself was a product of surplus that began to be generated in the society by agriculture as well as craftsmen/industry. In the capitalist society, this was for the purpose of 'profit maximization'. In a socialist society, this was for the purpose of 'congealed labour'. This 'man' who has been the explorer and the extractor became exemplified as the 'rational man'. With advancement of technology, extraction of resources

from nature has grown and so has value addition to the resources. Another fact highlighted by the figure is that though the interaction has been at an equal plane, 'modernization' and rationality have implicitly meant the moving away of nature and man from each other. Thus, development in the modernization paradigm has led to friction between man and nature as well as issues between the same.

FIGURE: 2.3

MOSAIC OF UNIQUE RELATIONSHIPS



In this context post-modernism stresses openness to a range of opinions in social inquiry, artistic experimentation and political empowerment. It is extremely relevant as it could contribute immensely in overcoming the friction and problems by modernity.

In terms of human-nature interaction, post-modernism implies mosaic of unique relationships. This has been shown with the help of a model (Figure 2.3). According to Kroeber and Kluckholm as cited by Zelinsky,[18] culture consists of patterns, explicit and implicit of and for behaviour acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional ideas and especially their attached values; culture systems may on the other hand, be considered as products of action on the other as conditioning elements of further action. Further, Pierre Bourdieu coined the term cultural capital. He used it to suggest that just as individuals may accumulate economic capital (marketable wealth, earnings and so on) they also possess cultural capital. It is their stock of acquired often tacit-knowledge and skill. He suggests these are increasingly traded upon in order to gain economic wealth. There is thus a constantly changing exchange rate of different forms of cultural for economic capital and vie-versa.[19] The post modernist paradigm gives the scope of recognizing nature as part of material culture and the knowledge of the same as cultural capital. Thus, when nature stands as the metaphor of culture, human beings in a society are placed as culture bearers. When nature is the cultural capital, society is the owner. However, such a perspective is not totally

new. Sauer's[20] studies of the origins of domestic plants led him to consider the diversity of varieties as defining features of 'cultural hearths' – the centres of innovation. For him, crop species and gene pools were very much part of culture. They represented the material expressions and embodiments of social processes and knowledge. He proposed that the material used in, and the knowledge and skills that enable, say planting and harvesting are just as much part of a culture as knowledge and skill about, say writing or the structure of social believes. The knowledge and skill of one generation may be embodied in the strains of crops it produces and passes on to the next – they are artifacts of cultures.[21]

Human beings identify themselves with their culture and cultural capital. Since nature forms a part of the same, it plays an important part in the identity formation. Human beings as conscious of this natural surrounding and endowments is conscious of his or her identity. Besides, varying social relations, beliefs and practices creates societies with varying or rather, a mosaic of identities. The modern paradigm has always proposed grand theories towards the path of development. An intrinsic aspect of the same is an effort towards standardization in almost every respect. Thus, an effort towards standardization and existence of a mosaic of identities as well as culture and cultural capital has stood in contradiction to each other. This has often led to the suppression of the powerless by the powerful. Thus, the need to analyze nature as power arises and human beings as recipient and decimator of this power. How changing relevance of

varying nature/culture plays a role in the power relation also needs to be analyzed. To a large extent the post modernistic perspective is similar to those of regional or cultural geographers. The difference between the old style regional differentiation in geography of the Hettne-Hartshorne era, and the present-day post-modernist regional geography lies in that, while the former was indifferent to everyday experience of societal relationships, there is now a declared commitment to the understanding of the condition of human beings in particular places, and the ways the spaces are socially constructed.[22]

SCHEDULED TRIBES OF INDIA AS INDIGENOUS COMMUNITIES

According to Bottomore,[23] a social group may be defined as an aggregate of individuals in which (1) definite relations exist between the individuals comprising it (2) each individual is conscious of the group itself and its symbols. Thus, a social group has atleast a rudimentary structure and organisation (including rules, rituals, etc.), and a psychological basis in the consciousness of its members. According to Tonies,[24] social groups can be classified into Gemeinschaft (community) and Gesellschaft (association). Community is defined as intimate, private and exclusive living together. Among them can be included the examples of family or kin group, the neighbourhood (rural village) or a tribal group living in a particular area. On the other hand association is defined as 'public life', as something which is consciously and deliberately entered upon. In an association, individuals are not wholly involved but look to the satisfaction of specific and partial end. They are united by a rational agreement of

interest. In communities, individuals are involved as complete persons who can satisfy all or most of a wide range of purposes in a group. Besides, they are united by an accord of feeling or sentiment between individuals. A tribal group forms a community on account of the fact that they are a group of people, families, clans or communities who share social, economic, political, etc. ties and often a common ancestor and who usually have a common culture, dilect and leader.[25]

When we use the phrase 'indigenous community' be refer to or understand it as original inhabitant of an area. These communities are supposed to belong naturally to or occurring naturally in their physical environment. Thus, the use of the term indigenous becomes a debatable one in case of tribes in India. Ghurye[26] had reservation to the use of such terms as 'adivas;' aborigines or indigenous and instead, called the tribal groups as 'so-called aborigines'. In general though, the idea of indigenous people has been accepted by social works, administrators, politicians and even scholars.[27] Today, this has become an important mark of social differentiation and identity assertion as well as an important tool of articulation of empowerment.

The conception of tribe takes numerous criteria into consideration. These range from such features as locational isolation, simple technology and condition of living, general backwardness as compared to people of non-tribal society, to the practice of animism, tribal language, physical features etc. The 18th century writings showed synonymous use of the term tribe and caste. Later it was even used in a cognate manner as one could see

in the use of phrase 'casts and tribes in India' by Risley. The 1901 census defined tribes as those practicing animism. Later, animism was replaced by the 'tribal religion'. In the colonial ethnography, tribes were shown to be living in complete isolation from the rest of the population and therefore without any interaction or interrelation with them. When the British Parliament passed the Government of India Act 1935, it contained two provisions whereby certain tracts, with predominantly tribal populations were to be known as 'Excluded' and 'partially excluded' areas. These areas were to be insulated from the control of the Indian legislatures and ministries and left in direct charge of the governor of the province. Conservative Members of Parliaments, supporting the clauses in the House of Commons, said they would save the tribes from 'being converted from Nagas or what ever they are into bad Hindus.'[28] In contrast, the main concern of the native ethnographers has been to show close interaction of tribes with the larger Hindu society and the ways in which tribes have been drawn into the same.[29]

Much of the discussion questioning the indigenous people's status in India has centered on the complex historical process on the movement of the population and their settlement in the subcontinent. Unlike the Americas, Australia, New Zealand with a recent history of conquest, immigration and colonization, in India identification of indigenous people is not easy. Rather, there have been waves of immigrance into the Indian sub-continent of population with different language, race, culture, religion dating back to centuries and millennia. Even groups described as tribes have not been outside this process. Given thus, the question arises

as to how far back should one go in history to determine people who are natives and who are immigrants. Indeed any demarcation is going to be arbitrary and hence contentious.[30]. Infact most scholars are of the view that tribes could hardly make legitimate claims that they are the only natives of India. Besides, it is said that there are tribes in India especially in the north-east whose settlement in territories they inhabit today is an even later phenomenon than the settlement of many non-tribes in other parts of India. However, such an argument is independent of regional differential. There is a need to make distinction between settlement in the context of country as a whole and settlement within its parts or regions. In the discourse on indigenous people, the two aspects are either ignored or mixed or even interchanged. An argument valid at one level, for example at the local level is often used to substantiate the argument at another level, such as the country as a whole.

Pathy[31] arguing on behalf of tribals as indigenous people, writes that tribals in a way have been victims of conquest and colonization and hence share all the attributes of the colonized people such as ethnic identity, loss of control over customary territorial resources, cultural annihilation and powerlessness. He makes the case despite his recognition that insisting on original settlement in a territory is problematic and unreasonable. A completely different argument is that tribes were by and large considered as those outside 'civilization'. They continued to be distinct because they escaped colonization and subjugation. Beteille[32] has brought out the fact that where people were

subjugated they became part of the larger social organization and failed to maintain their distinctiveness. Whether they lived in hills, plateau or forest and lived by hunting, food gathering or practiced slash and burn cultivation followed from being outside modern civilization. In short, they are described as tribes and therefore even as indigenous people because they escaped colonization and subjugation process.[33]

A more valid argument to defend the usage of the term indigenous people to refer to the tribal people is that unlike antagonists who tend to take note of only historical realism we have also taken note of critical redism. They state that irrespective of the place and time of origin or their occupation or their present habitat in India, there are certain communities, which until quite recently maintained practically autogenus sources of legitimization of cultural and social processes and were accentuated by the ideology of self regulated economy. They had only marginal articulation with the external political structures.[34] Another definition could be that indigenous people are communities living in areas of relative isolation and interacting with their natural habitat and forces of production since known history of that geographical space.

The term indigenous or 'adivasi' or its equivalent has been used in anthropology to describe groups called tribes for quite some time. Its use now has gone beyond the discipline of anthropology. The international agencies are increasingly and extensively making use of this term and concepts and so are the social scientists. According to Roy-Burman,[35] in the deliberation of

the international agencies, the term was used for the first time in 1957. It gained wide currency after 1993 with the declaration of the year 1993 as international year of indigenous people. Thus, the tribal groups that will be taken up later as part of the case study will also be referred to as indigenous people or communities.

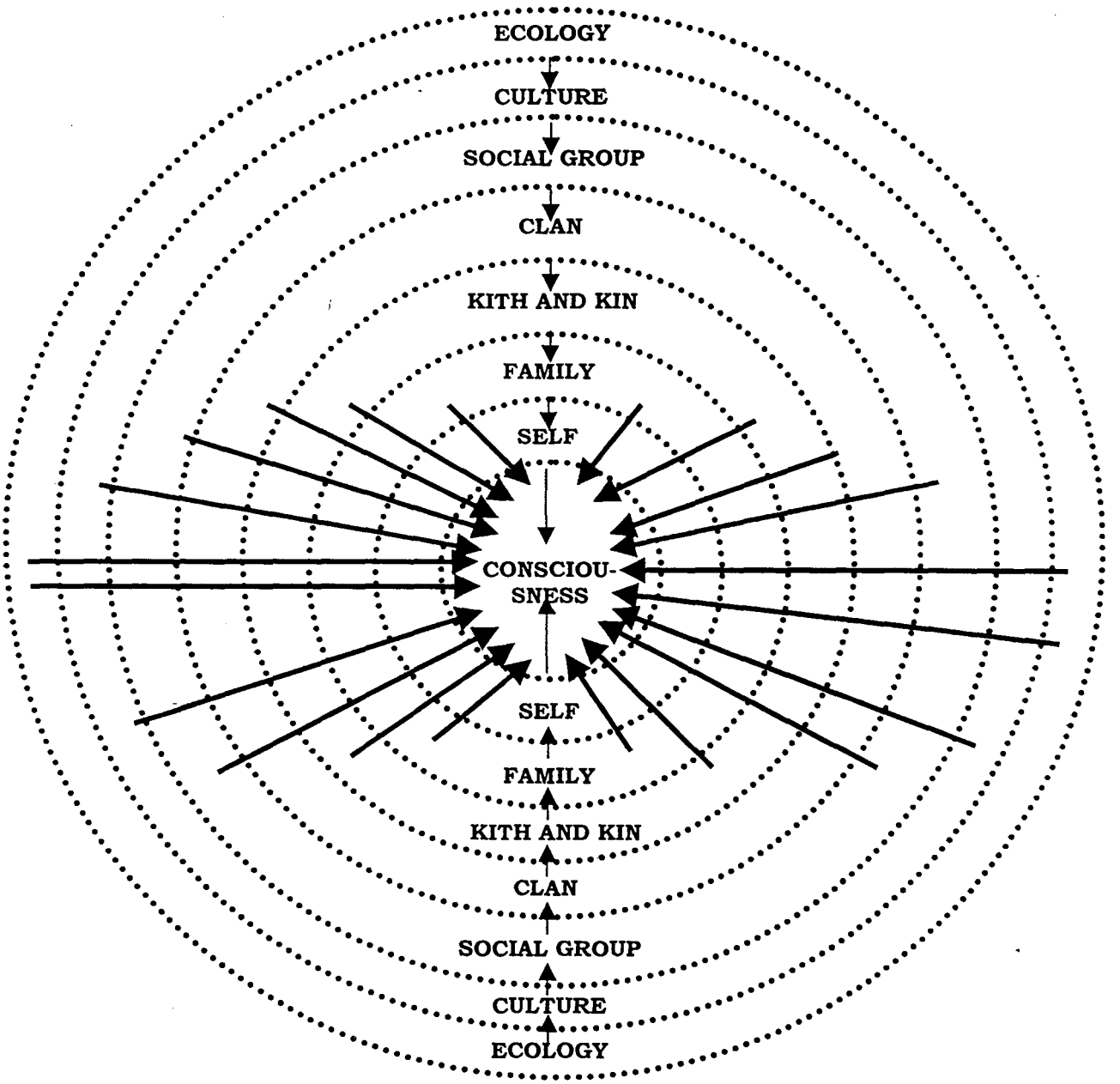
IDENTITY FORMATION OF INDIGENOUS COMMUNITIES

Earlier, when we referred to the pre-modern phase we hint at the over-arching influence of nature on human beings interacting with the same with what we 'today' refer to as primitive technology. This technology is capable of production at the subsistence level. Surplus generation and market economy are phenomenon of the modern era. In this context, one may say that the communities referred to as indigenous in this study, till very recently have been living in a pre-modern state of human-nature interaction (though this assessment is only from the modern perspective). However, the world outside the indigenous communities' habitat is modern. These modern communities have distinctly stereotype perspective on indigenous communities, their environment and culture. Their interest in indigenous communities' habitat is dissimilar, and at times detrimental, to the interest of indigenous communities in the same. This is one for the primary cause of existence of friction between the tribal and non-tribal communities.

Identity formation of indigenous groups takes place in the backdrop of consciousness and friction. Consciousness is firstly at the individual level as every individual is different from the other. This has been shown with the help of Figure 2.4. Identity

FIGURE: 2.4

IDENTITY FORMATION IN INDIGENOUS SOCIETY



construction further takes place on account of consciousness and interaction with ones family, followed by one's kith and kin. Besides, every tribe or indigenous community consists of a group of people, families or class who share social, economic or political ties and often, common ancestors and who usually have a common culture.[36] In this way, they form a social group. Thus, this individual identity culminates into a group identity. Culture is amongst the foremost ingredients of identity formation. The cultural capital and knowledge of the ecology assimilated ever over the years adds to the formation of a distinct cultural ecology. Consciousness of all these existing at different levels are at harmony, thus, this part of identity formation for indigenous communities is a harmonious one with their physical environment. In the traditional sense, this environment encompasses their social, economic and cultural space. Though, an account of indigenous people's interaction with non-tribal communities, which has been increasing with time, these social, economic and cultural space have grown beyond this physical environment of theirs.

Identity formation of indigenous people also takes place on account of there difference with the non-tribal or modern communities. This difference leads to friction between indigenous groups living in the pre-modern stage and rural or urban non-tribal communities living in the modern stage of society nature interaction. This is not to say that there exists no give and take in terms of material and culture between these communities. However, the concept of standardization and euro-centric ideas of development and use of resource and environment is deep rooted

in the modernistic understanding of non-tribal communities. Besides, the modern society imposes this understanding either to satisfy its 'greed' or its 'concern for development' of these indigenous communities or the society, region, district, state, nation or world as a whole. On account of such an approach there develops friction between tribal and non-tribal communities which may at times cause upheavals or disturbances in the lives of the indigenous communities. In this sense, the construction of the 'others', and by the others, in this case the modern communities, is also important in the identity formation of the tribal groups. Difference of interest in terms of the tribal people's habitat between tribals and non-tribals add to this 'friction'.

To conclude, the way human beings have interacted with nature has undergone numerous changes ever since he/she set his/her foot upon this earth. Even the way human nature interaction has been analyzed has differed according to the dominant paradigm. However, a perspective that has received very little attention is the understanding of nature as culture and the knowledge of the same as cultural capital. Understanding of the same would lead to understanding and appreciating distinction in identity formation among different societies. This may also be useful in a critical understanding of the existing power structure. However, for the same, it is not necessary that one places the entire argument from a post-modernist's perspective though its significance and contribution to the same can be immense. Infact, the use of the strengths of the various paradigms would be apt.

After all, our efforts are towards bridging the fissures between understandings.

The following chapters would take up the case study of the indigenous people of the state of Uttaranchal and their cultural capital with relation to nature. Indigenous people have been chosen in this regard on account of the fact that they lice in areas of relative isolation and are more closely placed to their natural environment than the non-tribals. Besides, human beings are analysed in a society (over here as indigenous communities) on account of the fact that they are social beings with shared experiences and these individuals do not live in isolation as culture bearer and with distinct cultural capital within a particular community.

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CHAPTER – 3

ENVIRONMENT AND INDIGENOUS COMMUNITIES OF UTTARANCHAL

Societies, their material culture and cultural capital are manifestations of lived experiences. This lived experience entails evolution over a particular space, which each society occupies. The physical environment and the way a society interacts with it are reflected in the identity formation and construction of a particular community.

Uttaranchal has its own environmental nuances. It is with these that each of the indigenous communities interacts. The physical aspect of the region has a role to play in the social and economic life of these communities and their distribution. This makes the study of the environmental aspect of this region very important. Thus, this chapter looks into the following:

1. The relevant physical aspects of the region.

2. The indigenous communities and their distribution.

THE REGION – A GLIMPSE

Uttaranchal is one of the northern states of India. It came into existence on 9 November 2000 when eight of Uttar Pradesh's districts, namely, Almora, Pithoragarh, Nainital, Pauri, Chamoli, Tehri, Dehradun and Uttarkashi were separated from Uttar Pradesh to form the same. At present, it is made up of thirteen districts, namely:

1. Pauri Garhwal, 2. Chamoli, 3. Rudraprayag, 4. Uttarkashi, 5. Tehri Garhwal, 6. Dehradun, 7. Haridwar, 8. Bageshwar, 9.

Almora, 10. Pithoragarh, 11. Nainital, 12. Udhamsingh Nagar, and 13. Champawat.

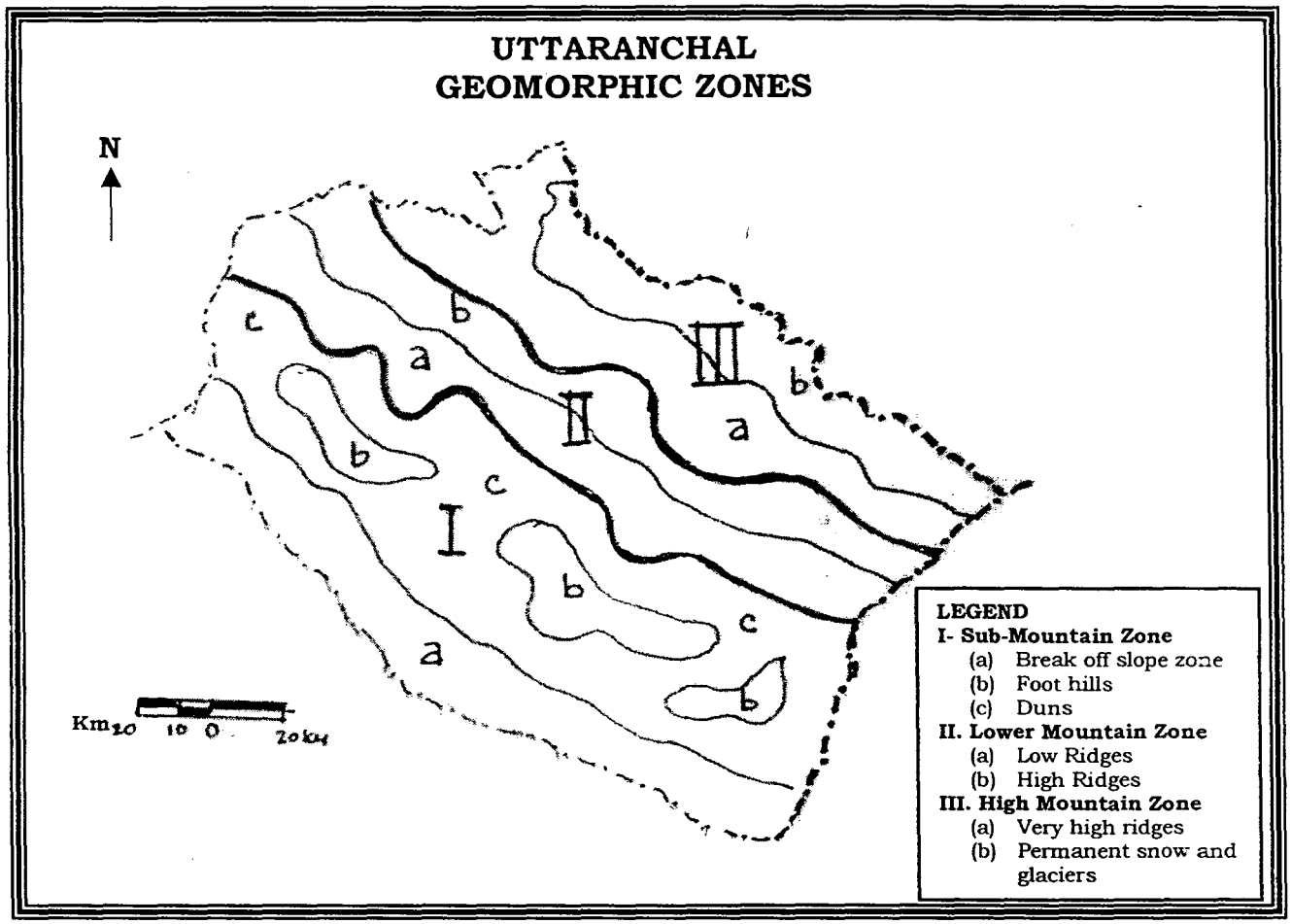
Approximately 53,485-sq km. area of what was popularly known as the U.P. Himalayas in the past makes up the region.

The very fact that Uttaranchal is a Himalayan state is of particular interest in the context of indigenous communities. Mountain environment presents its intrinsic peculiarities with which inhabitants have to interact with, according to their own understanding of the same. Indigenous communities are relatively closer and more dependent on this physical environment than non-tribals. Thus, the geomorphology, climate, soil, drainage and vegetation have great bearings on their social and cultural expressions.

The altitude and zone in which a particular indigenous community lives has tremendous influence on the kind of economic activity in which they participate, the kind of technology they have, the food they eat and many other traditional practices they indulge in. Uttaranchal can be divided into three meso level geomorphic zones. This flows out of the fact that the Himalayas are made of a number of mountain ranges running parallel to each other. Moving from south to north, we first have the set of ranges that could better be described as sub mountain zone (zone I in fig. 3.1.). The micro level zones within this are (a) break off slope zone (b) foot-hills and (c) Duns. This Shiwaliks or the sub-Himalayan tract is separated from the main Himalayan ranges by a boundary thrust and stretches in northwest – southeast direction lying paralleled to

the lower Himalayas. Average height in this zone is between 750 to 1,200 m. with the southern slopes being steep.[1] However, the southern slopes descend gently to flat-floored valleys called duns.

FIGURE: 3.1



Source: National Atlas of India, vol. 1

The middle Himalayan zone is also called Himachal. This has been classified as zone II i.e., lower mountain zone in figure 3.1. This is further divided into (a) lower ridges (b) high ridges. The Himachal or lower Himalayas are approximately 75 km wide. This is a massive mountainous tract and is separated from the Dun by the main Boundary Thrust. The average height of ridges in this

zone is between 1, 500 and 2, 700 m and of valley bottoms between 500 and 1, 200m.[2] This region also has Lake Basins confined to a belt of approximately 25 km. length and 4 km width near the outer triangle of the lower Himalaya in the district of Nainital.

The third zone shown as zone III in the figure is high or greater mountain zone. This is again divided into (a) very high ridges (b) permanent snow and glaciers. The Himadri or the Greater Himalaya zone is about 50 kms in width. The mean height averages between 4, 800m and 6, 000m culminating in the peaks of Nanda Devi and Kamet.[3]

Broadly, indigenous communities that live in zones that are conducive for agricultural practices on account of being dun areas or areas, which are comparatively at lower heights and with less steepness, carry out the same. Higher reaches make agricultural activities difficult. The problems of survival, accessibility to neighbouring areas and lacunas in the process of production in these terrains is overcome with the help of traditional knowledge pertinent to those regions.

Like geomorphic zones, climate too varies in the region. The lower reaches, especially the duns are warm and humid. Higher reaches are very cold with snow. Since temperature and rainfall are the important indicators of climate, we look at table 3.1 to get a general idea of the same.

TABLE 3.1: DISTRIBUTION OF RAINFALL AND TEMPERATURE IN MAJOR TOWNS OF UTTARANCHAL

Month	MUSSORI				DEHRADUN				ROORKEE				MUKTESWAR			
	Max. Temp. (°C)	Minim Temp. (°C)	Mean Temp. (°C)	Rainfall (mm)	Max. Temp. (°C)	Minim Temp. (°C)	Mean Temp. (°C)	Rainfall (mm)	Max. Temp. (°C)	Minim Temp. (°C)	Mean Temp. (°C)	Rainfall (mm)	Max. Temp. (°C)	Minim Temp. (°C)	Mean Temp. (°C)	Rainfall (mm)
January	10.2	2.5	6.35	66.4	19.1	6.1	12.6	62.2	20.1	6.6	13.35	42.9	9.7	1.90	5.8	58.0
February	11.9	3.7	7.8	66.9	21.4	8.2	14.8	59.4	22.9	8.7	15.8	46.8	11.4	3.1	7.25	56.0
March	16.2	7.2	11.7	63.5	26.4	12.4	19.4	39.7	28.7	13.1	20.9	28.4	15.8	6.4	11.1	45.4
April	21.1	11.8	16.45	29.5	32.1	17.0	24.55	17.4	35.2	18.2	26.7	11.3	20.1	10.7	15.4	33.7
May	24.8	15.1	19.95	45.1	36.2	21.5	28.85	41.7	39.4	23.6	31.5	17.0	23.5	13.9	18.7	50.7
June	24.1	16.4	20.25	188.5	35.2	23.6	29.45	185.9	38.5	25.9	32.2	90.5	23.2	14.8	19.0	142.6
July	20.8	15.9	18.3	726.5	30.4	23.1	26.75	720.8	33.3	25.5	29.4	337.2	20.5	14.7	17.6	332.0
August	20.2	15.6	17.9	754.7	29.5	22.7	26.1	764.9	32.3	25.0	28.65	329.0	20.1	14.5	17.3	338.3
September	19.9	14.3	17.1	323.2	29.6	21.3	25.45	326.7	32.4	23.4	27.9	206.4	19.9	13.1	16.5	196.8
October	18.7	11.1	14.9	64.8	28.2	16.1	22.15	70.8	30.9	17.2	24.05	39.4	18.4	9.9	14.15	78.9
November	15.8	7.4	11.6	7.7	24.7	10.3	17.5	5.1	26.5	10.1	18.3	3.2	15.8	6.6	11.2	4.2
December	12.7	4.3	8.5	31.2	20.9	7.0	13.95	19.1	22.0	6.8	14.4	4.0	12.5	3.8	8.15	22.8

Source: India Meteorological Department (1931-1960), Government Of India

Uttaranchal shows an influence of the southwesterly monsoon acting on it. The fact that the wettest month for each of the four stations taken into account are concentrated in June, July and August in particular, goes on to point that the southwesterly monsoons are the single most important factor for the precipitation of this region. Rainfall is quite copious in Mussori and Dehradn i.e., the central part of the region while the amount of rainfall is distinctly lower in the southern part as indicated by the rainfall recorded for Rookee and Mukteshwar. No signal month for any of the station show absence of rainfall, indicating that the region receives fairly well distributed rainfall. This brings to light the significance of winter rains in this region. Precipitation at the higher reaches at this time of the year is primarily in the form of snowfall. The recorded temperatures bring to light that the region experiences warm to hot summer with cool to very cold winters. During range of temperature is high and this is particularly so in the winter months. The snowline is generally at 4,880 – 5,335 m. however, snow fall as low as 1,220-1,525 m.[4]

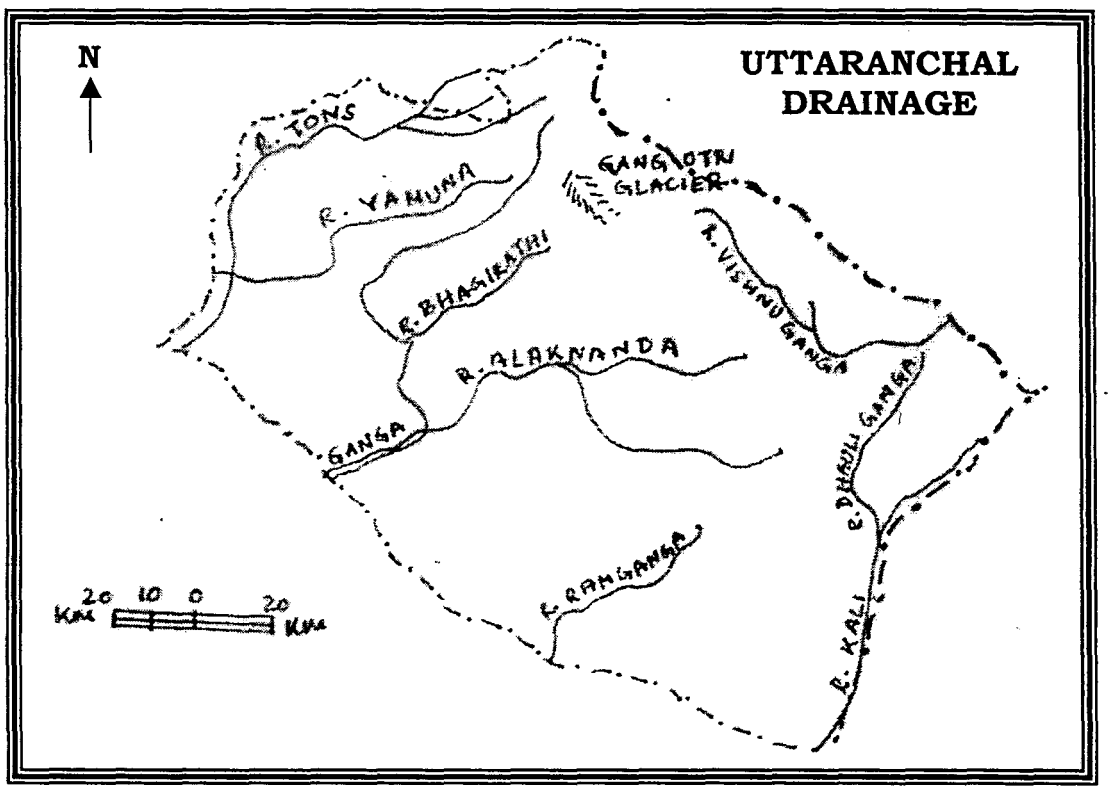
As is clear, climate is harsh, especially in the higher reaches of the mountains. This results in indigenous communities having to posses traditional knowledge with relation to clothing that can protect them, crops that can be grown within the limitations presents in terms of low temperature (specially in the higher reaches), etc. There are those who do not even involve themselves in agricultural activities and are instead involved in transhumance, trade or hunting and gathering through at present, many of them have given up this traditional occupation. Traditional knowledge in

relation to the kind of traditional dams they build or the way they built their houses and its roof is also an account of their understanding of climate of this region. Variation in climate is manifested in the variation in traditional knowledge that these communities posses.

The most important factor that effect soil is the climate. In addition to this, in the mountainous regions, on account of steep gradient, run off is high. This leads to shallow soil profile and this is particularly so in areas that has experienced deforestation. Broadly, the Shiwaliks and the Duns are a part of the humid tropics and have alluvial soil. Lower Bhagirathi – Alaknanda zone having a warm temperate climate and the upper Bhagirathi – Alaknanda zone having cool temperate to cold climate have Brown forest soils and Brown deciduous or coniferous forest soil respectively.[5] The Alpine zones have mountain medow soil and glacial soil.[6]

Limitations in terms of quality and depth of soil profile are among the major challenges that indigenous communities of Uttaranchal have to face. In many a places, these communities use traditional knowledge to optimize the use of soil under these limitations. At other places, agriculture is just not possible and indigenous communities explore other avenues of generating income.

FIGURE: 3.2.



Source: Singh, R.L., *India A Regional Geography*: National Geographical Society of India, UBS Publishers, New Delhi.

Understanding of the environment entails an understanding of the drainage system of the region. It is on account of such an understanding that methods of utilizing the available water resource can be bettered. Uttaranchal is well drained by numerous rivers and rivulets (Fig. 3.2.). the most important rivers of this region are Mandakini, Alaknanda, Bhagirathi, Gori Ganga, Sarju ad Kali. Drainage here can be divided into three main systems, namely, the Ganga system, the Yamuna System and the Kali system. The Ganga system drains the whole of Garhwal except western part of the Uttar Kashi district and western parts of

Almora and Naini Tal districts. The Yamuna system drains the western part of Uttaranchal, affecting the districts of Uttarkashi, Dehradun, Tehri, Garhwal and Haridwar. The Kali system coves the district of Pithoragarh and eastern parts of Almora and Naini Tal districts other than parts of Champawat and Udham Singh Nagar.

Inspite of the presence of the large number of rivers and streams, it should be remembered that the runoff in this region is high which is a problem. Rainfall in this reign occurs primarily in the monsoon months. The higher reaches of the mountains primarily receive snowfall in winters. Thus, the problem of storage of water and reaching the available water to the agricultural fields arises. There are some of the difficulties those indigenous communities' face and try to overcome with the help of their traditional knowledge.

On account of Uttaranchal being a mountainous state, it has not been among the most attractive sight for setting up large towns or industry. Large tracts of forested land have been left uncleared.

As can be seen above in table 3.2, large parts of all the districts are forested. In ascending sequence we have the sal forest of the Terai/Bhabar and Siwaliks, a belt of chir, then at 1,525 m., evergreen oak/rhododendron with ash, yew, ilex and bamboo. The coniferous zone is from 2,745 m. to roughly 3,355 m. This is succeeded by birch/rhododendron forest up to 3,960 m. at the highest, and finally alpine scrubs and steppe. Isolated rhododendrons are found at 4,695 m. and on Tibetan border, grass

patches up to 5,000 m.[7] In all, these mountains show tremendous variation in terms of vegetation features.

TABLE 3.2.:

FOREST AREA IN UTTARANCHAL 2000

Districts	**Total geographical area (Sq. Km.)**	**Total forest area (Sq. Km.)**
Pauri Garhwal	5440	4507.14
Chamoli and Rudraprayag	9125	5210.40
Uttarkashi	8016	6948.30
Tehri Garhwal	4421	4058.90
Dehra Dun	3088	2276.89
Hari Dwar	2360	375.19
Almora and Bageshwar	5385	3944.26
Pithoragarh and Champawat	8856	3302.43
Nainital and Udhamsingh Nagar	6794	4038.01

Source: Forest Department of Uttaranchal, 2000

Indigenous communities of Uttaranchal live close to the forest. In fact, in most of the case, these forests are their habitat. These indigenous communities have a great understanding of these forests i.e., of most of the living and non-living things that constitute these forests. They have deep-rooted understanding of the plants and animals in it, which in a sense make up for part of their material culture.

INDIGENOUS COMMUNITIES OF UTTARANCHAL

The peopling of India has taken place over centuries. As people from regions out side the Indian subcontinent and people of different races and cultures came in to this subcontinent, they sought areas of attraction in terms of altitude from sea level, soil, drainage, and agricultural opportunities to settle down. If societies and communities that had arrived earlier had occupied these attractive areas, contestation for this space took place. This way, those communities that lost out in this contestation were pushed to the peripheral areas or areas of relative isolation. These areas were usually disadvantageous in terms of the environmental aspects as compared to the areas of attraction. In Uttaranchal, harsh terrain or the interiors of forests was an intrinsic part of such settlements brought into existence by these spatially marginalised groups or indigenous communities.

Prior to Uttaranchal becoming a separate a state, Scheduled Tribes formed 0.21 percent of its total population (as per 1991 census). The tribal population was concerntated on the mountainous regions of Uttar Pradesh, which also had a large area under forest cover. Now, 3.52 percent of the total population of Uttaranchal is made up of scheduled tribe population. The bifurcated part of what remains as Uttar Pradesh has only 0.06 percent of its total population as scheduled tribe population i.e. compared to the total scheduled tribes population of 2,87,910 in erstwhile Uttar Pradesh, it was left with less than 77,000 (as oer 1991 figures) of these people. Uttar Pradesh consist primarily of

alluvial plains which provide very favorable physical environment for agriculture and is thus having very limited space for inhabitation of indigenous communities that would not be contested for by the non-tribal communities. The fact that large forest cover on mountains has been congenial for prevention of contestation of tribal land by non-tribal communities till not very long in the past is made clearer with the help of Table 3.3.

TABLE: 3.3

CLOSE RELATION BETWEEN HIGH FOREST COVER AND PRESENCE OF TRIBAL POPULATION IN THE DISTRICTS THAT MAKE UP UTTARANCHAL

District	Total forest as % of total area	* Tribal population	Tribal population as % of total population
Almora	73.2	2736	0.33
Pithoragarha	37.3	18313	3.23
Nainital	59.4	88937	5.77
Pauri Garhwal	82.9	1502	0.22
Chamoli	57.1	10,265	2.26
Tehri Garhwal	91.8	611	0.07
Uttarakashi	86.68	2300	0.96
Dehradun	73.7	84029	8.19

* Tribal population shown here includes ony the 5 classified tribes of Uttaranchal.

Source: 1. Census of India, 1991.

2. Forest Department of Uttaranchal, 2000.

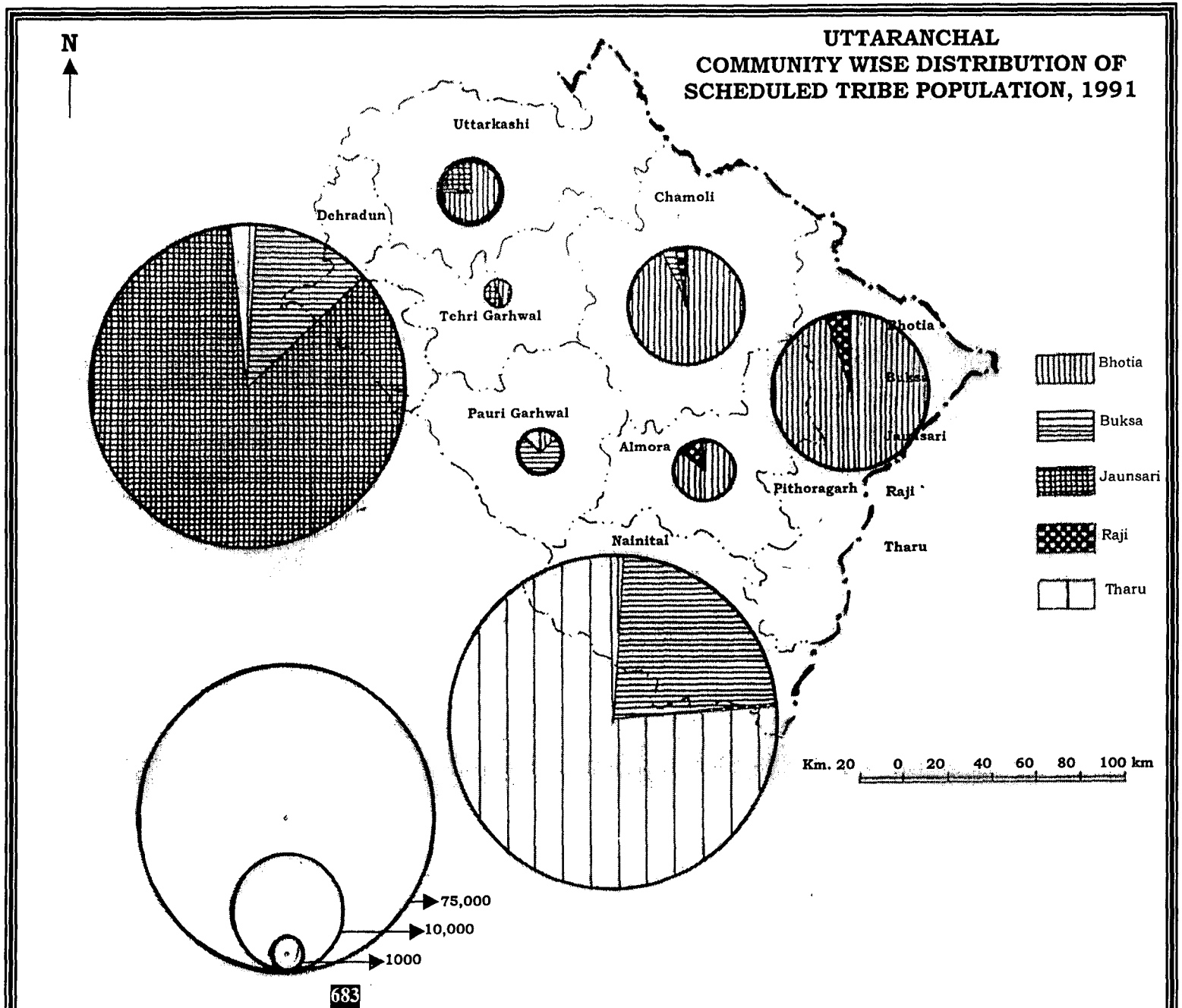
The Bhoksas, the bhotias, the rajis, the tharus and the jaunsaries make up for the scheduled tribes, in the state of Uttaranchal. Their identity too is a result of consciousness and friction as described earlier. Aspects with relation to friction between them and the non-tribal communities will be discussed in a subsequent chapter.

Bhokas inhabit the terai region. They are also known as Mehre or Mehra in Dehradun districts.[8] Crooke[9] has mentioned a legend according to which the Bhoska came from 'Dakhin' while others have specifically restated that they migrated from Delhi. Nag and Roy Burman[10] trace the etymology of the word Bhoksa to the legend of their conquering the Bhakshi in the terai; they became Bhoksa, the killer of Bhakshi. The other view is that in the Hindi language ban means forest and 'bonk' means forest dwells and the combination of the two words, ban-bonk lay behind the nomenclature of Bhoksa or Bhuksa.[11] A section of the Bhoksa people also claims decent from the royal family of the Jagatdeo, a famous warrior of Rajasthan who on being defeated by the Mughals fled to the terai foothills.[12] Others believe that their ancestor was Udaijit, a Panwar Rajput. Many Bhokas consider themselves to be 'Kushvanshi Rajputs'.[13] In general, they are medium or below medium statured in terms of their height and built. They are divided into several exogamous Clans (got) of equal status. The traditional and primary occupation of the Bhoksa are agriculture and animal husbandry.

Looking at Figure 3.3. We find that each of the five indigenous communities are present in almost all the districts of

Uttaranchal. However, it is only in the areas, in this case the districts, in which they are concentrated that they have lived and developed their life style and culture. The population of the Bhoksas, notified and enumerated as Buksas, was 32,219 persons in 1991. They inhabit the terai area, primarily in the districts of Nainital, Dehradun and Pauri Garhwal, numbering 20,180 persons, 10, 359 persons and 1, 071 persons respectively.

FIGURE: 3.3.



Source: Census of India, 1991

The Bhotias are below – medium or short statured in terms of height and built, round-headed and show a medium facial profile with medium to short nose form.[14] The Bhotia are divided into eight subgroups on the basis of religion, territory, occupation and dialect. These sub groups are Jad, Tolchha, Marchha, Johari, Jethora, Darmi, Chaudansi and Byansi. [15] Each of the subgroups is again divided into several clans and lineage (Rathu / Sora / Dhada) which regulate marriage alliances and indicate ancestry.[16] Their traditional occupation in the past had been transhumance and trade across the Indo-Tibetan border. After the war between India and China in early 1960s prosity between this border was done away with. This led to the end of their trans-border trade. Bhotias numbered 33,478 person in the districts that now constitute Uttaranchal. Their habitat lies in the greater Himalayas which is extremely cold experiencing heavy snowfall. Primarily, they are found in the districts of Pithoragarh and Chamoli numbering 17,657 and 9, 549 respectively. Besides, they are also present in Almora, Uttarkashi and Nainital in notable numbers.

Jaunsaris derive their name from the region Jaunsar Bawar in Uttaranchal. Thus Jaunsari is a blanket term which embraces various groups, namely the people enjoying a high social status like the Brahman and Rajput or Khasa, and the lowely placed castes comprising various. Occupation groups, who share the appellation, Kolta.[17] Communities belonging to the Khasa affiliation, are the dominant people of this region.[18] The other communities like the Kolta and Bajgi represent the non-Aryan stock of the hills. It is important to note over here the phenomenon of caste system is

characteristic of non-tribal population in India. It seems that the presence of this system among Jaunsaries is on account of their Sanskritization arising out of this interaction with the non-tribal communities.

The Khasa Rajput of Jaunsar are of below medium in height with a long head and a long and narrow nose with a convex bridge. They exhibit prominent chins, mostly free earlobes, and have a light brown skin and straight hair.[19] The Jaunsari society is primarily divided along caste lines and is stratified. The Brahmans enjoy the highest position in the local socio-religious hierarchy and the Kolta occupy the lowest. The community as a whole are primarily dependent on agriculture and particularly on animal husbandry.

Jaunsaries numbered 72,533 persons in 1991. They are highly concerntated in the district of Dehradun, specially in the Chakrata Tehsil. Infact, the Jaunsari population is 71,660 persons in the district of Dehradun alone (Fig. 3.3).

Rajis are also described as Ban Rawat, Ban Raji or Ban Manush, and until recently, they were a community of nomadic hunters and gatherers.[20] Regarded as one of the aboriginal communities of the Kumaon Himalayas, they claim to have been a part of the ancient Kirata people.[21] In this region, they are more popularly known by the name of Ban Rawat, which literally means the king of the forest. They trace their descent from the feudal royalty of Askot and call themselves Raji, meaning the royal people and claim to be Rajput. This seems to be another example of

Sanskritization of indigenous communities. Crooke[22] is of the opinion that they were servants of the kings of Kutpur who expelled them. The other term, Ban Manush, denotes men of jungle.

The Rajis are divided into a number of exogamous patrilineages called rath. They use Singh as their surname. Land and forests are the primary economic resources of the Raji and all families own some amount of land.[23] Their average stature is 159.42 cms, which is the upper limit of the short type, and their head shape is long.[24]

Rajis on are a small community. Their total population in Uttaranchal, as per the 1991 census was 1,278 persons. In Pithoragarh they numbered 620 persons. In Almora and Chamoli they numbered 382 persons and 152 persons respectively.

According to Crooke[25] Tharus trace their origin to Rajput forefathers, who fled from the great battle described in the epic Mahabharata. They derived their name from Thithurna, meaning to quake. They are on an average of below medium height with a round or overall face.[26] They are divided into three endogamous groups, namely Rana, Katheria and Dangura, which are further subdivided into a number of exogamous lineages. There exists a number of subdivisions among them, some of which are Bana, Batur and Malwaria, Gurbans Katheria, Dingroiya or Dinaria, Tharkonahara, Majhi, Musahra, Purabia (Eastern) and Daikar. Referring to Nesfield[27] he noted four sections among them, Pachhami (Western), Purabia (Eastern), Dingaiya and Kathariya.

They did hunt and gather food in the past, but presently they depend on settled cultivation.

Tharus numbered a total of 69,185 persons in Uttaranchal in 1991 . They are concentrated in the district of Nainital where they numbered 67, 422 persons (Fig. 3.3).

All these communities stay primarily in the rural areas. Those enumerated in places or districts outside the core area where these communities inhabit, are more on account of few amongst them migrating to the same.

To conclude, the physical environment with which an indigenous group is interacting with is of prime importance. It is on interaction with the same that these indigenous people develop their cultural capital and identity. The state of Uttaranchal has its distinct physical attributes. It is in areas of relative isolation that indigenous communities have lived in and interacted with nature at their own terms. What has to be taken note of is that the indigenous communities have their core habitat and it is here that they explore possibilities of interacting with nature and with their traditional knowledge and develop distinct life styles. It is in these habitate that they share social, economic and political ties and poses a distinct culture and history.

Endnotes

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[2] *Ibid*, p. 458

[3]. *Ibid*, pp. 447-448

[4] Spate, O.H.K. and Learmonth, A.T.A. (1967): *India and Pakistan*, Methuen and Co., London, p. 458

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[14] Tiwari , S.C. (1954): Anthropometric Study of the Bhotia of Almora District (U.P.), *The Anthropologist, pp. 22-32.*

[15] *Singh, K.S. The Scheduled Tribes, op.cit., p. 150*

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[17] *Ibid.* .

[18] Majumdar, D.N. (1962): *Himalayan Polyandry: Structure, Functioning and Culture Change – A field study of Jaunsar Bawar*, Asian Publishing House, Calcutta

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[20] Singh, K.S. *The Scheduled Tribes, op.cit.,* p. 1019

[21] *Ibid,* p. 1020

[22] Crooke, W., *op.cit.* vol. IV, p. 211

[23] Singh, K.S., *The Scheduled Tribes, op.cit.,* p. 1021

[24] *Ibid,* p. 1020.

[25] Crooke, W., *op.cit.,* Vol IV, p. 380..

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CHAPTER - 4

TRADITIONAL KNOWLEDGE OF INDIGENOUS COMMUNITIES – THEIR CULTURAL CAPITAL

Identity formation of indigenous communities takes place on account of consciousness, which exists at multiple layers. Modernity has more often than not relegated such consciousness to obscure margins. The politics of marginalization of such identities will be dealt with in the next chapter. This chapter looks at the social relations, economic activities, culture and biotic resources of the indigenous communities of Uttaranchal in a new epistemological perspective. An understanding of the same is necessary to appreciate the fact that the civilizations of indigenous communities have not remained static. It has developed in its own way. Stereotyping this life style as 'primitive', 'savage', or 'backward' is ony on account of a modernist perspective of what advancement or development should be. This is not to say that a modernist perspective of development or developed society is wrong. It is just to say that it fails to appreciate what lies outside its own conception of development. This is also not to say that the indigenous communities need not know about the advancement made in the field of science, technology, agriculture, education etc. It is ony to show that indigenous communities have understanding and knowledge that the non-tribal society needs to be more aware of so that humanity could benefit at large. Thus, this chapter deals with the following aspects:

1. Traditional knowledge in a new perspective.
2. Knowledge of indigenous communities of Uttaranchal in relation to economic activities.
3. Their knowledge with relation to culture and tradition.
4. Their medicinal and nutritional knowledge.

TRADITIONAL KNOWLEDGE

According to Roberts,[1] "landscape, which may be defined as the assemblages of real-world features - natural, semi-natural and wholly artificial –give character and diversity to the earth's surface and form the physical framework within which human societies exist. They are closely linked to all aspects of human life, for not only are there practical economic bonds – the majority of human beings which have ever existed were hunter-gather or peasant farmers they are also powerful social, religious and psychological bonds." These bonds has led to the development of knowledge arising out of consciousness. In usage we accept that human beings conventionally conjoin what may seem to be quite different types of knowledge. There is though, firstly, unconscious knowledge, based on forgotten practice; and secondly, practical knowledge, defined as informal (but not unstructured), learnt from interaction and the experience of observation and social action in particular contexts.[2] Practical knowledge is unarticulated (part then of the taken for granted world and the world of continuous and repetitive conduct) and local with great importance attaching to analogy and metaphor. Third, there is empirical knowledge which is cumulative, systematized and coordinated. It is the rationalisation of knowledge, removed from the experiences and events it describes. Empirical knowledge is therefore often homogenized and objectified. There are three main subtypes of empirical knowledge, namely that based on its application (e.g. cookery, gardening), on its codification (e.g. engineering, town

planning) and its generation by the restricted model of the natural sciences.[3]

While some sees this knowledge – 'normal science' as coming 'from practices whose conduct is resolutely oriented to the practical', it should be added that this science often divorces itself from the practical by reifying that which emanates from this realm. Thus, for a clear analysis of knowledge, it is imperative that the practical as well as the empirical remains articulated. In this way the integrity of the phenomena under investigation – their context and relationships – is preserved.

It may be noted that synthesis – knowledge of knowledge, gleaned from natural philosophy – is the fourth type. Further, such explanation may even be found in the structural - functionalist school and their recognition that an activity may have both manifest and latent functions can be functional or dysfunctional. To elaborate, it may be pointed out that the Hopi rain dance functions manifestly to create rain but latently to enhance group solidarity by bringing people together for collective ceremonial, while nepotism in dynastic China was functional for maintenance of family relationships but possibly dysfunctional for the efficient operation of the economy.[4]

All these types of knowledge are present among the indigenous communities. This is popularly referred to as traditional knowledge. Take the case of the use of many kinds of leaves by the indigenous people. They know the leaves of countless plants, which they use for a wide range of foods and medicines. Certain kinds

they stitch together to make cups, plates and parcels. From seedlings to mature plants, in their cycles of development through the seasons, huge trees and small herbs, they know the forest plants and a great deal about their different qualities and uses.[5] By contrast "the only way to communicate with the modern world is through the dead, dry leaves of book." [6] Mainstream culture tends only to recognize as knowledge the contents of paper leaves made from purpled trees and covered with print in formulaic designs.[7] This despite the fact that tribal societies have adopted their way of life to their environment over centuries, and possess a depth of knowledge about it that other people lack.

With the levee that post-modernism provides to appreciate uniqueness in the mozaic of cultures and varied perspective and its non-adherence to any 'ground theory', and standardization, it is time now that we recognize this traditional knowledge. This traditional knowledge is the cultural capital of the indigenous communities who have assimilated the same over time and the space available to them. Traditional knowledge has been analysed with the help of binary numbers and weightages as discussed in the first chapter. However, it should be remembered that the binary numbers used here are to document traditional knowledge i.e. with the value 1. The weightage is in accordance with the strength of its relevance within the limitation those indigenous communities' face or the number of uses known of a particular resource. It is not to show the superiority of one traditional knowledge over another or the superiority of one traditional

knowledge over another or the superiority of one community against the other.

TRADITIONAL KNOWLEDGE AND ECONOMIC ACTIVITIES

While collecting information concerning the economy of the indigenous people of Uttaranchal, it was kept in mind that the information so documented must enable one to form a clear picture about the problems of production, distribution and consumption. Such problems which these hill people face is solved with the use of their traditional knowledge. Thus, their cultural capital ensure their life and livelihood in the harsh physical environment of the mountains.

In the analysis with relation to traditional knowledge and economic activities, 30 indicators, which are either economic infrastructure, products, production process of facilitator to economic activity, have been documented. The value of zero allotted to individual communities with relation to individual indicators could simply means that the particular community has no traditional knowledge with relation to that particular attribute. It could also mean that though the particular community might be possessing that knowledge today, it does not actually form a part of that communities cultural capital assimilated over time and that communities physical space. Besides, it could also mean that no documentary evidence was found of the particular community possessing a particular traditional knowledge from amongst the works referred to or available at hand. It would also be relevant to point out that there could be more attributes with relation to

traditional knowledge and economic activities of the indigenous people of Uttaranchal. However, documentation of the same in this case as well as the cases to follow has been limited on account of such facts not available or the researcher's inability to 'lay his lands' upon them as well as his inability to carry about a prolonged field survey at this level. It should be noted over here that ethnography would be extremely helpful in such a study (this study relies heavily on ethnographic notes of other researchers).

It is observed that the Jaunsaries, Bhotias, Buxas, Raji and Tharus scored 17, 19, 25, 26 and 27 zeros respectively. This shows a lack of that much traditional knowledge of that many attributes of that region among the said communities. It could also imply failure to document the same.

Semi-nomadism and transhumance practiced by the Bhotia and the Raji communities are one of the characteristic features of their adjustment with their physical environment. While in nomadism and semi-nomadism, the simultaneous movement of the group and its members is concerned, in transhumance, only some members of the family who are entrusted with grazing of cattle move apart from the main herd.[8] A study of transhumance practiced among the Bhotia and Raji exhibit certain interesting differences. The seasonal movement of these people fall under the category of 'greater transhumance' which includes movements between a mountain region and its surrounding lowlands or plateaus and the 'lesser transhumance' which includes movement within the mountain region from lower to higher slopes.[9] While Bhotia transhumance is a particular blend of grater and lesser

transhumance, Raji transhumance comes under the category of lesser transhumance. They have to resort to a temporary migration en-masses from their permanent villages at higher attitude due to the severity of climate, shortage of pastures and exhaustion of roots and tuber in a particular area. As for the Bhotias, environmental factors coupled with opportunity of trans-Himalayan trade while on the move led them to adopt a semi-nomadic and transhumance life. This, in the course of time became an essential element of their cultural life and it is also one of the characteristic feature of their adjustment with their physical environment. It is knowledge not ony essential for procuring food or generating income but for their survival on the whole. On account of the fact that Bhotia practice a blend of greater and lesser transhumance and thereby display greater knowledge of such a practices leading the greater material benefit, they have been allotted the weightage of 2 as against 1 for that of the Raji community who practice semi normadism.

The trade that the Bhotia carried out also formed a part of their traditional knowledge. Trade has been the mainstay of the Bhotia economy. They used to supply commodities obtained from Tibet to the warmer fertile valleys down south. Traditionally, the articles which the Bhotia used to sell in Tibet were rice, wheat and barley, sugar, 'gur', tobacco, copper, iron, hardware, silver, Indian cotton piece goods etc. From Tibet they used to bring salt, gold dust, borax, wool, fues, yak-tail, goats, skin, mules, sheep, etc.[10] The Bhotia society experienced a traumatic change in its socio-economic life due to the Sino-India border conflict of 1962, which

resulted in the stoppage of the Bhotia trans-Himalayan trade which they had been arraying out for countries.

Knowledge of the mountain pastures is of great economic significance to the Bhotias "At the highest level live the Bhotias, among whom pastoralism and trading are more important than agriculture. Their Alpine pasture lie at 10,000-13,000 feet in valley little rain much winter snow."[11] In view of its economic importance and the fact that this is a manifestation of understanding and good utilization of resource available at such high altitude, this knowledge has been given the weightage of 2.

The Raji are among the most primitive people of India both in their habits and mode of living. Their means of subsistence which include food gathering, fishing and hunting, though primitive, are of great significance for their survival in the mountains. They trap animals and fowls by placing bait beneath a heavy stone poised on a stick.[12] This, coupled with there knowledge of where food can be gathered from during particular seasons and where to look for fishes at different times of the year and in water bodies on mountainous region has been given the weightage of 3.

Where as on one hand Bhotias are traders and Rajis are hunters and food gathers, the Buxas possess the knowledge of shifting cultivation. In the past, a Buxa could occupy as much land as he liked and also leave it at his sweet will only to choose another plot of his liking. Such knowledge was apt for proper utilization of the marshy Tarai belt. Though non-tribals had started settling in this region prior to partition resulting in the creation of India and

Pakistan. However, with the coming of the 'Punjabies' as refugees from what became Pakistan, the 'colonization' of Tarai took place and things began to change at a fast pace.[13] Before Buxas could realize the danger, they had lost large chunks of land under their plough or otherwise availables to them for cultivation. Since then, land alienation has been the main problem and worry of the Buxa who feel their whole way of life is at stake.[14]

Among the knowledge of great economic significance for agricultural communities is the knowledge of storage of water for the purpose of cultivation. Such knowledge is possessed by Tharus who depend on a system of irrigation by means of building temporary dams on hilly rivulets and pynes.[15] Taking into account the significance of such a knowledge that has developed this technology and the fact that it is an expression of human beings understanding and effort to overcome limitations presented by nature, it has been allotted a weightage of 2. However, this system works only satisfactorily when there is regular rainfall. When there are years of continuous drought, the entire cultivation fails and the Tharus are hit hard economically.

Throughout Jaunsar – Bawar the craggy precipitous range hardly leave an even patch of land of any considerable size, which could be employed for agricultural purposes. Hence, terrace cultivation is the rule and the Jaunsari possess the knowledge of their own local variant of terracing. Whatever fields are available have been prepared by levelling the hard rocks, stones and boulders. A stone wall called 'Pusta' of heights varying from four to ten feet supports the terraces.[16] For preparing a terrace one has to

build up a wall at the lower part of the slope, then dig the top till the whole plot is levelled.[17]

The Jaunsaries also have the knowledge of cultivation of unterraced and unirrigated fields. This is done on a fairly steep hillside and is called 'Khil' cultivation. These fields are seldom manured because it is believed that the land regains its fertility from the ashes of bunt grass and occasional shrub. Naturally, these fields are left fallow to allow grass and other jungle vegetation to grow again, to be burnt and utilized for maunring afterwards.[18] Many a times the 'khil' cultivation is discontinued as it disintegrates the hillside causing landslides which destroy the terraced fields at the foothills. Khil is used to supplement the produce from other fields as the latter may not be sufficient for the needs of the family. Khil does not require any watch or attention, and once the seeds are sown, the cultivator has only to wait for the harvest.[19]

Jaunsaries prepare the compost following indigenous methods. The cattle are bedded on dry oak leaves which are removed from the 'channis' with the exereta and heaped at a convenient place, left idle for a few weeks for decomposition and then spread over the fields.[20] Neither do they make pits nor bury the excreta under the ground. However, this method of preparing the compost maybe criticised on the ground that the heaped compost naturally loses a great part of its nitrogen content. Had the scientific pit method been used, the result might have been better. Inspite of this, it must be appreciated that this method is

far more eco-friendly than that used by modern agriculturists i.e., use of chemical fertilizers.

Jaunsaries have great knowledge of the usage of plough in the environment they live in. the first ploughing is done to dig the land and upturn the soil in the month of April to enable the cultivator to know the extent of moisture in the soil.[21] After this, the land is levelled by breaking the clods. It is a general practice to plough only once for coarse Kharif crops and two or three times for the others. 'Manduwa' is ,mixed with the soil at the second ploughing, the ground is levelled and the clods are broken with 'pata', i.e., stone. In the case of kharif crop a wooden harrow is used to remove the weeds after the crops have attained a height of 4 to 6 inches. The second ploughing is done in such a way that it leaves parallel lives on the field which help the cultivator in reading.[22] After the seeds are cast, the third ploughing is done so that the seeds may go deep in to the soft earth. After this, the land is left undisturbed.

Cultivation of 'mandwa' is a part of the traditional knowledge of the Jaunsaries. After rice, it is the most important food crop for them. It is used for making bread and country liquor. 'Mandwa' is a wet crop but excessive rains destroy it. The plant is hardy and flourishes even in the rocky fields. People usually follow the traditional methods based on practical experienced by growing mandwa, wheat and rice by rotation. It is the experience of the people that other factors remaining the same, a good year for mandnwa is bad for rice and vice versa.[23] Since knowledge related to 'mandwa' helps secure food in the harsh terrain and foretells

whether rice cultivation that year would be good or bad, it has been given the weightage of 2.

Pulses are extensively grown at lower attitudes by the Jaunsaries. Cultivation of 'kolth' which forms a prominent part in the diet of the people in Jaunsar-Bawar is a part of this traditional knowledge and so are the cultivation of 'Kauni', 'khangora,' 'chinai,' and 'phapra' and each of these have been allotted the value 1 from amongst the binary values.

Knowledge of growing 'arvi' or 'ghunya' and 'gagli' is present as a part of the indigenous knowledge of the indigenous communities is entire Uttaranchal.[24] Tharu, Jaunsari and Buxa being cultivating tribal and who cultivate the same groups have been allotted the binary value of 1 for each of these crops.

Credit for possessing the traditional knowledge of cultivating 'Phaphra' or 'bhe', Botanical known as F. Tataricum, other than Jaunsari, also goes to the Bhotia. Besides., they also possess the knowledge of cultivating 'kotu; or 'ogal' or 'palti', the botanical name of which is fagopyrum esculentum and 'chua' or 'marcha' or marsa', the botanical name of which is amaranthus framentaceus.[25]

'Rhubarb' grows wild and Bhotias do not eat it.[26] It is used in the form of a red dye. They use the bark of the birch for paper and other others domestic uses and it is exported to the plains and the twigs of juniper are used in preparation of yeast.[27] All these form a part of Bhotia's traditional knowledge and so does 'phung', which is called Orchis (Satyriym nepalense).[28] Root of this plant is eaten.

Bhotias are well aware of the art of making woolen handicraft. Blankets and course serges are the only articles manufactured to any extent by them chiefly for home consumption. 'Pankhi', which has wool combed up on one side to resemble a fleece is manufactured by the Bhotias themselves. The thick woolen blankets are called 'tholmas' and 'chaptas'. This knowledge too has been documented and given the value of one from amongst the binary values. On the other hand, traditional occupation of the Rajis from time immemorial have manufacture of wooden cooking utensils and agricultural implements like ploughs,[29] thereby forming part of their traditional knowledge.

The art of Goldsmithy is known to the 'sunar' cast among the Jaunsaries which is their age-old traditional calling. On the other hand, Buxas engage in gold washing, i.e., extracting gold dust from the auriferous sand of Sona Nadi.[30] Both these attributes form a part of each of these communities traditional knowledge.

Fishing is an important subsidiary occupation for the Buxas. Fishing expedition are undertaken by groups of families in which women take an active part. It is done with nets and 'pakhaiya' (trap and made of bamboo).[31] The instrument is more effective in slow water. They also use 'dhimri', which is placed at the exist of water in a stream or a dam.[32] The same allows waters to pass through while the fish is caught inside.

Bhotias, Rajis, Tharu, Jaunsaries and Buxas live in close physical proximity. They all have to face the mountain environment for their survival. Inspite of this, their knowledge or cultural capital

with relation to economic activities, which to a large extent is based on their interaction with this mountain environment, is diverse. The communities together constitute a storehouse of knowledge of the same. Variation interms of environment within the mountain eco system seem to have played a great role.

TRADITIONAL KNOWLEDGE, SOCIETY AND CULTURAL

An intrinsic part of human-nature interaction is the evolution of culture, tradition and a set of social institutions. Temporal and geographical space has a deep-rooted impact on human experience and evolution of knowledge. Though these, human beings try to make themselves the 'best fit' within the given constraint. So is it in Uttaranchal where its indigenous people have evolved and adjusted their culture, tradition and social institutions so that it is in harmony with nature. At the same time, there is great diversity in the same with regards to the different indigenous groups. This depicts their varied understanding of their physical and social environment.

Westermarch has defined marriage as a "relation of one or more men to one or more women which is recognized by custom or law and involves certain rights and duties both in the case of the parties entering the union and in the case of children born to it."[33] In most indigenous communities, occurrences of types of marriage are adaptions to the demanding ecological, economic and cultural needs of the people. The practice of polyandry found in some parts of the world and among many communities of the Himalayas i.e., Lahaulies and Spites, Kinnauries, Ladakies, Jaunsaries, Gallonge,

Failobos, Tangmas, Hill Miris and Wanchoos is singular manifestation of value attitude system inherent in the culture as most suitable adaptation to sustain the community through checks and control.[34]

About the Jaunsaries, it may be said that probably, the inhospitable physio-terrain specificities prevailing have evolved polyandry as a cultural adaptation to maximize the scarce resources available at the disposal of the same for sustenance. The economic limitations, non-cooperatives terrain conditions and an urge for survival perhaps forced people of the village to adopt this system of family life in keeping with the demands for joint labour. Apparently, the practices of polyandry seems to be an outcome of this demand. Since it up kept the sustaining properties of the economic assets in conformity with the prevailing ecological factors, it was made a cultural complex through sanctions of social codes and conducts.[35] Through this cultural complex, division of labour was channelized, social security of women and children has been systematized and the unit of people and property of a family has been secure. In addition, polyandry was an appropriate and indigenous strategy to control the population growth and augment the sustainable use of scarce resources as decennial growth rate in Jaunsar-Bawar region was much lower i.e. below 2.0 percent in comparison to that for the nation, i.e., 13.3 between 1941-1951. In 1991, decennial growth rate of the region was almost equal with the national figure, which was about 23.5 percent. However, the fact that now monogamy dominates among the Jaunsaries has to be taken into account. This is an outcome of developmental

interventions, which has made life easier. Besides, contact with the non-tribal Hindu society has also been a demonstrating factor. Polyandry as a form of marriage among Jaunsaries has been allotted a weightage of 2. This is because it facilitated the region's and communities' demand for joint labour and kept a check on population growth to a level which would otherwise be difficult to sustain with the kind of technology that was available in the past.

None of the other communities under consideration practice polyandry. Among the Bhotias, marriage contacts are formed at an early age but the marriage is not commonly concluded till the parties arrive at maturity.[36] Should the female in the meantime make a choice for herself, the previous contract is compromised by payment of a sum of money. Among Rajis, girls are married only when they attain puberty. Marriages are usually arranged and they take place outside the family 'dhara' or line. To ensure this, they do not marry among themselves for three generation. Considering fact that the Raji are a small community, this is a very scientific method of prevention of perpetuation of genetic disorder or diseases.

Tharus practiced marriage by capture and purchase and marriage among them took place when the bride and groom became adults. With the opening up of 'Tharuhat' (land of Tharus), regular contacts have been established with Hindus of the plains and some changes have taken place in Tharu marriage regulations as well as their rites and customs.[37] The result is that in the sphere of marriage, as almost in all other walks of life. Tharus have come nearer the rural Hindus. Tharus practice community endogamy

and clan exogamy. Traditionally, child marriage did not take place among them, though this custom has witnessed a change on account of Sanskritization.[38] Tharus also practices propagate, i.e., the custom of marrying to wife's sister and polygyny is allowed in this society.

Among Buxas, usual age at marriage is between 15 to 20 years for boys and 13 to 17 years for girls.[39] They generally avoid marrying in the 'gotra' of self as that of maternal uncle. They do not practice village exogamy, on the contrary, it appears that sometimes marriages within the village are more sought for. By an large, the Buxas are monogamous but polygamy to the extent of two wives is permissible. Thus, marriages among Bhotas, Tharus, Rajis and Buxas have been allotted the value of one in the knowledge scale.

To take note of remarriage of women, among Bhotia, the ordinary course for a women when her husband dies is to go and live with her deceased husband's younger brothers as hs wife. According to Atkinson,[40] if the younger brother is too young for matrimony, she generally looks out for another husband or is sold to another by her kinsmen. He further points out that if a woman deserted her husband and goes to live with another man, her husband took the cost of the second marriage from the seducer of his wife. This way the women get divorced from her earlier husband and become the wife of her seducer. Presence of such a system ensures freedom of choice to women.

Among Tharus, several situations necessitates remarriage of a women: she may become a widow; her husband may desert her; or she may desert her husband and run away with a paramours. In the first two situations, remarriage is called 'gharbaitha' or 'gharbasti' (i.e. staying in the house), in the third situation, it is called, 'urari' i.e., elopement.[41] Tharus allow their widow to re-marry and a widow avails of this privilege unless she is very old with grown up children. Tharus also allow the right to divorce both men and women – by consent of the 'panchayat'.

Buxas too take a practical and liberal view in mattes of divorce, separation and remarriage. For them, marriage is a contract which can be ended by either party on grounds. Even if no good grounds exist, a couple may separate although the society and 'Takht' may frown and fret but cannot interfere.[42] No stigma is attached to widow re-marriage or remarriage.

There exists tremendous freedom with relation to choice in terms of sexual behaviors among indigenous people of Uttaranchal. Bhotias, Tharus and Buxas do not associate sex with marriage alone. In their winter quarters Bhotia have a youth dormitory called 'Rang-bang' where unmarried boys and girls of different clans spend nights together (usually lasting for a period of 20 to 30 days).[43] This institution helped the young people to know each other intimately and ultimately to choose their life partners.

Tharus possess a pragmatic and realistic attitude towards sex. As soon as a girl attains puberty, she looks around for a 'dhengra' i.e., boyfriend. More often than not, the friendship leads

to sexual relationship. As no premium is attached to virginity, pre-martial sex is no taboo. Even after marriage a Tharu women has considerable freedom with relation to extra marital sexual behavior whenever she returns to her parental home and this sexual liberty is also available to men when their wife goes to her parental homes.[44]

Among Buxas too, sex is neither a taboo for unmarried men and women, nor is it considered to be a sacrament to be consumentated after marriage. Sex is considered to be a natural gift to be enjoyed fully.[45] However, such affairs are not socially accepted, but on the whole, the parents turn a blind eye to the amorous adventures of the youth. Even after marriage, when a husband learns of his wife's intrigues at her parental home, he does not necessarily raise a hue and cry. Usually he either stops her from going to her parent's place or accompanies her too, to keep a watch over her.[46]

The polyandrous Jaunsaries have accorded social sanction to premarital sex. Even extra martial sex is permissible when married woman return to their parental villages.[47] Even in their husband's home, where they have to manage and look after more than one husband, their notion of fidelity and loyalty to their husband are somewhat different from the accepted norms in non-tribal society. Thus, we see that these indigenous people have taken a very practical and pragmatic view of human sexual needs and with the evolution of their knowledge, they have attained an understanding of the same which has led to greater freedom of choice. This

freedom has been recognized as part of this traditional knowledge and been given the value of one.

As for status of woman in the indigenous societies of Uttaranchal, it maybe said that they are not considered inferior to that of men. The Rajis as well as the Bhotias allow their maiden considerable liberty and discretion in choosing life partners. Their roles in the economic process also adds to their status, Bhotia women are able to augment the income of their husbands by weaving carpets, blankets and 'thulmas'.[48] The knowledge that grants equal status to women has been granted the value one for each of these communities.

Among Tharus and Buxas, the role of women is dominant and that of men subservient. Men among them are more or less henpecked and generally afraid of their wives.[49] Jaunsari women too enjoy considerable liberty in her personal life and continues to be closely linked with her parents. To escape from the drudgery at her husband's house, she visits her parents for long periods on the slightest pretext.[50] Thus, in terms of status of women, Bhotias, Raji and Jaunsari have been given the value of one, whereas Tharu and Buxa have been given the value of one from amongst the binary numbers and weightage of two each.

In terms of knowledge of religion, Bhotias may be regarded as pantheists, paying equal adoration at every temple whether erected by Hindus or Buddhists. Ceremonies and animal sacrifice is an intrinsic part of their religion. Strict Puritanism is impossible in the tropics and similarly strict Hinduism is imparcticed in the

cold eliminate, and the respect which Bhotias show to the religion of their Tibetan neighbours may be part of any reverence for what was probably their ancient faith.[51] This flexibility may also be attributed to the creation of institutions that are harmonious to the physical environment and needs. The Rajis, like most other indigenous communities, have their own tribal deities and also revere many Hindu Gods and Goddesses and worship numerous aspects of nature.[52] The Tharus as well as the Jaunsaries have their own community Gods as well as worship the Hindu Gods. Infact, the Jaunsaries even have the institution of caste system. As for Buxas, despite a clear and distinct impact of Hinduism on their belief, they continue to have deep faith in animism, animalism and spiritism. Many Buxas worship Mulsim 'pirs' or saints and invoke Hazrat Mohammad in distress or illness.[53] A section of the Buxas have also been greatly influenced by Guru Nanak, the founder of Sikhism.[54]

Bhotias have a rich culture and they have their own songs. These songs may be classified into 'soguna' or Auspicious songs, Ring dance song, 'Mangal' or 'Fag Geet' (songs of blessing), seasonal songs or 'Ritu Geet'. A few stanzas of each of these categories have been provided as examples below in the Bhotia language as well as it translation.

EXAMPLE 4.1: 'SOGUNA' OR AUSPICIOUS SONG

ORIGINAL	TRANSLATION
Hit hit Palsi jaunl Jaintapuri Ter Jaintarpri supidar hiti nai Sakan, Hiti nai Sakanai Palsi dolyar lai deunlo, Ter Jaintapuri supidar boli nai Bhingn, Boli nai bhingen Palsi Suvalgh padhol, Ter Jaintpuri re Supidar rasen nai hati Rasen lai deulo Palsi bhaman bulonl	Come, come, Opalsi, let us go To jaintapuri, O' Supidar I cannot walk to your Jaintapuri, if you cannot walk to O' Palsi,, I will send a Palaki for you, O' Supidar, I cannot understand the language of Jaintapuri, If you cannot understand the language O' Palasi, I will make you cram it up like a parrot, O, supidar, there is no cook at your Jaintapuir, I will send a cook O' Palsi and send a Brahmin too

Source: Pangtey[55]

EXAMPLE 4.2: RING DANCE SONG OR 'DHUSKA'

ORIGINAL	TRANSLATION
Meraule kas karlai, Sali Balyura Bhol banch dharlain, Bhina Maisar	Would you like to be my wife O' Sali Balyurya Tomorrow you will make complaints O' Bhina maisar.

Source: Pangtey.[56]

EXAMPLE 4.3: 'MANGAL' OR 'FAG GEET' (SONG OF BLESSING)

ORIGINAL	TRANSLATION
Dain ho dain ho thati ka thatiyal Dainho, dain ho, Bumika Buymiyal Dainho, dain ho, kholika Ganesh Pairo pairo Ram Luchman, resham pagdi	Bestow good fortune, O' thatyal of Thati Bestow good fortune, O' Bhumiyal of Bhumi Bestow good fortune, O' Ganesh of the door way O' Ram and Lachman put on silk turbans

Source: Pangtey.[57]

EXAMPLE 4.4: SEASONAL SONGS – RITU GEET

ORIGINAL	TRANSLATION
Bhai ni chh habu la meri Svrag ki chhuti chun main Jeth maina jetholi rangilo baisakh Lado maina chait la meri Sale nyoli chadi nan basalo	I have no place on earth This month of Jeth is elder and bainsakl is colourful And chait is my favourit month When all brids big and small sing

Source: Pangtey .[58]

These songs are examples of colours of culture that these people are able to convert into poetry and tunes. They also give an insight into various facets of their life and their own perspective

and understing on the same. Seasonal songs bring to light Bhotia's understanding of various facets of the climate they experience.

Raji's do not have long folk songs or songs having complicated, or philosophical themes or containing long love narratives. Never the less, they do represent the aspiration, religious devotions and surroundings of Rajis. As for the Tharus, they love and adore Lord Krishna.[59] Thus, majority of their songs are based on Krishna themes. They have Holi songs, marriage songs, love songs as well as devotional songs which bring to light their rich cultural heritage. It is the same with Buxas as well. These songs are a proof of the indigenous people's understanding of their surroundings and thus a genius proof of their knowledge, and thus, they have been accounted for the same. Tharus have their own dance, which begins late in the evening. A man is usually dressed as a women with all her dresses, ornaments and style and is commonly known as 'Nach Kayya' – the dancer, who has a party of drummers, and singers who keep rhythm and tune.[60] First of all, the dancer dances and sings before the 'kusa' and 'jhal' in which meals are kept. Songs sung on the occasion (Dewali) describes the transitory nature of the world and are full of gloomy forbearing. The translation of one of such songs has been provided as example 4.5. Besides, it has also been accounted for as knowledge.

EXAMPLE: 4.5

TRANSACTION OF THARU DIWALI SONGS

Why have you come no 'panchhi' you have left my village in despair. When you were born there was happiness all around. Four or five women sang together the auspicious song when you were born. When you were young you played with boys then old age followed. You were attacked with cold, you lost all hopes of life. The messenger of 'Jam'[61] came to take you away and began to break your bones. Beating with hammers and taking out of you the carried you to 'Jam', four relatives took you on their shoulder covering you with coffin, collected wood from the forest and burnt you.

Source: Srivastava[62]

The whole garment of social and cultural experiences in terms of the lived space of these indigenous communities are many a times expressions of their understanding and adaptation to this physical environment. These traditional knowledge also provides uniqueness to the cultural and social spaces of indigenous communities. The relations between the components within this cultural and social space matrix are in many ways dissimilar to that of the non-tribal society. These relations when observed without prejudice and biases of non-tribal society seem to be relevant, of use and manifestations of evolved societies in their own particular way.

TRADITIONAL KNOWLEDGE OF DISEASE, NUTRITIONAL AND BIOTIC RESOURCES

Disease is a vital problem for every society, primitive or advanced, and every society has developed its own recipe for treatment and cure of diseases to which it is heir. Primitive systems of medicine or even magic have much to commend, and so long as the people have faith in the system they own, it helps them to tide over periods of crisis, and reduces the mental conflicts that they evoke.[63] The indigenous people under analysis believe in luck, charms, talisman, and horoscopes. Disease, disability and mental illness are attributed to super-natural causes as a divine punishment for man's sin. Fear of spirits and demons still prevails and priests and magicians rolled into one are still present in various forms. For example, among Jaunsaries, disease or illness is attributed to more than one cause, and hence, the treatment is also of different types. Jaunsaries categories illness into supernatural causes and non-supernatural or physical causes.

Among indigenous people are present the witch-doctors as well as practitioners of traditional medicines. This includes the 'Baman' who is an astrologers, priest and healer; the 'mali; who is a diviner; the 'Jariyara' who is the pulse specialist and herbalist; and the midwife. The sacred specialist among Jaunsaries is known as the 'baki, who cures diseases and dispels miseries caused by some angry deity or spirit. Witch doctor among Tharus is the 'bharra' where as that among Boxas is 'Sayana'[64] among Raji's, 'dangaria' or 'dhami' is a medicineman, and 'puchhuaru' is a divine – teller, who also diagnoses the causes of unhappiness. Though, these

witch-doctors perpetuate the belief of tribals in supernatural forces with relation to diseases, they also possess great knowledge of the natural forces that cause them and the application of biotic resources of the region to cure the same. Not only these witch doctors but also a number of others from within the communities are greatly aware of their surroundings and use biotic resources for a whole range of activities.

The Jaunsaries have knowledge of many illness caused by physical and non-supernatural sources. These include tuberculosis, locally known as 'tapedic'. According to them, 'tapedic' is caused due to excessive smoking, drinking, intercourse and work. They attribute 'sookha roog' or ricket to under nourishment and the same is the case with 'shookh' or 'marismus'. 'Aak Shak' or syphilis is known to be caused due to sexual relations with more than one woman and 'dhaak sujak' or gonorrhoea is caused due to sextual relations with more than one man. Jaunsaries also believe that 'sheram' or boils is caused due to excessive heat in the body.[65]

Bhotias have knowledge of the usage of Rubus nutans, Satyrium Nepalese and Aconitum heterophyllum, which in the Bhotia language are known as 'Sinjang', 'phung' and 'atis' respectively.[66] Rubus nutans, which in English is known as ground raspberry is an orange fruit and is eaten. The roots of Satyrium nepalense which in English is known as Orchids is eaten whereas that of Aconitum heterophyllum or monk's wood is used in medicine.

There numerous other biotic resources, the knowledge of which, along with its usage is sometimes exclusively present with the witch doctor and at other times is common among a number of members of the indigenous community. These biotic resources are a shared property of the indigenous communities who have harnessed and sustained them with their eco-friendly life style. These biotic resources are found either in the very region or place where these individual communities live or the individual community or their witch doctor is aware of the usage of these resources which are available in close proximity within the mountain eco-system. Thus, all these communities have been allotted the value of 1 from amongst the binary values for medicinal knowledge of each of the documented biotic resource. Weightages have been given based on the number of uses each of this botanical or zoological resources have for different purposes. The scientific and the local name of the resources along with the part used and the use of the same has been provided in the form of a table below. Table 4.1. deals with the botanic resources where as Table 4.2. deals with the zoological resources.

TABLE 4.1.: BOTANIC RESOURCES AND TRADITIONAL KNOWLEDGE

1	2	3	4	5
Sl. No.	**Scientific name of resource**	**Local name of resource**	**Part used**	**Use**
1.	Abrus precatorius	Rati	Roots	Supposed to be antihelmenthic and also bears insecticidal properties.
2.	Aconitum bulfori	Mitha bis	Tubers	They are toxic and used in the swollen surface of the wounds.
3.	Adiantum caudatum	--	Rhizone	Used as insecticide
4.	Aesculus indica	Pangar	Fruit	It's flour is supposed to have antiehelmenthic properties.
5.	Agave americana	Ram bans	Leaves	Extract of young leaves is used as soap and also in wounds.
6.	Allium cepa	Pyas		Used as antihelmenthic
7.	Andrachne cordifolia	Bhatti	Leaves	The infusion of leaves is applied for snake and scorpion bite
8.	Arisema tortuosum schott	Baghmungari	Plant	Plant is used in poisoning the fish
9.	Aruncus dioecus	Walter	Plant	Plant is used as insecticide
10.	Baliospermum montanum	Dante	Plant	Is poisonous and externally used asmedicine
11.	Boenninghausenia albiflora	Pissumar	Leaf and stem	Aroma is thought to be insect repellent

12.	Bromus inermis	Ghas	--	Is supposed to be poisonous to cattle
13.	Callicarpa macrophylla	Dhaya	Leaves	Externally used in wounds
14.	Cedrela toona	Toon	Bark and yougn fruit	Supposed to be antiseptic
15.	Cedrus deodara	Deodar or diwar	Resin	Is insecticidal and antihelmenthic
16.	Calastrus paniculate	Malcanguni	Leaves and seeds	Used in wounds and sore surfaces
17.	Colebrookia oppositifolia	Binda	Levels	Applied in wounds and sores
18.	Curcuma ionga	Haldi	Rhizome	Used as insecticide and antiseptic
19.	Dhatura stramonium	Dhatura	Seeds	Are poisonous and used as narcotic
20.	Elarodendron glaucum	Dhebri	Root and bark	Root is believed to be specific for shake bite and bark is used in medicine
21.	Epilobium royleanum		Leaves	Causes convalescence and used in high fever.
22.	Euphoria pilosa	Daya	Plant	Used externally in wounds and rheumatism
23.	E.royleana	Salu	Latex	Is poisonous and used in fish killing. Also used for applying on wounds
24.	E. Stracheyi	Dudhibish	Latex	Is poisonous and applied in rheumatism.
25.	Gloriosa superbs	Kalihari	Root stock	Is toxic and used for early termination of pregnancy

26.	Icnocarpus frutiscens	Belkamu	Roots	Used in scorpion bite
27.	Iris kumaonensis	Tezmorkarlar	Root and leaf	Extracts used as insecticided and medicine
28.	Jatropha curcas	Safed arund	Twigs	Its juice gives soapy lather and is applied on sores
29.	Juniperus squamata	Jhoru	Leaves	Used as insecticides
30.	Jurinea macrocephala	Bishkandara	Roots	Used as antiseptic and supposed to be narcotic
31.	Limonia crenulata	Beli	Fruit	The pulp is considered protective against contagious and antidote to venomous poison. Also used as antihelmenthic
32.	L. umbrosa	Shurur	Fruit	It oil is used in itches and other skin diseases
33.	Lyonia ovalfolia	Anyar	Leaves	Used to kill insects and infusion of them is applied to skin diseases of parasitic origin.
34.	Melia azadirach	Bakin	Bark and fruit	The pulp is used as insecticides and in contagious diseases. The fruits are also used as anti helmenthic
35.	Murrava Koenigii	Bilgas	Leaves and fruit	The pulp is antihelmenthic and insecticidal
36.	M. Paniculata	Gandela	Fruit and leaf	Fruit pulp is insecticidal and leaves are used in fish poisoning
37.	Myrica nagi	Kaphal	Bark	Used as a plaster for rheumatism. Also used in

				fish poisoning
38.	Myrisine semiserrata	Gaunta	Bark and fruit	Bark used externally in wounds and the fruits are antihelmenthic
39.	Osyris wightiana	Dalmi	Leaves	Used as substitute of tea
40.	Paeonia emodi	Chandra	Tubers	Are poisonous and applied for rrheuatism and wounds
41.	Prinsepia utilis	Bhainkal	Seeds	Its oil is used in burns. It is also supposed to bear antihelmentic properties.
42.	Putranjva roxbusrghi	Jaipula	Nuts	Are strung up into rosaries and tied round children's necks to keep off diseases.
43.	Polygonum rumicifolium	Kanthala	Undergroun d plant parts	Antiseptic
44.	Randia dumetorum	Mainn	Unripe fruits and bark	Unripe fruits are used to poison fish and the bark is supposed to be medicinal
45.	Litsaea Chinensis	Chandana	Inner bark	Is granular and viscid and used as an external application for sprains and bruises.
46.	Rhododendron arboreum	Burnas	Leaves	Infusion of leaves is externally applied for wounds and rheumatisim.
47.	R. anthopogon	Talish or kodya	Leaves and flowers	Used as substitute of tea
48.	R. campanulatum	Simru	Leaves	Externally, used in headache and also applied in eczema and cuticular disease.
49.	Rhus cotinus	Tung	Leaves and	Emit characteristic odour and supposed to have specific

			flowers	insecticidal properties
50.	Ricinus communis	Arund	Leaves	Leaves are pasted on the surface of wounds
51.	Sapium insigne	Khinda	Fruits	Used in fish killing.
52.	Sapindus mukorossi	Ritha	Fruit	Fruit pulp is used as soap and as insecticidal
53.	Shorea robusta	Sal	Resin	Resin of the plant is used in wounds and cuticular infections
54.	Skimmia laureola	Kathorchar	Leaves and fruits	The aromatic leaves and fruits are insecticidal
55.	Simlax aspera	Kukardara	Leaves and branches	Leaves and young branches are used externally to cure wounds and sores.
56.	Staphylea emodi	Marchob	Branches	Walking sticks are made which are believed to keep off snakes.
57.	Taxus buccata	Thuner	Leaves and stem	Aromatic leaves and stem are used as antiseptic and as insecticidal
58.	Woodfordia fruticosa	Dhaula	Flower buds	Used in fish poisoning
59.	Zanthoxylum alatum	Timru	Fruits and bark	Fruits used as insecticidal and bark used in fish poisoning

Source: Gaur, R.D. Sharma, M.P. and Semwal, J.K. (1980): Ethnotoxic Plants of Garhwal Hills in India, *Eastern Anthropologist*, vol. 35. Pp. 159-163.

TABLE 4.2:

ZOOLOGICAL RESOURCES AND TRADITIONAL KNOWLEDGE

1	2	3	4	5
Sl. No.	**Scientific name of resource**	**Local name of resource**	**Part used**	**Use**
1.	Acridotherus tristis	Santula	Blood	Applied on skin in leucodarman. The gaterhig of myna on the house during winter season is the symbol of snow fall
2.	Agma tuberculaltus	Chibara	Eggyolk	Applied on the ringworm
3.	Apis indica	Mara	Honey	Used for removal of cough and body smelling. Also taken with milk in body weakness
4.	Bos indicus	Gai	Urin, dung and skin	Urine is rubbed in skin diseases, dung is applied on ring worm and muscial instruments are made from skin.
5.	Bubalous bubails	Bhainsu	Dung, blood nad urin	Dung is applied on itching, blood is applied on skin diseases and urine has insecticide property.
6.	Bubo bubo	Ghugu	Hair, nail, meat	The hair, nail and other parts of the body are used in psycho medicine. The cooked meat is given to hypnotize human beings.
7.	Bufo viridis	Mendak	Meat and fat	Cooked meat is taken in body swelling. The fat is used to massage the body

				to relieve the joint pain.
8.	Canis aureus	Syal	Meat and skull	Soup of meat is taken by the patient of tuberculosis. The skull is used in pschomedicine
9.	Canis familaris	Kutta	Urine	Is drooped in pussed ear and deafness
10.	Calendrella acutirostris acutirostris	Kalchent	Meat	Cooked meat is taken in indigestion
11.	Capra Sibirica	Bakri	Lvier, blood and skin	Lvier is taken in night blindness, fresh blood is taken in tuberculosis and skin is used as cushion and for making drums.
12.	Carvus splendens	Kauwa	Liver	Given in pneumonia
13.	Cerrus duvauculin	Jarau	Horn	Paste of horns used in jaw pain. Ash of horns given in cough and asthma. Spindles are also prepared from horns.
14.	Columba livia	Kabootar	Meat	Used in gastric trouble and pain. It is also applied in ulcers.
15.	Carcinus moenas	Gegar	Meat	Soup is given to women after delivery to increase the quantity of milk. Cooked meat and soup is given to children in the post stage of measles. Soup is taken in mental disorder.
16.	Felis domesticus	Biralu	Eye ball	Used in tantra as hypnotizing agent

17.	Frankolinus frankolinus	Teetar	Meat	Meat and soup given in rheumatism, raw meat given to women in abnormal menstruation
18.	Hirudinaria granulose	Jonk	Body	Body paste is applied on wounds for healing effect. The leech sucks inmpure blood from the wounded portions.
19.	Histrix indica	Saula	Spine and meat	Writing pens are prepared from body spines. The meat is used in asthma and bronchitis. Fried meat is given in haemorrhoids.
20.	Homo sapiens	Admi	Urine and milk	Urine is applied on cuts and scratches to check flow of blood. Urine is used in colic pain too. Breat milk is used to prevent eye ailment and to expel harmful particles that may have entered the body.
21.	Lobeo rohita	Machi	Oil	Massaged in body pain
22.	Lepus rigricolis	Kharah	Fat and blood	Fat is rubbed on chapped skin, sores and burns. Fresh blood is supposed to increase eye light
23.	Lutra lutra	Od	Meat	Used to cure fever due to cold
24.	Lymnall lamrk	Kauri	Body	Paste is given in stomach disorders of infants.
25.	Moschus moschiferus	Kastura	Musk, horn and meat	Musk is taken in feaver and pain. Horn paste is applied on tooth ache and ringworm. The meat is supposed to be very

				warmad taken during winter
26.	Musca domestica	Makhi	Head	The paste of gur (Jaggery), leaves of rajma beans and head of files are applied on leucoderma and eczema.
27.	Naemorhedus goral	Ghoer	Meat	The cooked meat of the animal is given to women in leucorrhoea and other diseases of blood impurity.
28.	Naemacheilus montanus	Gadyal	Meat and fin	Cooked meat and soup is taken in the post stage of measles. Meat without salt is given to women to inhance the secretion of milk. The fin is rubbed on the gums for early eruption of teeth in children.
29.	Oric tolagus	Khargosh	Meat, liver and urine	The meat is taken in leucorrhoea and gonorrhea. Meat is eaten in winter to provide warmth. Urine is applied in sextual diseases. The liver is taken in fever.
30.	Ovis amnion	Bheri	Fat	Used in massage
31.	Panthera tigris	Bagh	Blood	Applied in leucoderma
32.	Passer domesticus	Ghenduri	Excreta and meat	Excreta of the bird is rubbed around the belly in urinary troubles. Soup of the meat is taken as blood purifier.
33.	Pheritima posthuma	Kitla	Body	Body paste is applied on burns

34.	Presbytisentellus schistaceous	Goni	Blood	Blood is taken in chronic tuberculosis
35.	Ptyas mucusus	Guroan	Body	The crushed pieces of the body are boiled and made into jelly and applied on ulcer and eczema.
36.	Rathus rattus	Musa	Faeces	The faces of the rat is given in tertiary fever
37.	Rhinolophus lectus	Chamgadar	Meat	Meat taken in colic pain and psychomedicine
38.	Schizothorar richard	Machi	Intestine	Cooked intestine without the oil is given in gastric painwe
39.	Selenarctors thiebatanus	Rikh	Testes, meat and spleen	Small dose of dried testes is taken with milk in Kidney pain. Meat of the animals is recommended for internal injury. The small dose of spleen is also taken in fever.
40.	Sus scropha	Bhunna	Fat	Fat is rubbed in chapped skin, burns and orally taken in joint pain.

Source: Gaur, R.D. Bist, M.K., Bhat K.C. (1998): A note on Medicinal and other uses of some animals in Garhwal Himalaya: An Ethnozoological Perspectives. *Man in India*, vol. 68, pp. 292-297.

The thirst of objective knowledge is one of the most neglected aspect of the thought of people we call 'primitive'[67]. Even if it is rarely directed towards facts of the same level as those with which modern science is concerned, it implies comparable intellectual application and methods of observation. In both cases the universe in an object of thought at least as much as it is a means of satisfying needs. Every civilization tends to overestimate the

objective orientation of its thought and this tendency is never absent. When we make the mistake of thinking that indigenous people are governed solely by organic or economic needs, we forget that they level the same reproach at us. To them, their own desire for knowledge seems more balanced than ours. Take the example of the Hanunoo of the Philippine among whom a custom as simple as that of betel chewing demands a knowledge of four varieties of areca nut and eight substitutes for them, and of five varieties of betel and five substitutes.

Levi Strauss,[68] while elaborating about the knowledge in possession of the 'primitive peoples' gives the example of writings of a biologist about pygmies of Philippines which is as follows

> "Another characteristic of Negrito life, a characteristic which strikingly is their inexhaustible knowledge of the plant and animal kingdoms. This lore includes not only a specific recognition of a phenomenal number of plants, birds, animals, and insects but also includes a knowledge of the habits, and behavior of each ... The Negrito is an intrinsic part of his environment and what is still more important, continually studies his surroundings. Many a times I have seen a Negrito, who, when not being certain of the identification of a particular plant will tastes the fruit, smell the leaves, break and examine the stem, comment upon its habitat, only after all of this pronounce whether he did or did not know the plant."

The indigenous people are also interested in plants which are of no direct use to them, because of their significant links with the animal and insect world, and having said this, their extreme familiarity with their biological environment, the passionate attention which they pay to it and their precise knowledge of it is what comes out via table 4.1 and table 4.2. These tables point out the multiple use of the biotic resources. They extent from being medicines to providing nutrition and from being of narcotic value

to having insecticidal properties. At times few of these plants are even poisons and this too is made use of e.g. hunting or fishing. The indigenous people have been able to develop rich knowledge base from their understanding of their natural environment. It is not that this knowledge is confide to them only. In fact there seems to have been some kind of dissemination of the same among the non-tribals as well. What propels us to say that this knowledge, in bits and pieces, and to a limited extent has moved from the indigenous people to the non-tribals, is our understanding that it is the tribals who are more familiar with their habitat and the flora fauna. Thus, it is imperative, that they are the ones who have developed this cultural capital.

To conclude, we may say that the life style of the indigenous people is quite different from what is seen in the non-tribal societies. They are closer and more dependent on their natural environment. Though tribals, on account of their interaction with nature, do modify their natural environment, in comparison to the modification made by the non-tribal society, such modification is insignificant. The indigenous people of Uttaranchal have developed their own cultural ecology. Here they have developed their cultural capital in the form of traditional knowledge. This knowledge helps them in the process of production, distribution and exchange. Besides they have assimilated a store house of knowledge on medicinal and nutritional use of the regions plants and animals. A combination of all these factors not ony differentials them from the 'modern' world but also from a part of the very identity of these people.

Endnotes

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[3] *Ibid.*

[4] *Ibid.*

[5] Padel, F. (1998) : Forest knowledge: Tribal People, their Environment and the Structure of Power is Grove, R.H., Damodaran, V. and Sangwan, S. (eds) *Nature and the orient*, Oxford University press, Delhi, p. 891, (pp. 191-971).

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[7] Padel, F. *op.cit.*

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[9] *Ibid.*

[10] Singh, K.S. (1998): *The Scheduled Tribes*, people of India, national Series, Anthropological Survey of India, Oxford University Press, p. 149.

[11] Spate, O.H.K. (1954) *India and Pakistan* , London, p. 404.

[12] Hasan, A. (1971): *A Bunch of Wild Flowers*, Ethnographic and Folk Society, Lucknow, p. 49.

[13] Hasan, A. (1982): *Meet the U.P. Tribes*, The Academic Press, Gurgaon, p. 42.

[14] *Ibid.*

[15] Roy Choudhuri, P.C. (1952): the Tharus, *Man in India*, vol. 3, no. 1-4, p. 249.

[16] Majumdar, D.N. (1963): *Himalayan Polyandry*, Asian publishing, Bombay, p. 182.

[17] *Ibid*, p. 182.

[18] *Ibid*, pp. 184-185

[19] *Ibid*, p. 185

[20] *Ibid*, pp. 187-188.

[21] *Ibid*, pp. 192-193

[22] *Ibid*, pp. 192-193

[23] *Ibid.*

[24] Atkinson, Edwin, T. (1882, rpt. 1973): *The Himalayan Gazetteer*, Volume III, Part I, Cosmo Publication, Delhi, p. 121.

[25] *Ibid.*

[26] *Ibid.*

[27] ibid, 23, pp. 121-122

[28] *Ibid*, p. 123

[29] Hasan, A. (1971): *op.cit.*

[30] Burman, B.K.R (1970): *Buxas*, Govt. publishing House, p. 10.

[31] *Ibid*, p. 12.

[32] *Ibid*, p. 12.

[33] Samal, P.K., Chauhan, M.S., and Fernando, R. (1996): The Functioning and Eco-cultural Significance of Marriage Types among the Jaunsaries in Central Himalaya, *Man in India,* vol. 76, no. 3, pp. 199-200.

[34] *Ibid.*

[35] *Ibid.*

[36] Atkinson, Edwin, T. *op.cit.* pp. 117-118.

[37] Mathur, S. (1967): Marriage among tharus of Chandanchowki, *Eastern Anthropologist*, vol. 20, p. 33.

[38] The term Sanskritization was first used by M.N. Srinivas to describe the process of cultural mobility in the traditional social structure. In his study of the coorgs in Mysore he found that lower castes, in order to raise their position in the caste hierarchy, adopted some customs of the Brahmins and gave up some of their own, considered to be impure by the higher castes. This term has been used here to denotes this process where tribals consider this customs to be lower and degrading compared to that of caste Hindus.

[39] Burman, B.K.R. *op.cit.*, p. 13

[40] Atkinson, Edwin, T, *op.cit.* pp. 118-119.

[41] Mathur, S. *op.cit.* p. 41.

[42] Hasan, A. (1982): *op.cit.* p. 52.

[43] Srivastava, S.K. (1951): Rang-Bang in the changing Bhotia Life, *Eastern Anthropologist*, vol. 4-8, pp. 190-203.

[44] Hasan, A. (1982): *op.cit.* pp. 2-3.

[45] *Ibid,* p. 51.

[46] *Ibid*

[47] Majunmdar, D.N. *op.cit.* p. 182.

[48] Hasan, A. (1982): *op.cit.* p. 27.

[49] Hasan, A. (1971): *op.cit.*, p. 26.

[50] *Ibid,* p. 41

[51] Atkinson, Edwin, T. *op.cit.*, p. 117

[52] Hasan, A. (1982): *op.cit.*, p. 75

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[54] *Ibid.*

[55] Pangtey, K.S. (1948): The Folk songs of the Bhotias of Kumaon, *Eastern Anthropologist,* June, vol. 1, no. 4, pp. 3-9.

[56] *Ibid.*

[57] *Ibid*

[58] *Ibid*

[59] Hasan, A. (1982): *op.cit.*, P. 75.

[60] Srivastava, S.K. (1921): The Diwali among the Tharu, *Man in India*, vol. 29, no. 1-4, p. 27-35.

[61] 'Jam' is the god of death

[62] Srivastava, S.K. *op.cit*, pp. 32-33

[63] Rizvi, S. N.H. (1991): Folk concept of Health and Disease: A Case Study, *Eastern Anthropologist*, vol. 44, no. 2, p. 179.

[64] Singh, K.S. *op.cit.*

[65] *Ibid,* p. 187

[66] *Atkinson, Edwin, T.* op.cit., *pp. 122-123.*

[67] Strauss, C.L. (1966): *The Savage Mind*, Weidenfeld and Nicolson, London, p. 3.

[68] *Ibid,* p. 4.

CHAPTER – 5

INDIGENOUS COMMUNITIES – THEIR SPACE AND ITS POSITION

Living in areas of relative isolation and interacting with its environment, indigenous communities have developed rich cultural heritages. This is evident from the case study of Uttaranchal where we looked into their society economy, material culture and cultural capital. These attributes are an intrinsic part of their identity. Another aspect of their identity is the position of there social, cultural and political space vis-à-vis the non-tribal societies. Since identity construction and the process of 'othering' of indigenous communities have taken place over years, to understand this phenomenon, a temporal analysis is necessary. This is turn will bring out the marginalised position of indigenous communities' space vis-à-vis that of the non-tribal societies. After having looked at the same, we need to discuss policy implications for the future in the light of this research. Thus, this chapter looks into:

(1) Position of indigenous communities during the pre-colonial era in India.

(2) Their position during the colonial era.

(3) Their position during the post-colonial era.

(4) Policy implications for the future.

The arguments that follows will try to establish how the position of indigenous communities has differed over the eras. Emphasis will be on how modernization paradigm, which is often taken to be unidirectional and Euro-centric, has led to extreme apathy and disregarded for identity and cultural capital of

indigenous communities, which has resulted in their marginalization.[1]

POSITION DURING PRE-COLONIAL ERA

It is important to take note at this juncture that during the pre-colonial era in India, it was not friction between indigenous communities and modern societies that led to the subsidiary position of indigenous communities as no modern society, as per the model sighted in chapter 2, existed. This sub section is only to show that such a marginalization of indigenous communities is not exclusively associated with the modern era. The going was not easy for them even prior to this era. Exploitation and marginalization existed in the pre-colonial era but the level and the method differed as compared to the colonial and post-colonial era. Another aspect that needs to be pointed out is that indigenous communities have had relatively similar problems during the pre-colonial era as well as with the advent of modernization and globalisation. Thus, it is no point in putting forward debates and argument pertaining, only to modernization and indigenous communities of Uttaranchal. Since modernization is a standardizing ideology, its impact has been relatively similar across nations on indigenous communities, though communities stand at different stages of having faced the burnt of this standardizing regime. For the sake of simplicity, arguments here would focus on India.

It is true that there are evidence to show that nature in various forms were worshiped since the Indus Valley civilization in the Indian sub-continent. It is also true that India, before the

British rule, did not have the same history of trying to convert its tribal people to the same religion or way of life as that of the dominant population that is a central feature of the history of Christian Europe or Islamic west and central Asia. However, this does not mean that all was well in this land. Existence of caste structure and strengthening of the boundaries between them with passage of time, led to strong distinction and construction of the 'other'. There were those who were the 'out-castes' or 'untouchable' who were not even considered fit to be 'converted' to become a part of the larger Hindu[2] community.

It seems likely that 'untouchable' castes were originally pre-Aryan people who were conquered and enslaved: 'daasa' in the Rig-Veda means slave or aboriginal.[3] The Aryans never considered these people as their equal.

According to Padel[4], even the Arthashtra advocates the clearing of forests; it also suggests ways of winning over or defeating the tribal people who live there. He further points out that in the epics, 'rakshasas' and demons that Rama clears from the forest so that Brahmins and sages can live there in peace one can discern a double attitude. Deconstruction of this fact shows a non-tribal negative stereotype of indigenous communities and the history of expanding the area of non-tribal settlement by driving tribal people from the fertile plans into the forest interior, where making a living from nature was harder. Besides, the whole lot of wood, animal fat and animals used in 'havans', 'yagyas' and animal sacrifice by these Brahmins and sages also depleted the biotic resources present in the habitat of the indigenous people. Similar

disrespect to the tribal habitat was inflicted upon by the rules of the medieval period as they went about killing 'games' for fun. However, some of the rulers had good relations with indigenous communities living in areas of relative isolation as was in the case of Shivaji and the tribals around Pune.[5] Under such circumstances, the forested areas acted as buffer zones and its inhabitant as allies.

What separated this era from that of the colonial period which began with the arrival and dominance of European power, was the lack of effort towards surplus generation and profit maximization, the hallmark of capitalism and modernization.

POSITION DURING COLONIAL PERIOD

Life style and interest of the indigenous communities of India and that of the European colonizers were never in harmony with each other. The Europeans had come to India to make money and for the sake and greatness of their motherland. They wanted to siphon off the wealth present in such colonies or hinterland to their own country or metropolitan capital so that they and their country could prosper. For this purpose, they wanted the inhabitants of these colonies not to interfere and interrupt their designs. Better still, they wanted these inhabitants to be facilitators. So committed were the colonizers to their King/Queens and nation, and in turn their own pockets, that they were willing to sacrifices their lives in the service of the same. 'A power that sacrifices itself' is how Foucault characterizes the modern form of power that grew up in

seventeenth – eighteenth century Europe, and sacrificing oneself for one's idea leads to sacrificing other people too.[6]

When the East India Company came into contact with tribals, its offices began to impose a kind of authority over them that was completely new – new to the tribal people in India that is; to the British it was normal, as it followed a pattern already well established by their conquest elsewhere.[7] In order to elaborate upon this argument, Padel[8] sights the example of the Paharias of Rajmahal who were at the receiving end of the same. This was in the 1770s – 1780s, after they were blamed for attacking British trade along the Grand Trunk Road that ran between Delhi and Calcutta. Augusts Cleveland was the official credited with pacifying them and his memorial stone has the following engraved:

> Who without bloodshed or terror of authority, employing ony the means of conciliation, confidence and benevolence, attempted and accomplished the entire subjection of the lawless and savage inhabitants of the jungle territory of Rajmahal who had long infested the neighboring lands by their predatory incursions, inspired them with a taste for the arts of civilized life, and attached them to the British Government by a conquest over their mind, the most rational as the most permanent form of domination.

The language on this memorial stone reveals a lot about how the British saw their role of rulers in terms of bringing civilization to 'savages'. 'Bloodshed and terrors of authority' Cleveland certainly did use, in the form of capital punishment and military discipline,[9] but as this text implies, the Paharias were meeting a new kind of law, a new conception of what law is, and new ways of imposing it. A conquest over their minds' sums it up. Similarly, Munda (Kol) uprising of 1831-32 and Santhal 'bul' (rebellion) in

the 1850s point to the great increase in exploitation that took palce after British rule was imposed in tribal areas: 'diku' ('foreigners', non-tribal) landlords, merchants and moneylenders had established a hold over Mundas and Santhals that made them work the land that had been theirs virtually as serf, to create a profit and to pay the revenue demanded by the East India Company.[10] The opening up of tribal areas brought tribals under the power of outsiders, and the moneylenders' economics was backed by British law.[11]

The reserving of India's forest from the 1860s and 1870s had its underlying motives in monopolizing of resource utilization of the same for the strengthening and expansion of the British empire. The forest service which was actually set up to protect the forest, ended up generating revenue by selling timber to supply the railways. On the other hand, the government blamed deforestation on the tribal practice of shifting cultivation and set up a system of forest guards to prevent the same. This was in complete disregard of the fact that shifting cultivation was an integral part of the way of life of many indigenous communities and that such a practice had been carried out at a sustainable level for years. Elwin[12] found that forest guards involved in reserving Kond forests in the 1930s demanded large bribes - villages that refused to pay had their local forests reserved, those that paid up were allowed to cut trees to make their fields as usual.

Laws related to registration of tribal owernship of land further alienated the indigenous communities. The process of recording ownership was often haphazard and left innumerable

families with no official title to their land, so that they have come to be classified as 'encroaches on government land'.

The cause of deforestation lay outside indigenous society, in the pressure to generate an economic surplus from the forest that began, or was hugely intensified, during British rule. Even till today, the forest department's attempt to preserve the forest by forbidding indigenous communities' customary cutting of trees has had a divide-and-rule effect on these communities and their habitat. These communities react to the restrictions on their customary rights by cutting whatever they can get away with, of what they used to regard as their own forest.[13]

Hunting is another integral part of the indigenous communities' way of life. This hunting supplemented their diet and on occasions, formed a part of their religious ceremonies. On the other hand, hunting formed a great hobby of colonial officials. They, along with the Indian 'aristocratic class', killed for fun and not for food. 'Game reserves' was the first name given for tracts of forest preserved. Here they killed animals in great numbers with guns. On the other hand, hunting rights began to be denied to the indigenous communities in the name and such 'game reserves'.[14] So along with the conquest of tribal people and 'conquest over their mind' went a conquest over their habitat.

Issues and debates raised by anthropologists has played an important role in how the cultural capital, material culture, traditional knowledge and identity of indigenous communities is looked at by the academia, the people in general and the policy

makers. Such debates that stereotyped indigenous communities' life style were raised during the colonial period. The same stereotyping continues even till date.

Darwin's theory of biological evolution expected all societies to follow the same course of evolution through several set stages and classified them by how far they have reached. This theory justifies colonial conquest and the imposition of great changes onto indigenous communities by the idea that they were being helped along the path of advancement; stern hardships in the present were a necessary sacrifice for a civilized future.[15] Incorporation of indigenes communities into the British empire was accompanies by their incorporation into 'scientific' knowledge through ethnographic writings. The role of the anthropologist was thus crucial in building up, or reinforcing, the negative stereotype. Such writings constructed indigenous communities as – 'at low level of civilization' or 'primitive state of development', and so, implicitly, in need of civilization. In fact, from the 1970s, the census and accompanying volumes on tribes and cases such as those by E.T. Dalton (1872) and H.H. Risely (1891) classified all India's tribe by race and their stage of advancement. The practice of collecting and measuring indigenous communities' heads in the name of science can be taken as an extreme expression of 'modern peoples' domination of indigenous communities.

A different stand in anthropology can be traced through the monographs such as S.C. Roy's *The Mundas and their Country* (1912), V.V. Grigson's *The Maria Gonds of Bastar* (1938) and Verrier Elwin's *The Baigas* (1939).[16] They highlighted aspects of

indigenous communities in a more positive perspective. They brought to light the exploitation of the indigenous communities and exploitation of their resources by non-tribals. On account of their efforts, administrators passed laws to protect tribal interests, in particular the Act of 1935 which defined many tribal tracts as areas excluded from the operation of normal law. This act was at one denounced by the Congress Party as "yet another attempt to divide the people of India into different groups ... a trick of anthropologists to preserve the aboriginals as museum speciments for exercise of their special science."[17] Others went, as far as to alledge that British anthropologist wanted to keep these people in zoos.

It was Elwin's works that came under the most bitter attack in G.S. Ghurey's book The Aborigines – 'so called' – and Their Future (also published in 1943). Ghurey argues that the whole trend of British rule embodied in the creation of areas excluded from regular law was to separate tribals from Hindus, stunting the development of tribes and preventing their assimilation into Hindu society. By rejecting the policy of protection, Ghurey was only perpetuating earlier British poly of trying to 'civilize' them. Gharye perpetuated the negative stereotype perspective on indigenous communities as against Elwin who held positive views on the same. Quoting from works of British officials, Ghurye went as far as to conclude that 'the contention loss of land involves such economic distress as to lead to moral depression in not born out.[18] Quoting administrator's view, he blamed konds for their own troubles and wrote that they were "thriftless, ignorant, and prone to self

indulgent and choose to get into debts and loose their lands. To say the least, such views sound extremely racist. Ghurye's work contains no recognition that indigenous communities might possess a deep knowledge of their environment. Unfortunately, his books has been extremely influential and his kind of 'assimilation.' 'Upliftment' and 'development' have been the official line ever since. Elwin, on the other hand, has become a scapegoat in Indian anthropology. The foreword to Ghurye's book labels him as an 'extreme isolationist', and incredibly, the idea of preserving tribal societies in anthropological zones has repeatedly been attributed to him. However, a review of Elwin's work ony brings to light his concern which was simply to protect India's tribal cultures from tragic disintegration in the face of outside exploitation and contempt. His advocacies of 'protectionism' is not 'anti-development' but simply that these societies be allowed to choose their own path of development, something that we fationably call today as 'development from below' or even 'micro level development.'

POSITION DURING POST-COLONIAL PERIOD

Post World War – II, modernity became the buzzword across the world. Implicit in the drive towards modernity was megalomania i.e. , big dams, bid industries. Efforts towards standardization became a norm. advocates of unidirectional development plans or eurocentury concept of development began to rule the roost. It is true that after independence, indigenous people were granted special rights and concessions via constitutional, and Elwin became an adviser on tribal affairs. However, ground realties

remained different. Several reports of the commissioners of tribal affairs point to the fact that exploitation and oppression have either continued or increased often on a huge scale, and become accepted as normal.[19]

Nation as rational is a product of what is called scientific revolution of the seventeenth century and the enlightenment of the eighteenth century, which culminate into the industrial revolution of the 1780s, followed by the French revolution in 1789. Liberty, equality and fraternity are the ideals that nations are supposed to fulfill. If we analyse the same in the backdrop of rights of indigenous communities and freedom and equality from their perspective, nation-state have at numerous occasion fallen short of its desired objective. At times, the concept of nation has also led to their 'unfreedom' and infringement on their economic and cultural expressions which form the core of their identity. Take the case of Bhotias whose traditional occupation in the past had been trade across the Tibetan border. This practice had been a way of life for them. Their idea of their own habitat and 'their world' is very different from that of the modern societies. However, the modern concept of national boundaries and war between India and China in 1962 has infringed on Bhotia identity and traditional practice.

The constitution, the laws, the rules and regulations are the framework of any nation-state. These rules and laws in India are framed by the modern society with a modernistic perspective. True that efforts of a handful of people led to certain special rights and protection being granted to tribals and their land, but then, numerous provisions of rules and laws have been framed in

complete disregard to the traditional rights that the indigenous communities have over their own habitat. After India attained independence, the Indian Independence order, 1948, led to the adaptation of Central Acts and Ordinances. Further adaptation of laws order took place in 1950 and 1956. As such, the Indian Forest Act, 1927 lays down the set of rules with relation to forests. Additions and amendments to the same have been made by the Forest (Conservation) Act, 1980 and the Forest (Conservation) Rules, 1981.

According to clause 70 of the Indian Forest Act of 1927,

> "Cattle trespassing is a reserved forest or in any portion of a protected forest which has been lawfully closed to grazing shall be deemed to be cattle doing damages to public plantation within the means of section 11 of the cattle-trespass act, 1871 (1 of 1871), and may be seized and impounded as such by any forest–officer or police – officer."

Here, it is important to point out that indigenous communities have taken their habitat to be their property. This property, unlike in modern society, is not taken to be private but considered to be belonging to the community as a whole. Rules and laws led to deprivation of their habitat as their property. Control over the same was now in the hands of the sate. A fall out of this can be seen in a few Bhotias joining the 'chipko movement'.[20] Even women vehemently opposed the illegal feeling of trees. The women's participation was spearheaded by Gora Devi, an elderly Bhotia women whose non-violent resistance saved trees in the villages around the subdivisional headquarters of Joslimath.[21] However, one of the main reason for a few amongst the Bhotias joining the 'chipko movement' other than for protection of their habitat, was

for demanding their right to forest pastures. Article 70 of the Indian Forest Act, 1927, deprived them of their traditional pastures for their cattle as these laws were implemented around their habitat. Thus they rose in non-violent revolt against the same. Besides, these people were also against the forest department, which charged the small local forest based industrial units higher prices for the raw material, as against the large industries owned by people of the plains.[22] They were also against employment opportunity, as cumbersome arising in their own region accruing to migrant, i.e., Nepalies.[23] Thus, the people of the region wanted the economic benefits being generated from these forests to accrue to them.

According to Clause 5 of the Indian Forest Act, 1927,

> "After the issue of notification under section 4 (related to declaration of reserved forest), no right shall be acquired in or over the land comprised in such notification, except by succession or under a grant or contract in writing made or entered into by or on behalf of the government or some person in whom such rights was vested when the notification was issued; and no fresh clearings for cultivation or for any other purpose shall be made in such land except in accordance with such rules as maybe made by the State Government in this behalf."

Clause 10 of this act deals with treatment of claims relating to practice of shifting cultivation and according to clause 10(5),

> "The practiced of shifting cultivation shall in all cases be deemed a privilege subject of control, restriction and abolition by the state government."

Such laws have certainly infringed upon the traditional practices of shifting cultivation by the Buxas. Here, it is very easy to say that this was necessary to conserve forests, our 'national property', but then, has a realistic assessment of the real cause of forest depletion been made? Has it been ascertained as to whether such

depletion is on account of demand for forest product by modern societies, growth of population and pressure to increase cultivable land or on account of shifting cultivation practiced by indigenous communities? Has there been an effort to ascertain whether this practice was at a sustainable level or not? Without making a clear assessment of these facts, modern societies have imposed rules and put the onus of sacrifice on indigenous communities for forest conservation. On the other hand, these modern communities continue to degrade the environment with their cars, buses, industries, concrete jungles, etc.

Even now the stereotype perspective on indigenous communities continues. Take the views expressed by the Chief Minister of Gujarat in 1988 which was as follows:

> "I do believe that tribal culture should be preserved, but it should be in the museum and not in real life. We do not want the tribals to remain in the jungle. It is the biggest shame of this generation that tribals are living like this, like a 'jungle jat' (uncivilized race) away from the benefits of civilization. What is this great culture people ar talking about? These tribals live in nakedness, illiteracy and in hunger. Ask them – they want to fruits of economic progress."[24]

While inaugurating the Bhakra Nangal dam in 1954, Nehru called big dam 'the temple of modern India'. Since then many more big dams have been built. Lives of countless tribal people have been sacrificed for the sake of these temples. This is brought out clearly with the help of Table 5.1 and 5.2.

TABLE 5.1: DAMS AND DISPLACEMENT OF TRIBAL PEOPLE

Name of projects*	State	Population facing displacement	Tribal people as % of displaced
Lapur	Gujarat	11,300	83.20
Daman Ganga	Gujarat	8,700	48.70
Karjan	Gujarat	11,600	100.00
Ukai	Gujarat	52,000	18.92
Sadar Sarovar	Gujarat	10,400	98.94
	Maharashtra	7,500	99.92
	Madhya Pradesh	247,500	51.64
Narmada Sagar	Madhya Pradesh	170,000	20.00
Maheshwar	M.P.	6,200	60.00
Bodhghat	M.P.	12,700	73.91
Bhopalpatnam	Madhya Pradesh	8,800	50.00
Icha	Orissa	30,800	80.00
Upper Indravati	Orissa	18,500	89.20
Hirakund	Orissa	110,000	18.30
Chandil	Bihar	37,600	87.92
Kole Koro	Bihar	66,000	88.00
Masan Reservoir	Bihar	3,700	31.00
Maithon and Panchet	Bihar & West Bengal	93,847	56.46
Bhakra	Himachal Pradesh	36,000	34.76
Pong	H.P.	80,000	56.25
Polavaram	A.P.	150,000	52.90
Inchampalli	Andhra Pradesh	38,100	76.28
Tultuli	Maharashtra	13,600	51.61
Mahi Bajaj Sagar	Maharashtra	38,400	76.28

* Projects are either under construction or have been planned
Source: Singh. S (1997): *Taming the Waters*, OUP, p. 192.

TABLE 5.2: SOME FIGURES ON DISPLACEMENT AND RESETTLEMENT OF TRIBAL POPULATION

Project	No. of ST Families Displaced	Area from which ST Families Displaced (acres)	No. of ST Families Settled on Land	Area on which ST Families Settled (acres)
Maithol Dam – Bihar and Best Bengal	3,296	13,138	464	2,286
Mayurakshi Dam – Bihar	2,910	7,215	--	2,082
Panchet Dam – Bihar and West Bengal	1,916	1,931	--	--
Hirakund Dam – M.P. and Orissa	1,636	11,116	300	--
Machkund Hydro-Electric Project – Orissa	1,500	13,705	450	2,250
Mandira Dam – Orissa	817	4,225	447	1,696
Total	**12,075**	**51,330**	**1,661**	**8,314**

Source: Report of the Scheduled Area and Scheduled Tribe Commission, vol. 1, 1960-61, Scheduled Area and Scheduled Tribe Commission, New Delhi.

Considering the fact that tribals constitute approximately 8 percent of India's population, the story told by the table above seem to say that the modern communities have an expense account in the form of development and the bills for the same are paid primly by indigenous communities in the form of displacement. Jawaharlal Nehru in 1948 speaking to villagers who were to be displaced by the Hirakund Dam said "if you are to suffer, you should suffer in the interest of the country."[25] The tribals have continued to suffer till date. Since the tribal way of life

is so closely linked with rich land and forest, their whole quality of life is scarified for the betterment of non-tribal and to immediate profit of an elite who grow rich from the dams.[26] Besides, there cultural capital, material culture and traditional knowledge which is a product of their interaction with their habitat, stands marginalised. Even if they are rehabitated, their habitat, which is an intrinsic part of their identity, is lost. One is not trying to romanticize this entire issue nor is one saying that developmental effort and efforts of providing water for irrigation to farmers, electricity to industries, flood control efforts should be stopped. The role of big dams, their benefits or otherwise towards building a modern India is beyond the preview of this research. One is simply highlighting the fact that indigenous communities stand as vulnerable lots. In the cost benefit analysis carried out by policy makers, their life style, culture and right to their habitat holds very low priority.

The era of globalisation has brought forth-newer issues with relation to indigenous communities, their habitat and their traditional knowledge. According to the third draft of the Global Bio-diversity Strategy, 1991,

> 'Some 200 million indigenous people (4 percent of the world's population) live in and have special claims to territories that, in many cases harbors exceptionally high level of biodivesity. Their claims rests on their long occupation of a particular place, their culture, spiritual, and economic ties to the area and their ability, in most cases, to manage it sustainable. At the same time the cultural diversity inherent in the worlds indigenous groups is imperiled by the encroachment of dominant societies and economies. Preserving indigenous territorial sights thus protects biodivesity and the local culture, including knowledge and resource management skills with potentially wide applications as well as spiritual

ties to the environment that could provide direction for the develop of a biodiversity ethos in the wider society.[27]

However, contrary to this idea stands the new intellectual property regime. Intellectual property traditionally referred to a design, technology or product invented by a person or corporation and rights refer to statutory rights (or rather privileges) that grant inventors the reward of exclusive right to use it or to earn realities by renting out 'to use.'[28] Such rights are conferred to by awarding patents (or industrial patents), Plant Breeder Rights (PBR), copyrights, trademarks and trade secrets to the owner or inventor. In recent years the amplitude of these rights have been tremendously increased to include biological living materials which forms part of the bio-diversity of the region.

Intellectual property protection is seen both as an incentive and reward for invention and disclosure. However, the attempt at global standardization and uniformity by way of Trade Related Intellectual Property Rights (TRIPS) agreement is in conflict with the main trust of the Rio Earth Summit of 1992 that sets out the conditions for sustainable development. These two reveal two contrasting types of international approaches and norms. While the 1992 Earth Summit and the 1993 convention on Bio-diversity focussed on 'diversity' as being fundamental to sustainable and development, TRIPs and World Trading Organisation (WTO) are pushing for 'conformity' to international standardized norms on patents, services, labour, investment, etc. irrespective of this history ecology, levels of economic development etc.[29] The convention on biodivesity (CBD) in its Article 16-5 specifically assures that intellectual property rights must not be conflict with

conservation and sustainable use of bio-diversity, a provision that has been totally ignored by those who composed the TRIPs agreement.[30]

An intellectual property in any society is located either in the private or public domain. Knowledge which is located within the private domain is automatically accorded intellectual property protection. While those in the public domain cannot be protected. Because of this distinction IPRs are provided ony to formal inventors (like scientists, technologists and their employers) while informal inventors (knowledge bases of indigenous people and communities) are left out of its purview. Traditional knowledge about the use of biodiversity is regarded as knowledge in public domain and therefore common property, which can be accessed and used by anybody in the world. By denying any form of intellectual property protection to such innovators or inventors on the pretext that their knowledge is located within the public domain, the present IPR regime in a way becomes an instrument of their exploitation.[31]

Losses incurred by indigenous people and traditional societies due to Multi-National Corporations (MNCs) and other commercial interests claiming the formers bioresources and knowledge as their 'intellectual property', is unprecedented. An estimated 7000 medical compounds used in western medicine are derived from plants. More than two-third of the world's plant species, at least 35,000 of which have medicinal value come from developing countries.[32] Given the poor state of research and development within the pharmaceutical sector of the developing

countries, it can be safely concluded that much of the accompanying knowledge abut the medicinal uses of these natural resources come from the indigenous societies.

Recent developments in patents and emerging issues have stimulated new and creative thinking regarding protection of tribal medical knowledge. Certainly, the scope of some of the recent patent claims should make it possible for traditional healers and herbalists of these communities to lay claim for patent protection. However, till now not much in concrete terms has been achieved in this direction.

A major issue of concern is that ever since the conclusion of the Marakesh agreement, prompted by this provision that plant varieties are expected to be protected in one of the following there ways – by patent, by a sui generies system or by a combination of the two, there has been a mad rush from the large multination firms to collect gemplasms of wild plants varieties located in the less developed countries. According to Dasgupta,[33] The MNCs are taking selected specimens out of the country (India) by means legal and illegal, and then, after some tinkering and cross breeding with other varieties, producing new varieties that they are claiming to be unique and district and then patenting those in their own country. This process of stealing and plundering the biological wealth of the Third World countries which account for nearly two third of the total, by the multinational firms originating in the west, has come to be known as 'biopiracy'. He further points out that the countries rich in biological wealth and poor in economic terms account for top rank in terms of mammals, birds and plant varieties. India

figures eighth in rank terms of both mammal and bird species, but no developed country figure among the first eight. However it is the people among modern communities, especially in the advanced countries that are aware of issues related to and the process of patenting. This, coupled with biopiracy, it is the richer countries that are large scale owners of patents at the international level.

A correlation between the number of international applications whose record copies were received by the international bureau in 1995 and the GDP figures in US $ billion as per the Human Development Report 1995 shows that the value for the same was as high as 0.9 for 41 countries. This was significant at 99% level of significance at 39 degree of freedom. Though this is no proof of biopiracy, it certainly brings to light the fact that patenting is literally monopolized by richer countries. The less developed countries stand marginalised in this respect. When the less developed countries stands marginalised, one can very well imagine the status of the traditional knowledge and cultural capital of indigenous communities when the same holds a very low position within their own country.

The most talked about case of biopiracy has been the patenting of neem tree which is part of the Indian folk culture and whose medicinal and other properties have been known to the people of India from time immemorial.[34] The irony of such patenting is that patented products, proceeded by the foreign companies, would now have to be purchased by Indians who are used to getting those free from nature. Similar patent rights have been claimed on other medicinal plants – e.g. 'haldi', 'salal', 'dudhi',

'gulmendhi', 'bagbherenda', 'karela', amla', 'anar' (pomegranate), 'rangoon ki bel', castor, 'vilayeti sisha', 'Chamkura'[35] – whose property has been known to Indians, as in the case of neem, from time immemorial. A glimmer of hope is the fact that in the case of 'haldi' another highly important plant with medicinal properties, the United States medical school was forced to revoke patent on its use for healing wounds in 1987, after Indian protest.[36]

Developed countries doubles peak is also revealed in the way they refer to the 'common heritage of mankind.' Thy demand that all germplasm be recognised as a public resource and a part of the heritage of mankind. That would give them the right to collect germplasms in the wild without any compensation on the ground that these belong to the 'common heritage of mankind.'[37] But after improving these varieties through research and experimentation, they do not hesitate to sell these against payment to countries including the one from which such germplasm had born originally collected. In this way, it is quite evident that modernization and globalisation has not been sensitive to the interests of indigenous communities.

POLITICAL IMPLICATIONS FOR THE FUTURE

CHART 5.1: MODERNITY AND INDIGENOUS COMMUNITIES

Points in favour	Counter points	Sphere of flexibility	Discourses
• Accessibility to the indigenous people →	Encroachment on there way of life		Respecting their social, cultural, economic and lived space
• Documenting their resource base →	Appropriating their cultural capital		Accepting their understanding of nature as a parallel form of knowledge
• Understanding their habitat →	Stereotyping them as 'uncivilized'	**Society nature relations and traditional knowledge of indigenous communities**	Deconstructing the concept of civilized and savage. accepting the indigenous people's consciousness as possible.
• Conceptualizing the man-nature interaction →	Conceiving meta theories and blue prints for civilizing and developing this man-nature linkages often leading to its disruption		Drawing out man nature balance sheet where credits are more equitably distributed

It has to be understood that this work is not a critique of modernization and modernity as a whole. There is no denial of the fact that modernization has helped humankind to improve their quality of life and overcome numerous problems and difficulties. However, this work is certainly a pointer towards the fact that the

type of development and modernization that we have tried to attain till date, has been unidirectional and eurocentric. It has failed to do justice to the identity, cultural capital, material culture, habitat and rights of indigenous communities. This has been brought out with the help of chart 5.1. The solution to such a problem is not anarchy or doing away with all that symbolizes modernism. Rather, the solutions to a more egalitarian and better future lies in correcting loopholes that lead to marginalization of indigenous communities.

The first step towards a better deal for indigenous communities lies in acceptance of the fact that the indigenous communities have had to suffer as their traditional life style, identity and habitat has been marginalised since ages. Secondly, we have to give up our stereotype understanding of indigenous communities. They are a pre-modern and backward society only from a modern perspective. It is a high time that we appreciate the fact that their tremendous understanding of the environment is a manifestation of their highly evolved mind and culture. It is not that the indigenous societies have answers or remedies to all their problems. These are areas that require exchange of understanding and efforts between them and the modern communities for the well being of both. Thirdly, as the modern communities have a right to their environment and private property, indigenous communities right to their habitat should be recognised. That among indigenous communities ownership is not private but rather in a community has to be understood. Besides, the genetic resources and technology present with them is a part of their cultural capital and

any profit that may accrue on account of the same, must go to its rightful owner.

Laws, rules and regulations are made for the welfare of the society. Such laws should recognize the natural right of indigenous communities and facilitate the same as long a these rights do not infringe upon rights of others. The state should understand that just because the habitat of indigenous communities is not owned privately, does not mean that he habitat lack ownership. In the name of protection of forests the state cannot keep on utilizing the forest resources in their own 'scientific manner' and at the same time depriving the indigenous communities of using the same as they had done over the ages at a sustainable level.

Cost-benefit analysis, specially with reference to issues like building large dams and creating large reservoirs, cannot be done purely on monetary terms and with number games. Just because indigenous communities are a marginalised minority does not mean that their quality of life, culture and habitat is dispensable at the alter of a large majority of cultivators or industrialists. Other solutions have to be found by scientists, engineers and architects that is beneficial to one an all rather than at the expense of one.

Globalizations and the new intellectual property rights regime has brought forth new challenges to the indigenous communities. However, in order to face these challenges, it should be first understood at the national level that genetic resources and the traditional knowledge related to the use of the same belong to human beings who occupy the space where it has been harnessed

and developed for centuries. According to Querol[38] "The patenting of ideas, which was regulated during the Paris Convention of 1883, was then philosophically based on the notion of 'human rights' of the person who invented, forgetting he rights of society which forms and maintains the inventory and gives him the basis of information and knowledge for him to develop his idea. Starting with the previous proposition, it is evident that plants have owners. In the case of plants which have been bred for thousand of years by the human population of a certain region it is the offspring (in the widest sense) of the old inhabitants who have the right to demand payment for the object: the plants transformed through mans work." Once it is understood that genetic resource have a cultural value, their ownership could be vested with particular indigenous communities or traditional agricultural communities. The state should intervene to facilitate these communities to help them get their dues in terms of monetary benefits. In this process, the state or the nation as a whole stands to benefit economically too. However, the problem with traditional knowledge of biotic resources present with indigenous communities is the lack of documentary evidence with relation to the same. Such knowledge exists in folklores and passed on within the community from word to month. In order to prevent biopiracy and stake claim over such resources and knowledge, documentation of the same by academicians and various agencies of the government with the help of the empirical researchers, who in the case of this work are the indigenous communities, should be carried out. Without the same, judiciary, whether at the national or the international level, would

not be able to give a verdict in favour of such communities for whom these resources are part of their cultural capital.

As shown earlier, international laws like the one related to intellectual property rights look at the world from developed countries perspective. Since third would countries are individually week when it comes to negotiating on such issues they are made to 'fall in line' by First World Countries. In order to tide over such 'arm twisting', countries like India, Brazil, Nigeria, Nepal, Sri Lanka, Peru and many other with abundant genetic resources need to come together as a block to increase their bargaining power in such negotiations and protect their interest.

The 'coming age' is said to be the age of genetic resources and biotechnology. In this context, Third World Countries like India need to get prepared to protect its resources and gain from it. Creation of regional or national banks of genetic resources is another need of the hour. Scientists in the country can then carry out further research on the same. After ensuring that the indigenous communities or traditional agricultural communities and the nation receives their due, such knowledge should be shared across national boundaries for the benefit and welfare of humanity at large.

To concludes, marginalization and exploitation the of habitat cultural capital and material culture of indigenous people has existed since long back in the past. However, the type and nature of such marginalization and exploitation changed from the pre-colonial to the colonial and postcolonial period. Modernization

paradigm, insensitive to cultural differences and variation in terms of way of life has constantly shrunk the space available to indigenous community in terms of their rights, privileges, and expression. The stereotyping of indigenous community from a modern perspective and labeling then as 'primitive', 'savage' or 'pre-modern' in need of being civilized is on account of our distorted idea or knowledge about them. Here lies the significance of a post-modernist perspective. Recognition and appreciation of what these communities possess can lead to protecting their interest nationally as well as internationally. In this era of globalisation were intentional laws like the one related to intellectual property rights tends to be oblivious of the need to protect the interest of indigenous people or traditional agricultural communities, the government representing these communities need to step in and ensure that there communities and the nation as a whole gets its due.

Endnotes

[1] Here, the term marginalization does not have an economic connotation. It is used in a literary sense where it refers to an individual or a community being pushed to the edge of anything in order to reduces its or their effect, relevance, significance, etc.

[2] The term Hindu over here has been taken to be as it was practiced in the past and understood over the ages by the common man. It is not taken as philosophized by a few scholars who have considered it to be a way of life followed by people living to the east of River Indus. Hindu over here refer to the followers of Sanatan Dharm. Besides, it is common belief that one is a Hindu if one believes in and is part of (1) the cast based division of labour, (2) believes in idol worship, (3) believes in the cow-cult, (4) accept the Mahabharata, the Ramayana and the vedas as their holy text.

[3] Basham, A. L. (1967): *The Wonder that was India,* London, p. 33.

[4] Padel, F. (1998): Forest Knowledge: Tribal People their Environment and the Structure of Power in Grove, R.H., Damodaran, V., and Sangwan, S. (eds) *Nature and the Orient,* Oxford University Press, p. 895.

[5] *Ibid.*

[6] Foucault, H. (1982): Why Study Power: The Question of the Subject in Deryfus, H.L. and Rainbow, P., *Michel Foucault: Beyond Structuralism and Hermeneutics,* Brighton.

[7] Padel, F *op.cit,* p. 896

[8] *Ibid,* pp. 896-897.

[9] Hunter, W.W. (1875): *Statistical Account of Bengal, Bhagalpur and Santal Parganas,* vol. 14, pp. 302-308.

[10] Padel, F. *op.cit,* p. 897

[11] *Ibid,* p. 898

[12] Verrier Elwin's field notes on the Konds, in the Archives of the Nehru Memorial Library in Delhi.

[13] Padel, F. *op.cit* p. 900

[14] *Ibid.*

[15] *Ibid,* p. 902.

[16] *Ibid,* p. 904.

[17] Meek, R.L. (1976): *Social Science and the Ignoble Savage,* Cambridge.

[18] Ghurye, G.S. (1943): *The Aborigines – so called and their future,* New Delhi, p. 21.

[19] Padel, F. *op.cit.* p. 707

[20] Singh, K.S. (1998): *The Scheduled Tribes,* People of India, National Series, Anthropological Survey of India, Oxford University Press, pp. 152-153.

[21] *Ibid.*

[22] Das, J.C. and Negi, R.S. (1983): The Chipko Movement in Singh, K.S. (ed.) *Tribal Movements in India,* vol. 2, New Delhi, Manohar, pp. 383-392.

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[24] Padel, F. *op,cit.* p. 909 (as quoted in the Indian Press, October 1988).

[25] Quoted in *Frontlines*, June 4, 1999, p.5.

[26] Ibid, 5, p. 908.

[27] United Nations Environment Programme (1991): *Global Biodiversity Strategy*, Canada, p. 67.

[28] Asif, M. (1998): Intellectual Property Rights and Biopiracy: Their Implications for Tribal Medical Traditions, *social Action*, vol. 48, Oct. – Dec., p. 386.

[29] WCED (World Commission on Environment and Development) (1990): *Our Common Future*, Oxford University Press, Oxford

[30]Dasgupta, B. (1999): Patent Lies and Latent Danger – A Study of the Political Economy of Patents in India, *Economic and Political Weekly*, April, 17-24, p. 981.

[31] Asif, M. *op.cit.*, pp. 386-387

[32] *Ibid*

[33] Dasgupta, B. *op.cit.*, p. 984

[34] *Ibid.*

[35] Shiva, V. (1998): *Biopiracy on Steroid – The US Patent on Basmati, Research Foundation, Shimla, p. 7*

[36]. Dasgupta, B., *op.cit.* p. 984

[37] *Ibid*, p. 985

[38] Querol, D. (1988): *Genetic Resources*, Third World, pp. 58-59.

CHAPTER – 6

SUMMARY OF CONCLUSIONS

Arguments on the issue taken up have been developed from the first chapters itself. The objective of looking into society-nature interaction in the context of indigenous communities and their physical environment has been met with theoretical perspectives in chapter 2. This chapter also looked into how this relationship and its study has undergone change at the temporal dimension. Chapter 3 and 4 further substantiated the arguments with the case study of Uttaranchal. The objective of looking into the issue of identity in the context of nature has also been met with a theoretical perspectives in chapter 2 when we dealt with how identity of indigenous people are constructed. The case study of Uttaranchal has further substantiated the arguments and so has the chapter on the historical perspective on power relations between indigenous communities and the non-tribal world as we have looked into the issue of 'othering'. By looking into the traditional knowledge of indigenous communities of Uttaranchal in terms of their economic activity, society and culture and medicinal and nutritional use of their biotic resource, the objective of looking into the role of material culture and knowledge of indigenous communities has been satisfied. By looking at power relations between tribal and non-tribal society, specially in the context of modernization, we have been able to look at the position of traditional knowledge of indigenous communities vis-à-vis non-tribal societies. This chapter has also satisfied the objective of looking at the indigenous communities and their cultural capital in the context of globalization where issues related to the new intellectual property rights regime have been discussed. Issues related to the rights of indigenous communities has been developed from the second chapter itself. As to how these rights are infringed

have been looked into and this has led to suggestions as to how justice in this regard can be melted out in the previous chapter. This work arrives at the following conclusions.

- On society-nature interaction has undergone numerous changes. Especially in the modern era, the proposers of environmental determinism as well as possibilism, through differing in opinion, have enriched this field of study.

- Structuralism, post-structuralism and post-modernism have taken the understanding on society nature relations further. Interpretation of phenomenas related to society nature interaction has been strengthened on account of realization of the weakness of the previous 'ism'.

- The tribals in India have been interacting with their physical environment since known history. Thus, they are indigenous people of that region.

- Nature has been looked at and has been dealt with differently during pre-modern and modern era by human beings. This is primarily an account of the technology available at hand of societies in the respective eras. Modernization started with the industrial revolution and the generation of surplus for the market. This has vastly altered the space created on account of society nature interaction as compared to that which was created in the pre-modern era.

- It is the modern understanding and stereotyping of indigenous people which labels indigenous people as 'pre-modern', 'savages', 'uncivilized' and 'primitive'.

- Doing away with such prejudice and attainment of a post-modern understanding is necessary to appreciate the mosaic of unique relations that come into existence on account of society – nature interaction.

- There exists friction between the interests of modern societies and those of the indigenous communities and this has led to the marginalization of the latter. This factor too contributes towards the identity formation of indigenous people.

- The communities of Bhotias, Buxas, Tharus, Jaunsaries and Rajis live in areas of relative isolation and on account of their interaction with their social, cultural and physical environment, they have developed their identity and cultural capital.

- The life type of indigenous people in Uttaranchal is different from that of non-tribal societies. Indigenous people are closer and more dependent on their natural environment.

- On account of their great understanding of the physical environment, indigenous people have developed their cultural capital in the form of traditional knowledge. This knowledge helps them in the process of production, distribution and exchange.

- Living in areas of relative isolation, they have developed their own society culture and tradition. This knowledge had helped them attain a harmonies and sustained balance with nature, specially in the past.

- They have also assimilated a store hose of knowledge on medicinal and nutritional use of the region's plants and animals.

- On account of the rich store house of knowledge that these communities possess and their mature and liberal society that has evolved over centuries, it may be said that it is only the prejudice of modern societies that has stereotyped them as 'uncivilized', 'primitive' and 'backward'. The reality is that these communities are 'civilized' in their own way.

- Tribal identity, their habitat, culture and cultural capital have been marginalised and misappropriated during pre-colonial, colonial as well as post-colonial era in India. However, the type and level of misappropriation and marginalization has differed.

- With colonial expansion in India began the imposition of rules and laws that created fissures between indigenous people and their habitat. Infringement on the rights of these communities to their habitat and resources took a new dimension. There was large-scale appropriation of the resources present in the habitat of indigenous communities by the colonial masters. This was in scant dis-respect to the fact that this habitat and the resources present in the same had been harnessed by these indigenous people as their cultural capital.

- Discourses at the academic level has added to the stereotyping of indigenous people. This has continued even in independent India.

- The manifestation of modernization and modernity in independent India in the form of 'development', nation building, big dams, rules and laws have at numerous occasions turned a blind eye to the needs and plight of indigenes people and their right to their habitat and resource base.

- Globalisation has brought fourth new challenges as the danger of appropriation of this cultural capital comes from financially strong multi national corporations based in advanced countries.

- International laws, specially those related to intellectual property rights, have not been sensitive to protecting the interest of the 'week' and the marginalised indigenous communities.

- The future requires us to shred our prejudices about indigenous people. Future polices should not carry out cost-benefit analysis only in economic terms. This has very often led to the income side of the profit and loss account showing development in favour of non-tribals and displacement and marginalization on the expense side accruing to the indigenous communities.

- The government needs to equipped itself to face the new challenges of globalisation in order to protect the interest of indigenous communities.

Finally, it needs to be mentioned that this research is only at its incipient stage. Greater understand and a structural analysis of tribal practices is require to appreciate their life style even further. This can only be done if the researcher carried out field trip and generates primary data on account of staying with these communities over a substantial period of time. Ethnographic methodology is of great relevance in such a study. Thus, this needs to be done in the future to carry forward this work.

APPENDIX - A

COMMUNITY WISE POPULATION DISTRIBUTION

	BHOTIA					BUKSA					JAUNSARI				
	Rural		Urban			Rural		Urban			Rural		Urban		
Districts	**Male**	**Female**	**Male**	**Female**	**Total**	**Male**	**Female**	**Male**	**Female**	**Total**	**Male**	**Female**	**Male**	**Female**	**Total**
1. Dehra Dun	176	101	106	79	**462**	5462	4676	128	93	**10,359**	36585	33179	1064	832	**71,660**
2. Uttarkashi	859	857	27	25	**1768**	9	17	0	0	**26**	306	192	3	4	**505**
3. Tehri Garhwal	144	124	8	7	**283**	2	2	14	0	**18**	69	202	14	7	**292**
4. Garhwal	67	48	70	19	**204**	589	477	4	1	**1071**	0	0	0	1	**1**
5. Chamoli	3480	3848	1156	1065	**9549**	207	257	53	26	**543**	3	2	5	2	**12**
6. Almora	803	864	371	297	**2335**	7	0	0	3	**10**	0	0	1	0	**1**
7. Pithoragara	7310	7221	1517	1609	**17657**	4	5	3	0	**12**	1	5	0	0	**6**
8. Nainital	585	419	129	87	**1220**	10,030	10,050	89	3	**20180**	26	18	9	3	**56**
Total					**33478**					**32219**					**72533**

Contd.

	RAJI					THARU						
	Rural		Urban			Rural		Urban				
Districts	**Male**	**Female**	**Male**	**Female**	**Total**	**Male**	**Female**	**Male**	**Female**	**Total**	**Total of there 5 major India Indus Communities**	**Sq. root of total**
1. Dehra Dun	14	21	2	5	**42**	437	335	509	225	**1506**	84029	290
2. Uttarkashi	0	0	0	0	**0**	0	0	1	0	**1**	2300	48
3. Tehri Garhwal	0	0	0	0	**0**	1	0	10	7	**18**	611	25
4. Garhwal	10	13	0	0	**23**	94	59	27	23	**203**	1502	39
5. Chamoli	62	65	9	16	**152**	0	8	1	0	**9**	10265	100
6. Almora	194	165	20	3	**382**	8	0	0	0	**8**	2736	52
7. Pithoragara	313	267	22	18	**620**	10	4	1	3	**18**	18313	135
8. Nainital	16	11	17	15	**59**	34,202	32143	527	450	**67422**	88937	298
Total					**1278**					**69,185**	208693	

Contd.

		Bhotia		Buksa		Jaunsari		Raji		Tharu		Total population	Percent age
Districts	**Radius = Total ÷ 100**	**Percent -age**	**Degree**	**Percent age**	**Degree**	**Percent age**	**Degree**	**Percent age**	**Degree**	**Percent age**	**Degree**	**Total**	**8.19**
1. Dehra Dun	**2.9**	0.55	1° 59'	12.33	44° 23'	85.28	307°	0.05	0° 11'	1.79	6° 27'	**1025679**	**0.96**
2. Uttarkashi	**.48**	76.87	276° 44'	1.13	4° 4'	21.96	79° 2'	0	0	0.04	0° 9'	**239709**	**0.07**
3. Tehri Garhwal	**.25**	46.32	166° 44'	2.95	10° 37'	47.79	172° 3'	0	0	2.95	10° 36'	**580153**	**0.22**
4. Garhwal	**.39**	13.58	48°53'	71.3	256° 42'	0.07	0° 14'	1.53	5° 31'	13.52	48° 40'	**682535**	**2.26**
5. Chamoli	**1**	93.02	334° 53'	5.29	19° 2'	0.12	0° 25'	1.48	5° 20'	0.09	0° 19'	**454871**	**0.33**
6. Almora	**.52**	85.34	307° 14'	0.37	1° 19'	0.04	0° 8'	13.96	50° 16'	0.29	1° 3'	**836617**	**3.23**
7. Pithoragara	**1.32**	96.42	347°1 6'	0.07	0° 14'	0.03	0° 7'	3.39	12° 11'	0.1	0° 21'	**566408**	**5.77**
8. Nainital	**2.98**	1.37	4° 56'	22.69	81° 41'	0.06	0° 14'	0.07	0° 14'	75.8	2.72° 55'	**1540174**	**3.52**
Total												**5926146**	

Source: Census of India, 1991.

APPENDIX - B

ECONOMIC ACTIVITIES AND KNOWLEDGE

Knowledge of :-	Bhotias	Rajis	Tharus	Jounsaies	Buxas	Knowledge of :-	Bhotias	Rajis	Tharus	Jounsaies	Buxas
1. Semi Normadism & Transhumance	1 x 2 = 2	1	0	0	0	17. Gagli	0	0	1	1	1
2. Trade	1 = 1	0	0	0	0	18. Ogal	1	0	0	0	0
3. Mountain Pastures	1 x 2 = 2	0	0	0		19. Chua	1	0	0	0	0
4. Hunting and Food gathering	0	1 x 3 = 3	0	0	0	20. Rhubarb	1	0	0	0	0
5. Shifting Cultivation	0	0	0	0	0	21. Birch	1	0	0	0	0
6. Terracing	0	0	0	1	0	22. Junipur	1	0	0	0	0
7. Khil	0	0	0	1	0	23. Phung	1	0	0	0	0
8. Manuring	0	0	0	1	0	24. Woolen handicrafts	1	0	0	0	0
9. Ploughing	0	0	0	1	0	25. Utensils	0	1	0	0	0
10. Mandwa	0	0	0	1 x 2 = 2	0	26. Wooden Plough	0	1=1	0	0	0
11. Kolth	0	0	0	1	0	27. Gold Smith	0	0	0	1	0
12. Kauni	0	0	0	1	0	28. Gold Washing	0	0	0	0	1
13. Khangara	0	0	0	1	0	29. Fish Trap	0	0	0	0	1
14. Chinai	0	0	0	1	0	30. Dams	0	0	1 x 2 = 2	0	0
15. Phaphra	1	0	0	1	0	**Total No. of Zeros**	**19**	**26**	**27**	**17**	**25**
16. Ghunya	0	0	1	1	1						

APPENDIX - C

SOCIO CULTURAL KNOWLEDGE

Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaries	Buxas
1. Dance	0	0	1	0	0
2. Marriage	1	1	1	1x2=2	1
3. Song	1	1	1	0	1
4. Remarriage of women	1	0	1	0	1
5. Freedom of choice in terms of sexual behaviour	1	0	1	1	1
6. Status of women	1	1	1 x 2 = 2	1	1 x 2 = 2
7. Religion	1	1	1	1	1
No. of zeros	**1**	**3**	**0**	**3**	**1**

APPENDIX - D

KNOWLEDGE OF DISEASES AND BIOTIC RESOURCES

(a) Diseases

Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaies	Buxas		Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaies	Buxas
1. Tuberculosis	0	0	0	1	0		4. Syphilis	0	0	0	1	0
2. Rickets	0	0	0	1	0		5. Gonorrhoea	0	0	0	1	0
3. Marismus	0	0	0	1	0		6. Boils	0	0	0	1	0
							No. of zeros	**6**	**6**	**6**	**0**	**6**

(b) Botanical Resources

Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaies	Buxas		Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaies	Buxas
1. Rubus Nutans	1	0	0	0	0		5. Aconitum bulfori	1	1	1	1	1
2. Orchis.	1	0	0	0	0		6. Adiantum caudatum	1	1	1	1	1
3. Aconitum Heterophyllum	1	0	0	0	0		7. Aesculus indica	1	1	1	1	1
4. Abrus Preecatorius	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		8. Agave americana	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2

Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaies	Buxas		Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaies	Buxas
9. Allium cepa	1	1	1	1	1		22. Dhatura Stramonium	1	1	1	1	1
10. Andrachne cordifolia	1	1	1	1	1		23. Elarodendron glaucum	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
11. Arisaema tortuosum Schott	1	1	1	1	1		24. Epilobium royleanum	1	1	1	1	1
12. Aruncus dioecus	1	1	1	1	1		25. Euphoria pilosa	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
13. Baliospermum Montanum	1	1	1	1	1		26. E. Royleana	1	1	1	1	1
14. Boenninghausenia albiflora	1	1	1	1	1		27. E. Stracheyi	1	1	1	1	1
15. Bromus inermis	1	1	1	1	1		28. Golriosa superbs	1	1	1	1	1
16. Callicarpa macrophylla	1	1	1	1	1		29. Ienocarpus frutiscens	1	1	1	1	1
17. Cedrela toona	1	1	1	1	1		30. Iris kumaonensis	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
18. Cedrus deodara	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		31. Jatropha curcas	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
19. Celastrus paniculate	1	1	1	1	1		32. Juniperus squamata	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
20. Colebrookia oppositifolia	1	1	1	1	1		33. Jurinea macrocephala	1	1	1	1	1
21. Curcuma ionga	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		34. Limonia crenulata	1	1	1	1	1

Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaies	Buxas		Knowledge of:-	Bhotias	Rajis	Tharus	Jounsaies	Buxas
35. L. ambrosa	1	1	1	1	1		49. Rhododendron arboreum	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
36. Lyonia ovalfolia	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		50. R. anthopogon	1	1	1	1	1
37. Melia azadiarach	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		51. R. Campanulatum	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
38. Murrava Koenigii	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		52. Rhuscotinus	1	1	1	1	1
39. M. Paniculata	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		53. Ricinus communis	1	1	1	1	1
40. Myrica nagi	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		54. Sapinum insigle	1	1	1	1	1
41. Myrisine semiserrata	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		55. Sapindus mukossi	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
42. Osyris wightiana	1	1	1	1	1		56. Shorea robusta	1	1	1	1	1
43. Paeonia emodi	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		57. Skimma laureola	1	1	1	1	1
44. Prinsepia utilis	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		58. Simlax aspera	1	1	1	1	1
45. Putranjva roxburghi	1	1	1	1	1		59. Staphylea modi	1	1	1	1	1
46. Polygonum rumicifolium	1	1	1	1	1		60. Taxus buccata	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
47. Randia dumetorum	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		61. Woodfordia fruticosa	1	1	1	1	1
48. Litsaea Chinensis	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		62. Zanthoxylum alatum	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2

(c) Zoological Resources

Knowledge of :-	Bhotias	Rajis	Tharus	Jounsaies	Buxas	Knowledge of :-	Bhotias	Rajis	Tharus	Jounsaies	Buxas
1. Acridotherus tristis	1	1	1	1	1	15. Carcinus moenas	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3
2. Agama thbreculatus	1	1	1	1	1	16. Felis domesticus	1	1	1	1	1
3. Apis Indica	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	17. Frnkolinus frankolinus	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
4. Bos Indicus	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	18. Hirudinaria granulose	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
5. Bubalous bubalis	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	19. Histrix indica	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4
6. Bubo bubo	1	1	1	1	1	20. Homo sapiens	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4
7. Bufo viridis	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	21. Lobeo rohita	1	1	1	1	1
8. Canis Familiaris	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	22. Lepus rigricolis	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4
9. canis familaris	1	1	1	1	1	23. Lutra Lutra	1	1	1	1	1
10. Calendrella acutirostris	1	1	1	1	1	24. Lynae Iamarck	1	1	1	1	1
11. Capra Sibirica	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	25. Moschus moschiferus	1 x 5 = 5	1 x 5 = 5	1 x 5 = 5	1 x 5 = 5	1 x 5 = 5
12. Carvus spnendens	1	1	1	1	1	26. Musca domestica	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
13. Cervus duvauculin	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	27. Naemorhedus goral	1	1	1	1	1
14. Columba livia	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	28. Nemacheilus montanus	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3

Knowledge of :-	Bhotias	Rajis	Tharus	Jounsaies	Buxas		Knowledge of :-	Bhotias	Rajis	Tharus	Jounsaies	Buxas
29. Oric tolagus	1 x 5 = 5	1 x 5 = 5	1 x 5 = 5	1 x 5 = 5	1 x 5 = 5		35. Ptyas mucosue	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
30. Ovis amanion	1	1	1	1	1		36. Rattus rattus	1	1	1	1	1
31. Panthera tigris	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2		37. Rhinolophus lectus	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2	1 x 2 = 2
32. Passer domesticus	1	1	1	1	1		38. Sehizothorar richard	1	1	1	1	1
33. Presbytisentellus schistaceous	1	1	1	1	1		39. Selenarctors thicbatanus	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3
34. Pheritima posthuma	1	1	1	1	1		40. Sus scropha	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3	1 x 3 = 3

APPENDIX - E

Country	No. of international applications whose recorded copies were received by international bureau patents (1995)	GDP (US$ billion) 1995	Country	No. of international applications whose recorded copies were received by international bureau patents (1995)	GDP (US$ billion) 1995
1. USA	16588	5920.2	20. New Zealand	140	41.3
2. Germany	5054	1789.3	21. China	106	506.1
3. U.K.	3425	903.1	22. Ireland	76	43.3
4. Japan	2700	3671.0	23. Hungary	68	35.2
5. France	1808	1319.9	24. Brazil	66	360.4
6. Sweden	1572	220.8	25. Slovenia	32	NA
7. Netherlands	1297	320.3	26. Luxembourg	31	NA
8. Australia	877	294.8	27. Czech Republic	28	26.2
9. Canada	786	493.6	28. Greece	25	67.3
10. Switzerland	786	241.4	29. Poland	22	79.5
11. Finland	718	93.9	30. Singapore	21	46.0
12. Italy	570	1223.0	31. Romania	16	24.4
13. Denmark	554	123.5	32. Bulgaria	12	10.8
14. Austria	332	185.2	33. Belarus	11	30.1
15. Russian Federation	288	387.5	34. Mexico	10	329.0
16. Norway	246	112.9	35. Slovakia	10	10.0
17. Belgium	232	218.8	36. Ukraine	10	94.8
18. Republic of Korea	192	NA	37. Portugal	6	79.5
19. Spain	170	574.8	38. Iceland	3	NA

Country	No. of international applications whose recorded copies were received by international bureau patents (1995)	GDP (US$ Billion) 1995	Country	No. of international applications whose recorded copies were received by international bureau patents (1995)	GDP (US$ Billion) 1995
39. Monaco	3	NA	45. Georgia	1	4.7
40. Kenya	2	6.9	46. Kazakhstan	1	28.6
41. Malawi	2	1.7	47. Sri Lanka	1	8.8
42. Republic of Moldavia	2	5.6	48. Uzbeskistan	1	14.9
43. OAPI States	2	NA	49. Liberia	2	NA
44. Barbados	1	NA			

Source: 1. Human Development Report, UNPD, 1995.

2. Report of the Director General of the World Intellectual Property Organisation in 1995.

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