CULTURAL ECOLOGY OF NOMADISM:
(A Case Study of Jammu & Kashmir State)

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FOR THE AWARD OF
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(MOHAMMAD BASHIR MAGRAY)
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LOCATION OF JAMMU AND KASHMIR

INDIA

REFERENCES
- BOUNDARY INTERNATIONAL
- BOUNDARY STATE

JAMMU AND KASHMIR STATE
AN ANDAMAN NICOBAR
AR ARUNACHAL PRADESH
HP HIMACHAL PRADESH
M MANIPUR
MG MEGHALAYA
MZ Mizoram
T Tripura
S Sikkim

FIG. 1

SOURCE: SURVEY OF INDIA SCHOOL ATLAS
INTRODUCTION
INTRODUCTION

The present study aims to examine the cultural ecology of pastoral nomadism in the state of Jammu and Kashmir. Pastoral nomadism in the study region, as in similar ecological situations in many other parts of the world; is manifested in the form of transhumance. The study of transhumance has long been a fascinating subject for geographers and has produced numerous outstanding and definitive works, specially in regard to the mediterranean region. In India also transhumance is widely practised in Jammu and Kashmir, Himachal Pradesh and parts of Kumaon and Garhwal. But there is a general lack of good, authentic and definitive studies by Indian geographers concerning this practice.

Being a resident of Jammu and Kashmir, the present author was naturally interested in the geography of transhumance in the region. The problem of the study and the areal matrix, was, therefore, in a sense, predetermined. The author feels that the present work will fill an important gap in understanding the economy and culture of the transhumant communities of the state. The study may also hopefully be of some applied value. The Gujjars and Bakerwals, who are the principal nomadic community of the state, constitute an important segment of the state's population. They have long been a socially and economically deprived people who have not been
fully integrated in the main stream of the regional culture and economy. Social justice demands that their upliftment and integration in the main stream be given top priority. This objective, however, calls for the adoption of careful developmental strategies. Empirical studies have shown that unimaginative developmental strategies in traditional societies often lead to social destabilization. This has to be avoided.

There is, therefore, an imperative need for thoroughly understanding the socio-economic moorings of the Gujjars and Bakerwals so that it may serve as a necessary background for initiating programmes relating to their wellbeing. The present study, therefore, has a limited objective i.e. that of critically examining the cultural ecology of the people to serve as a springboard for future action planning.

The study has been conceived in terms of the conceptual format of the eco-system approach. It has been theorized that the man-environment interface in the study area is characterized by a symbiosis between the transhumant nomads, their flocks and their ecological context. The study accordingly concentrates on the principal components of the eco-system: people (Gujjars and Bakerwals); habitat (physical layout and climate) and the biome (forests and pastures). An intricate web of relationships binds the different components together in an integral whole. Once such an understanding has been achieved, the classical model can then be
compared with the existing realities to find out any deviation and causes thereof.

In the above conceptual framework the specific objectives of the present study are:

1). What are the specific features of the transhumance eco-system in the region i.e. the physical layout, climate and natural vegetation?

2). What are the origins, and spatial distribution of the pastoral nomads in the study region?

3). What are the linkages between the habitat, economy and society of the system?

4). What are the deviations, if any, in the transhumance of the region from the classical model?

5). What is the validity of 'environmental' explanation of transhumance in the light of the empirical evidences of the present study?

Organizationally the study has been divided into seven chapters besides an epilogue. The first chapter outlines the conceptual parameters of the study. As the study has been conceived in terms of ecology and ecosystem; the concepts of ecology and its derivatives, human ecology and cultural
ecology have been discussed in depth.

Chapters II to IV examine the principal components of the regional eco-system. Three have been devoted to the three aspects of the habitat: physical layout, climate and biome. In these chapters stress has been put on those aspects which play a role in the ecology of transhumance. The V chapter deals with the human component of the ecosystem: the origins and distribution of the transhumant Gujjar and Bakerwal communities.

Chapter VI is definitive in nature and examines the crucial ecological linkages between the principal components of the transhumance system in terms of time and space relationships. The themes of the VII chapter are the deviations from and modifications of the classical model of transhumance under the impact of modern developments.

The epilogue critically examines the 'environmentalist' and socio-economic explanatory models of transhumance in the light of the empirical work of the author.

*****
CHAPTER - I

CONCEPTUAL PARAMETERS:

CULTURAL ECOLOGY
The concept of Cultural Ecology can best be understood in terms of the concept of ecology. The word ecology has been derived from the Greek word Oikas which means, a house or a place to live in. Ernst Haeckel, the German Biologist is credited with being the first to use the term ecology, employing it in his study of plants in 1968. However, science of ecology did not get under way until the turn of twentieth century, when publications like 'Oecology of plants' and "Plant ecology and Physiology" appeared in 1905 and 1907 respectively. Since then the subject has become generally recognized as an important branch of the biological sciences.

Ecology is generally defined as the study of the relationship of organisms or groups of organisms to their environment. All organisms are engaged in activities which have as their logical conclusions, adjustment to environment. It is often said that ecology is but a new name for an old subject and that is true in many respects. Eversince man was able to record his observations there is evidence that he was aware of the relation of life to environment. It is more important to recognize that ecology is a biological rather than a geographical or social

science inspite of the fact that the relation of organisms to environment has pronounced geographic and social aspects.

During the second and third decade of the twentieth century the science of ecology acquired some momentum, when publications like, 'Guide to the study of Animal Ecology' and 'Human Ecology' made their appearance in 1913 and 1921. Taylor and Bews are the representatives of the holistic outlook. Ecology, Taylor declares, must be defined as the study of all relations of all organisms to all their environment. He adds that ecology is not confined to animals or plants but is more comprehensive. Environment, function and organisms constitute together what has been called fundamental biological trait. The trait must be studied as one complete whole and this study is essentially what we mean by ecology.

Eco-Systems

A secondary major development in the broad field of Ecology, relevant to modern geography, is the study of eco-systems, which can be defined as functioning, interacting systems composed of one or more living organisms and their effective environment, or when applied to man, the study of biological and cultural man living in and interacting with his environment. The study of eco-systems was introduced in

thirteenth of the current century. The great advantages of a systems approach in ecology and geography, are obvious: it delineates the hierarchy of organizational units and brings all properties of complex man-environment transactions within a single frame-work. There are, the main, four advantages of ecosystems in ecology and geography. First, it treats man and environment within a single frame-work; second, it is structured in a rational way; third, it analyses the functioning of systems not simply their form and finally, it is special type of general systems with all that it implies.

Objectives in Cultural Ecological Studies:

The objectives undertake to develop the concept of ecology in relation to human beings as an heuristic device for understanding the effect of environment upon culture. In order to distinguish its purpose and method from those implied in the concepts of biological, human and social ecology, the term cultural ecology is used. Since cultural ecology is not properly understood it would be worthwhile to demonstrate and suplement the usual approaches of Anthropology in order to determine the creative processes involved in the adoption of culture to its environment.

The principal meaning of ecology is adaptation to environment. Since the time of Darwin the environment has been conceived as the total web of life, wherein all plant and animal species interact with one another and with physical features
in a particular unit of territory. According to Webster, the biological meaning of ecology is the mutual relations between organism and their environment. Since man is a part of the web of life in most parts of the world, he introduces the super-organic factors of culture. Man is not merely as another organism in the total web of life as he, of all the creatures, interact with all other elements in the ecological web through cultural responses. Man is the ecologically dominant element in the ecosystem and affects and is affected by the ecosystem through the cultural factor. In the ecological studies, this has raised many methodological difficulties. The principal difficulty lies in the lack of clarity as to the relevance of culture in ecological studies as applicable to man. But since man's interaction with the environment does not take place in the carpus but in the extra-carpus, that is his culture, there is in the case of man something extraneous interposed between man as an organism and the environment which takes care of the process of adjustment.

Human beings do not react to the web of life solely through their genetically derived organic equipments. Culture, rather than genetic potential for adaptation, accommodation and survival, explains the nature of human societies. Moreover, the web of life of any local human society may extend far beyond the immediate physical environment and biotic assemblage.

Human culture, which itself is a product of "web of life", takes different forms under different environmental conditions. It is, therefore, difficult to present a general formulation of these universal processes. Hawlay has given the most recent and comprehensive statement of social ecology, and takes cultural phenomena into account far more than his predecessors. He states that man reacts to the web of life as a cultural animal rather than a biological species. He is uncertain regarding the effect of environmental adaptation on culture. He further adds that, "each habitat not only permit to but to a certain extent necessitates a distinctive ode of life." It clearly affirms that the cultural ecological adaptations constitute creative processes.

Cultural ecology differs from human ecology and social ecology in seeking to explain the origin of particular cultural features and patterns which characterise different areas rather than to derive general principals applicable to any cultural environmental situation. It differs from the relativistic and neo-evolutionistic conception of cultural history in that it introduces the local environment as extracultural factors. Thus, cultural ecology presents both a problem and a method. The problem is to ascertain whether the adjustment of human

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9. Ibid.
societies to their environment necessitates particular modes of behaviour or whether they permit latitude for a certain range of possible behaviour patterns. Phrased in this way the problem also distinguishes cultural ecology from "environmental determinism", and its related theory, 'economic determinism'.

The problem of cultural ecology must be further qualified, however, through use of a supplementary concept of culture. According to the holistic view all aspects of culture are functionally interdependent upon one another. The degree and kind of interdependency, however, are not the same with all features. Cultural ecology pays primary attention to those features which empirical analysis shows to be most closely involved in the utilization of environment in culturally prescribed ways. The expression "culturally prescribed ways" must be used with caution for its anthropological usage is frequently "loaded". The normative concept which views culture as a system of mutually reinforcing practices backed by a set of attitudes and values, seems to regard all human behaviour as so completely determined by culture that environmental adaptations have no effect. It postulates that the entire pattern of technology, landuse, land tenure and social features derive entirely from culture. Classical illustrations of the primacy of cultural attitudes over common sense are that the Chinese do not drink milk nor the Eskimo eat seals in summer.
Culture do of course tend to perpetuate themselves, and change may be slow for such reasons as those cited. But over the millennia cultures in different environments have changed tremendously and these changes are basically traceable to new adaptations required by changing technology and productive arrangements. Despite occasional cultural barriers, the useful arts have spread extremely wide, and the instance in which they have not been accepted because of pre-existing cultural patterns are insignificant. In pre-agricultural times, which comprised perhaps 99 percent of cultural history technical devices for hunting, gathering and fishing seems to have defused largely to the limits of their usefulness. Clubs, spears, traps, bows, fire, containers, nets and many other cultural features spread across many areas and some of them throughout the world. Later, domesticated plants and animals also spread very rapidly within their environmental limits, being stopped only by formidable ocean barriers.

Whether or not new technologies are valuable is, however, a function of the society's cultural level as well as of environmental potentials. All pre-agricultural societies adopted hunting and gathering techniques useful within the geographical limits of herding and gathering. More advanced techniques such as metallurgy, were acceptable only if certain pre-conditions such as stable population, leisure time and internal specializations were present. These conditions could develop only from
the cultural ecological adaptations of an agricultural society.

The concept of cultural ecology, however, is less concerned with the origin and diffusion of technologies than with the fact that they may be used differently and entail different social arrangements in each environment. The environment is not only permissive or prohibitive with respect to technologies, but special local features may require social adaptations which have far reaching consequences. Thus, all societies equipped differently may differ among themselves, because of the nature of the terrain and fauna. If the principal game exists in large herds, there is advantage in cooperation, and considerable number of people may remain together throughout the year. As a matter of fact the total environment differs spatially. For instance the Bushman, and the Australians aborigins live in deserts, the Negritos in rainforests and the Furgians in cold rainy area, therefore, their subsistence problems are different. It is but natural that they develop different types of culture.

Other societies having about the same technological equipments may exhibit other social patterns because the environment differs to an extent where cultural adaptations must be different. For example, Eskimo use widespread devices

but owing to the limited occurrence of fish and sea mammals, their population is so sparse and cooperative hunting is so relatively unrewarding that they are usually dispersed in family groups. For a different, but equally compelling reason, the Nevadas were also fragmented. In this case the scarcity of game restricted the economic cooperation and required dispersal of the society into fairly independent family groups.

When agricultural techniques were introduced and man was partially free from the exigencies of hunting and gathering, it became possible for considerable aggregates of people to live together. Larger aggregates made possible by increase population and settled communities, provide a higher level of socio-cultural integration, the nature of which is determined by the local type of environment.

The adaptative processes can properly be designated ecological. But it should be pointed out that attention is directed not simply to the human community as part of the total web of life, but to such cultural features as are effected by the adaptations. This in turn requires that primary attention be paid only to the relevant environmental features rather than to the web of life for its own sake. Only those features to which the local culture ascribes importance need be considered.
The Method of Cultural Ecology:

Although the concept of environmental adaptation underlies all cultural ecology, the procedures must take into account the complexity and level of the culture. It makes a great deal of difference whether a community consist of hunters and gatherers who subsist independently by their own efforts or whether it is an outpost of a wealthy nation, which exploits local mineral wealth and is sustained by railroads, ships or air-planes. In advance societies, the nature of the culture-core will be determined by complex technology and by productive arrangements which themselves have a long cultural history.

There are three fundamental procedures of cultural ecology which do clarify the methodology:

1). The inter-relationship of exploitative or productive technology and environment must be analysed. This technology includes a considerable part of what is often called "material culture", but all features may not be of equal importance. They vary from primitive societies of hunting and fishing to agriculture and transportational devices, to crucial implements of technology in industrial world. Credit and capital arrangement and ample housing and clothing standards become increasingly important in the productive arrangement as culture develop.
The simpler cultures are more directly conditioned by the environment than advance ones. In general climate, topography, soils, hydrography, vegetational cover and fauna are crucial but some features may be more important than others. The spacing of water-holes in the desert may be vital to a nomadic seed-gathering people, the habit of game will affect the way hunting is done and the types and seasonal availability of fishes will determine the habit of riverine and coastal tribes.

2). The behaviour pattern involved in the exploitation of a particular area by means of a particular technology must be analysed. Some subsistence patterns impose very narrow limits on the general mode of life of the people, while others allow considerable latitude.

The exploitative patterns not only depend upon the habits of the people concerned in the direct production of food and of goods but also upon facilities for transporting people to the sources of supply or the goods to the people. Water crafts have played a major role in permitting the growth of settlement beyond what would have been possible for a foot people. Among all nomads, the horse has had an almost revolutionary affect in promoting growth of large bands.

3). It is also important to ascertain the extent to which the behaviour patterns entailed in exploitation of the environment affect other aspects of culture. Although technology and
environment prescribe that certain things must be done in certain ways if they are to be done at all, the extent to which these activities are functionally tied to other aspects of culture is a purely empirical problem. It has been shown previously that occurrence of patrilineal bands among hunting people of fragmented families among the Western Shoshous is closely determined by their subsistance activities.

This procedure requires a genuinely holistic approach for if such factors as demography, settlement pattern and kinship structures are considered separately their interrelationships to one another and to the environment cannot be grasped. Land-use by means of a given technology permits a certain population density. The clustering of population depends upon resources and transportational devices while its composition is the function of the size and nature of subsistence activities and of cultural historical factors. Even during warfares or individual honours or religious purposes it may serve to nucliate settlements in a way that must be related to subsistance activities.

The Methodological Place of Cultural Ecology:

Cultural ecology has been devised as a methodological tool for ascertaining how adaptation of a culture to its environment may entail certain changes. In a larger sense the problem is to determine whether similar adjustments occur
in similar environment or not.

Since in any given environment Culture may develop through succession of very unlike periods, it is some times pointed out that environment being constant, obviously has no relationship to cultural type. This difficulty disappears, however, if the level of socio-cultural integration represented by each period is taken into account. Cultural types, therefore, must be conceived as constellations of core features which rise out of environmental adaptation and which represent similar levels of integration.

Cultural diffusion, of course, always operates, but in view of the importance of ecological adaptations its role in explaining culture to which the large variety of world cultures can be systematized in categories of types and explained through cross-cultural regulations of developmental process, is purely an empirical matter. Hunches arising out of the comparative studies suggest that there are many regularities which can be formulated in terms of similar levels and similar adaptations.

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CHAPTER - II

THE HABITAT:

THE PHYSICAL LAYOUT
CHAPTER - II

THE HABITAT: THE PHYSICAL LAYOUT.

In a study dealing with cultural ecology the significance of the habitat can hardly be overemphesized. Cultural ecology, by its very nature is concerned with the human Universe of day to day life, since the human population is territorially localized, out of the principal elements cultural-ecological studies is the definition of the spatial boundaries of the habitat and geo-ecological features prevailing therein. This is because the distinctive characteristics of a community may least be partly attributed to the peculiarities of its habitat.

In the following pages an attempt has been made to define the habitat area of the pastoral nomads of Jammu and Kashmir so, as to contain all that is relevant for an understanding of the collective life of these people.

Physical Layout of the Habitat:

Since the pastoral nomads operate from the southern foot hills of the Pir-panjal to the Alpine pastures in the Greater Himalayas, the entire state of Jammu and Kashmir constitutes the habitat for the purposes of the present study.

The state of Jammu and Kashmir is strategically located in the north west corner of India. It shares its borders with China in the east and Pakistan on the west. On the north lies
the Tibetan plateau while on the north west its borders are
common with Afghanistan. On the northern side the vale of
Ab-i-panja or the panhandle (Wakhan) of Afghanistan inter-
venes between the borders of Jammu and Kashmir and U.S.S.R.
Towards the south, we find the plains of northern India and
eastern Panjab i.e. Panjab and towards southeast state of
Himachal Pradesh shares its borders.

From the latitudinal point of view the state is situated
for beyond the tropical zone of the country. It extends from
32°.17 N to 37°.50 N latitude. Longitudinally the state lies
between 73°.26 east to 80°.30 east.

The area of Jammu and Kashmir state is 2,22,800 Km².
Out of this 83,808 Km² are under illegal occupation of Pakistan
since 1947. Another 41,500 Km² were illegally occupied by the
Chinese in 1962. Thus the area effectively under the controle
of the state of Jammu and Kashmir is 97,492 Km².¹

Being a mountainous state Jammu and Kashmir is character-
ised by a great diversity in relief. Hemmed in between snow
kissed peaks of the Himalayas and the scorching plains of Punjab,
the state contains a mosaic of ecologies—the Jammu plains,
the Siwalik hills, the thickly forested middle Himalayas, the

¹. Map No. 12 for details of area.
lushgreen and verdant Kashmir valley and finally the lofty peaks of the greater Himalayas. The mountain ranges are pierced by longitudinally aligned dense forested valleys. These valleys and numerous passes greatly facilitate transportation which otherwise is too difficult in this mountainous region. It was through these passes that cultural and commercial ties were maintained between India and central Asia during ancient times.

**Physical Divisions:**

Except for a small portion in the south, the entire state of Jammu and Kashmir is mountainous and is traversed by ranges. A number of mountain ranges which bifurcate from the Pamir complex — Karakoram, Ladakh, Hindukush Mazlog and the Greater Himalayan ranges on south, southeast and southwest, Pamir Alay, Tienshan and Trans Alay on north east and on the east and southeast Kunlun and Agine ranges more or less fall into three parallel ranges: (I). The Greater Zanskar range, also known as the Inner Himalayas, (II). The lesser ranges, also called the Middle Himalayas and (III). The Siwaliks and Pir-panjal ranges, also known as the outer Himalayas. One important characteristic of these ranges is that they present a steep slope towards the south and a gentler slope towards the north.

The state of Jammu and Kashmir falls into the following natural divisions:
PHYSICAL DIVISIONS
OF
JAMMU AND KASHMIR

INDEX

GREAT HIMALAYA
KASHMIR VALLEY
MIDDLE MOUNTAINS
OUTER HILLS
OUTER PLAINS

SOURCE: OUTLINE AFTER TAJ SCHOOL ATLAS

FIG. 2
I). Outer Plains.

II). Outer Hills.

III). Middle Mountains (Pir Panjal).

IV). Kashmir Valley.

V). Greater Himalayas.

I). **Outer Plains:**— This strip of plain, lying between river Ravi on the east, rivers Chenab and Jhelum on the west, at an altitude of 305 metres to 366 metres above sea level, is a continuation of the Punjab plains. The general slope of the plain is towards south-west. Denudation and erosion have played a significant role in the modification of topographical features in this region, carving out depression by sub-aerial denudation is spacially common. Broad longitudinal valleys form a conspicuous features of the relief of this region. Extending from Ravi to Jhelum, the plains vary in width from 6 to 42 Km. The rainfall is scanty but the alluvial soil is very rich. Water deficiency is spacially marked during summer months, when people face acute shortage of even drinking water. The water shortage has to some extant been reduced by the state government which has, in recent years, sunk a large number of tubewells and dug wells. Besides providing water for drinking purposes, these wells also provide some water for irrigation. Two recently constructed canals also provide water for irrigation by lifting water from rivers Ravi and Tawi respectively.
The entire outer plains are full of small streams which carry off flood water during the rainy season. The volume of these streams vary from season to season. More important of these streams are Tawi and Ujh. The Tawi flows for about 128 Km before it enters the plains near Jammu city, while Ujh joins the plains near Jasrota after flowing for about 80 km. These rivers are subjected to floods in summers and to some extent in winters also. River Ujh which has comparatively steeper bed carries much bigger boulders than the river Tawi, they can be as big upto 61 to 92 Cm in diameters.

Only 32 Km west of river Tawi one comes across the Chenab, a bigger river of which Tawi is a tributary. The Chenab river is of large volume and debouches on the plains near the town of Akhnoor (348 m). Upto this point the stream is so broken by rapids as to be unnevigable but from Akhnoor, where its level is 355 m, down to the sea boats can traverse it. The country to the west of Chenab is no different from the country to the east of it. They are the same plains, with small depressions making away for many streams which mostly remains dry except in rainy season. To the north-west of Chenab in the hilly area another important stream flow which rises from Rattan Pir (2529 m), Pir-panjal range behind Rajouri (943 m) and joins

TRENDS OF THE PRINCIPAL MOUNTAIN RANGES IN THE NORTHWESTERN HIMALAYAN COMPLEX

INDEX

- Trends of Ranges
- Outcrop of Muree Beds
- Outcrop of Siwalik Beds
- Northmost Aravilli Lier
- Salt Rock Range of Pak
- 2nd Highest Point
- Nanga Parbat
- Nanda Devi
- Zojila Pass

Source: Moonis Raza et al.
the waters of Chenab in the plains. This stream is known as Manawar Tawi or Rajouri Tawi. The beds of all the streams like Ujh, Tawi, Manawar etc. are full of pebbles and boulders of varying sizes. The average annual rainfall is nearly 762 mm, while the maximum temperature sometimes reach 40°C to 46°C in plain region.

As one moves towards north, the altitude rises and stream beds become narrow and vegetation begin to appear on the hill slopes. It is here that one finds many thriving villages on the alluvial soil patches. Agricultural production in this region has now become profitable at places which are irrigated by canals or tub-wells. Rice and wheat are the main crops of this region on the broken kandi area thorny bushes are found and on the river islands of Chenab and Tawi there is a healthy vegetation cover, being maintained by the social forestry project.

II). Outer Hills or Siwalik Hills:- The outer hills or Siwaliks as they are known, bear a regular and gentle slope till they reach a height of 600 m above sea level. These hills are formed of young tertiary rocks and rarely reach a height of more than 1200 m. The outer hills extend, on an average, for 240 Km. from river Ravi on the east to river Jhelum on the west. Their width ranges from 22 Km to 60 Km with a greater extension on the north and north west. They
abruptly end inwards in steep escarpment as they reach a height of 600 m. These hills separate the outer plains from the Middle Himalayas. From Basohli to Ramkote one comes across bare gray sand stone. In this region numerous small longitudinal valleys known as 'dun' are found while describing these 'dun' valleys Raina writes, "the narrow neck of hills open into small valleys, mostly 'duns' extending longitudinally upto Dansal in the west". The plain is open to erosive action of running waters which leaves no land with uniform level. To the north of Dansal 'dun' a longitudinal valley runs on the opposite side of Ramkote. It is at Dansal that the river Tawi traverses a steep gorge running across the main highway to Kashmir valley.³

The topography of this region can be said to be undulating with extraordinary rate of deposition. In the west of this region conglomerates, boulders and clays are spread over a vast expanse. This infact, is the catchment area of such rivers as Tawi, Ravi, Chenab and Ujh.

Being a hilly region, means of communication are not significantly developed. Thus the whole region is economically backward. The spurs are forested right from the higher elevation down to the plains of Punjab. However, agriculture is practised

throughout this belt wherever, alluvial patches of land are available. The remaining area is mainly used as winter pasture by the nomadic Gujjars and Bakerwals of this region. In the terraced fields of the area the major crop is maize, although rice is also cultivated where fields can be irrigated.

Thus one comes to conclusion that the outer hills rise from the Punjab plains with a gentle slope, attaining an altitude of about 600 m and abruptly ending in steep escarpments. Which overlooking a succession of narrow parallel ridges. The outer hills are formed of younger tertiary rocks whose elevation rarely exceeds 1200 m above sea level. The ranges situated more inwards are formed of older tertiary rocks and attain higher altitude ranging from 1800 to 2400 m.\(^4\)

III). Middle Mountains or the Pir-panjal Range:- The middle mountains (Himalayan) ranges start from 13 to 16 Km north of Basohli in the east and run along Ramnagar, Reasi to Rajouri — Poonch. On the north the Middle ranges are bounded by two lofty mountains viz., one which ends off at Kishtwar coming from southeast and the second is Pir-panjal range beyond which lies the vale of Kashmir. In between these two ranges numerous other ranges attain elevation of between 3657 m to 4572 m above sea level.

This region is widest in the east (64 Km) and gradually narrows down towards west. Prolonged erosion has carved deep valleys. The ranges do not have any regular plan of directions and have a high tendency of bifurcating into separate sides. "They also do not show any concordance between the alignment of the hills and the strike of the component beds." Nearly twelve peaks are more than 3500 m. in elevation. There are a number of passes which join the outer plains and outer hills to Kashmir valley.

Geologically, Pir-panjal and associated mountains are not similar to the outer hills. The mountains have an arthoclinical structure. The ranges are composed of highly compressed and altered rocks of different geological periods. Similarly Drew records "looking from geological point of view one may say that there is not the same correspondence between the direction of ridges and the strikes of the beds as there is among the outer hills." Thus the middle mountains are ridges of varying and irregular direction which branch off again and again and are intersected by deep gorges which are occupied by rivers that flow through them. The upper courses of chenab

and many of its tributaries lie in this region. These rivers are perennial as they are fed by snow on the high mountains.

In view of the altitude attained by the middle mountains it is not difficult to conclude that the region has a temperate climate. The temperate climate is responsible for a luxurious vegetative cover in these mountains, which are homeland of the Gujjars and Bakerwals. During the summer, monsoon winds are capable of giving rainfall south of Pin-panjal ranges. The monsoon wind rarely cross this range and hence do not bring rainfall to the Kashmir valley except when they are exceptionally strong. For winters precipitation either in the form of snow or rainfall comes from the cyclonic disturbances originating over the Mediterranean region.

A few small but beautiful valleys in this region deserve special mention. Important among these are Bhadarwah, Doda, Ramban, Basohli, Pader and Reasi valleys. Bhaderwah which is the most important of these valleys, is a longitudinal valley with a flat bottom. It is 1 to 7 Km wide and about 17 to 20 Km in length. The valley is situated at an average height of 1646 m above sea level. The valley is drained by a stream locally called Niru which is tributary of Chenab which meets at Doda. The outcrops of igneous rocks appear even in the terraced fields of the valley. Another important valley is Kishtwar which is more or less an undulating plain lying between lofty mountains.
This valley is situated almost at the same height at which the Bhadarwah is situated. The main stream of Chenab flows through this valley.

Towards the south west of Pir-panjal is the hilly region of Rajouri — Poonch, a mountainous valley region. Prior to partition Poonch (1001 m) used to be called, the "Chhota Kashmir" (little Kashmir). The valley of Suran, having its head waters in the snowy peaks of Pir-panjal, is a well known valley and in the past was linked through Loran (1889 m) — Toshmaidan (2200 m) route to the vale of Kashmir. The route is still used by the nomadic Gujjars and Bakarwals for their seasonal migration. Through Rajouri (943 m) also passes one important route to vale of Kashmir, this is the "old Mughal route", which is now primarily used by nomadic herders. Rajouri region has a number of small valleys offshooting from the Pir-panjal longitudinally.

IV). Kashmir Valley:- Across the middle mountains one comes across the beautiful valley of Kashmir; a longitudinal depression which owe its origion due to differential uplift of Pir-panjal and the Great Himalayan ranges.

Aligned in a general southeast to northwest direction along the axis of the encircling mountains, the valley of Kashmir has a typical oval shape. It lies at an average altitude of 1500 m to 1800 m above sea level. The flat alluvial part of the valley is only 150 Km from southeast to northwest and 42 Km from south west to northeast, the
corresponding distances from crest to crest are 120 and 125 Km apart.

The Kashmir valley has close genetic relationship with the whole network of mountain system which spreads out of the Pamir knot in different direction.

As noted earlier the valley of Kashmir is surrounded on all sides by high mountains. The Pir-panjal on the south, separates it from the Jammu region, while the Greater Himalayas cut it off from Ladakh and Baltistan. The northern slope of Pir-panjal which descends gently towards the valley is flanked with enormous Karewa beds which have been repeatedly uplifted, lifted and folded in the past. The sources of all the important left bank tributaries of Jhelum are located on the northern slopes of the Pir-panjal range. This range is the principle barrier between the valley and the rest of the country and hence the passes, the lowest part of the mountain rim of the valley is in the extreme south where the highest ridge is about 3048 m in elevation.

It would be worthwhile to mention a few tributary valleys to the main Kashmir valley. More important among these are Lolab, and Sindh valleys. The Lolab valley is located between 34°.45' and 34°.55' north latitudes and 74°.15' and 74°.32' east longitudes. It is the most fascinating and picturesque of all the Kashmir valleys. It lies to the north of Baramula
(1575 m) in the district of Kupwara. The valley is about 25 Km long and 3 to 5 Km wide. Thickly forested mountains surround the valley on all the sides.

The Sindh valley is the most developed of the side valleys of the vale of Kashmir. The valley is drained by the river of the same name whose headwaters lie near the lofty peaks near Zojila (3444 m). The river is also fed by the Kolahai and Panjtarni glaciers. From Sonamerg (2636 m) onwards many small but swift tributaries join the main Sindh stream which flow through narrow gorges to ultimately join river Jehlum. Other important valleys are Lidder and Daksum.

V). Great Himalayas:- Inner or greater Himalayas appear beyond the valley of Kashmir towards the north and northeast—north and northwest. These mountains, due to their great height, offer great difficulty in maintaining communications. The Great Himalayan ranges are by far the most imposing ones. For the sake of convenience this complex system of mountains can be divided into the following sub-divisions:

a). Zanskar range
b). Hazara range
c). Ladakh range
d). Karakaram range and
e). the Akasi Chin region.

FIG. 4
SOURCE: Touristic Guide Map 1:100,000
1. Tarim Basin
2. Ladakh Range
3. Hindu Kush (Himalayas)
4. Vale of Kashmir
5. Zanskar (Himalayas)
6. Harmukh
7. Zanskar (Himalayas)
8. Indus River
9. Karakoram
10. K2
11. Aghil Range
12. Aghil Basin
13. Yarkand River
14. Kunlun Range
15. Tarim Basin

KILOMETRES
0 50 100 150 200 250 300 350 400 450 500 550 600
650 SEALEVEL

METRES
0 1000 2000 3000 4000 4500 5000 5500 6000

CROSS SECTION FROM OUTER PLAINS TO TARIK BASIN

34
The Zanskar range lies between Nanga Parbat in the west and ramifying glaciated ranges of crystalline rocks of Rupshu in the east. On the north of Zanskar lies the deep gorge of Indus river. There are 13 peaks of more than 6000 m in elevation. The famous cave of Amarnath (4236 m) is situated in this range to south of Zojila. The axis of the range is the representation of geanticline of the Himalayan geocycline. Many famous glaciers occupy large portion in this region. The few important passes, other than Zojila are, Sarsanke (5716 m), Poathal (5715 m), Singohal (5097 m), Baralacha (4819 m) and Sirsirla (4990 m) high which are well known to travellers and mountaineers.

The Ladakh range is another important range of the trans-Himalayan region. It starts from the confluence of Shyok river and Indus river and stretches up to the western borders of Tibet, where it is separated by Indus river from the Zanskar range in Rupshu. This range is about 350 Km long and 50 Km wide and is composed mainly of crystalline rocks. As many as nine peaks reach a height of more than 6000 m. There are fifteen which range between 5000 to 6000 m in height. Important passes in this range are Khardungha (5602 m), Changha (5599 m) and Chorbat (5090 m).

The Karakoram range extends for 420 Km between Hamza on the northwest to Shyok on the east. This range is very significant because it separates two great basins — The Indus and the
Tarim. It also derives its significance from the fact that it possesses many glaciers which are among the largest glaciers of the world. It is in this range that the world's second highest peak, Godwin Austin (K^2) (8614 m) is located. Apart from this there are as many as six peaks which exceed 7500 m in elevation. The range is mostly snowbound and therefore, is called the shining crest of the earth. The passes of this range lie at a higher elevation then 'Mount Blanc' which happens to be the highest peak in the European Alps.

There are a number of offshoots which branch off from the main Karakaram range and extend southeastwards. Among them are the Batura-Mazlagh, which lies between Gilgit and Hanza, the Harmukh range which stretches between Hanza and Shigar and the Saltora range which extends from Nubra to lower Shyok. Similarly, the Saser-muzlag range spreads out and lies between the Braldu and Saltora rivers. Some of the other peaks worth mentioning are Broad Peak (8056 m), Gasherbum (8068 m) and Distighilsar (7885 m). The main important passes through this range are Muzlagh pass (5700 m), the Karakaram pass (5575 m) and Sasarla (5300 m).

Sedimentary rocks of permocarboniferous age are widely found in Karakaram range, which are fossiliferous limestone of that age.

The Indus valley lies to the northeast of Zanskar and extends upto the lofty Karakaram and the Hindukush. The river
Indus flows towards west before entering Pakistani territory. Being a fast flowing river it's bed is deep but narrow and hence not suitable for lifting water for irrigation except to some extent during summers.

The Aksai Chin has been occupied by China since 1962. The main features of this region is that it possess a number of salt lakes. The excessive glacial erosion has exposed the crystalline rocks. It presents a peneplaned surface of intermountain plateau which extends at a height of 4500 m above mean sea level.

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CHAPTER - III

THE HABITAT: CLIMATE
CHAPTER - III
THE HABITAT: CLIMATE

In the life of pastoral nomads the climatic component of the habitat is almost as important as the physical layout of the territory they occupy. Their chief problem of adaptation pertain to the system of the resource base. Climatic influences operate mainly through fluctuations in the biotic environment. Nomadic pastoral cultures have specially to orient to adverse period in the cyclic fluctuations of the resource base. An understanding of the climate of the study area is therefore, important because it primarily determines the seasonally available resource base upon which the community depends for its survival. Also, since most of the time the nomads either have had an outdoor life or live at the most in flimsy structures the altitudinal and horizontal variations in different dimensions of climate, specially temperature and rainfall, are of crucial importance in their socio-economic life.

The state of Jammu and Kashmir has been blessed with a varied climate which vary from Alpine in the north to subtropical in Jammu. This is largely the result of the Himalayan location of the state. The physiographically complex Himalayas play a significant role in shaping the climate of the region, particularly temperature and rainfall which in this region
are related to sudden changes in altitude. Thus Jammu with an altitude of 304 m experiences tropical heat with climate conditions just like those of the Punjab plains. The valley of Kashmir, on the other hand, with its average altitude of 1828.8 m has a mean temperature varying from -8.88°C in winter to 33.35°C in summers. The entirely mountainous region of Ladakh, with altitudes varying from 3657.6 m to 8610.6 m experiences more or less a semi-arctic climate.

A careful field and map study of the region reveals that the territory of Jammu and Kashmir forms a transitional zone of diverse physical features. Lying between the weak influence of the monsoon region of Punjab and cold dry Tibet with a very little amount of precipitation, strong winds, intense sunshine and rapid evaporation more or less creates a semi-Tibetan type of climate in the Greater Himalayas of Kashmir.

These varying meteorological characteristics show how far altitude, velocity of winds, direction of mountains and inclination of the rays of the sun influence weather conditions in the diverse region of the state of Jammu and Kashmir.

Even though the climate is highly variable, it is possible to identify four broad physio-climatic divisions in the state:

1). The Tropical zone (Outer plains and Siwalik Hills)
2). The Mountainous (Pir-panjal)

JAMMU & KASHMIR
NORMAL ANNUAL RAINFALL DISTRIBUTION

INDEX

- OVER 1500 Cms
- 1250 - 1500 "
- 1000 - 1250 "
- 750 - 1000 "
- 500 - 750 "

FIG. 5
3). Temperate and Continental (Vale of Kashmir)

4). Tibetan or Alpine (Ladakh region).

1). The Tropical Zone (Outer Plains and Siwalik Hills):

The outer hills of the Siwalik and the adjoining plain are fully exposed to hot, dry and dust laden wind from Punjab. The temperature starts rising from March until it is brought down by the onset of the monsoon in the mid of June. Local winds, blowing down the Chenab valley towards south result in lowering of the temperature from Kathua in the east to Chhumb in the west.

This sub-region receives an average rainfall of 105Cm. The amount of rainfall increases from south towards north (Table No.1). The main rainy season extend from July to September. During this period the nullahs are usually flooded. The remaining part of the year is generally dry. In this region lies the typical foot-hill area of Jammu, which has an annual rainfall of 1159 mm with a monthly variation as given in the table cited above.

2). The Mountainous (Pir-panjal):

In the Pir-panjal zone climatic conditions are of a particular type, especially in the enclosed valleys. The altitude determines the degree of coolness and the form of precipitation along with the temperature conditions. The moisture-laden winds of summer monsoons cause heavy rainfall
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<td>44.8</td>
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<td>135.3</td>
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</table>

Source: Meteorological Centre Jammu Tawi.
on the outer hill region, the south of Pir-panjal.

The Pir-panjal range acts as the effective barrier to further movement of monsoon, with the result that areas lying to the north of Pir-panjal constitute a monsoon rain shadow zone. The climate in the upper reaches of this region. Upper Chenab, Kishtwar etc., is characterised by long, cold winters and short, mild summer. The higher parts of the Pir-panjal also receives considerable snowfall during winters. The snow starts melting in April. Most of the rainfall is received from July to September above 300 mm (Table No. I) and is ideally suited for the growth of luxuriant forests and meadows.

3). Temperate and Continental (Vale of Kashmir):

The valley of Kashmir, because of peculiarities of temperature, rainfall and humidity, constitutes a distinct climatic sub-regions. The weather is highly variable and changes are frequent and often sudden. However, during the course of a year six distinct weather regions can be identified as under:

1). Spring (March 16 to May 15)

2). Summer, (May 16 to July 15)

3). Rainy, (July 16 to Sept. 15)

4). Autumn, (Sept. 16 to Nov. 15)

5). Winter, (Nov. 16 to Jan. 15)

6). Ice Cold, (Jan, 16 to March 15)
GRAPH SHOWING TEMPERATURE RAINFALL
AND RELATIVE HUMIDITY AT SRINAGAR (1986)

TEMPERATURE IN °C

HUMIDITY IN %

RAINFALL IN MM

J F M A M J J A S O N D
MONTHS

RAINFALL
MEAN MAXIMUM TEMPERATURE
MEAN MINIMUM TEMPERATURE
RELATIVE HUMIDITY AT 8.30 HOURS
RELATIVE HUMIDITY AT 17.30 HOURS

FIG. 6
<table>
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<td>100.3</td>
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<td>18.9</td>
<td>19.0</td>
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<td>56.5</td>
</tr>
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</table>

Source: Meteorological Centre Burzala, Srinagar.
In the vale of Kashmir spring is the rainiest season of the year. Though wet, it remains pleasant, the fresh green tints of the trees and the mountain sides being refreshing to the eye. July and August are the hottest months when maximum temperature rises up to 28°C, (Table No. 3) mainly because the monsoon winds generally do not penetrate the valley, being checked by the Pir-panjal range. Humidity remains high and combined with high temperature during summers causes great discomfort. During summers till September the entire valley becomes hazy which hides the surrounding mountains from view.

The autumn season is the healthiest one, when the Pir-panjal serves as a barrier for the northeastern winds. On the other hand the northern mountains check the cold blasts of Ladakh from reaching the valley. In this way the valley possesses a temperate-cum-Mediterranean type of climate.

The winter season in the vale of Kashmir is of continental type with an abrupt change in later part of November, severe winter extends over 70 days from December 30 to March 10.

4). Tibetan or Alpine (Ladakh region):

Ladakh, together with the Greater Himalayas, has a Tibetan or Alpine type of climate. The seasonal rhythm of the sun clearly defines the short summer from June to September with all the human activities, which are at peak and the long
TABLE - III

METEOROLOGICAL DATA FOR 1986 IN RESPECT OF SRINAGAR

<table>
<thead>
<tr>
<th>Month</th>
<th>Mean Max. Temp. in °C</th>
<th>Mean Min. Temp. in °C</th>
<th>Total Rainfall in mm.</th>
<th>Mean Relative Humidity at 8.30 A.M.</th>
<th>Mean Relative Humidity at 9.30 P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
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<td>68%</td>
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<td>88%</td>
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<td>20.1</td>
<td>6.0</td>
<td>60.2</td>
<td>77%</td>
<td>48%</td>
</tr>
<tr>
<td>May</td>
<td>26.0</td>
<td>9.0</td>
<td>44.2</td>
<td>67%</td>
<td>47%</td>
</tr>
<tr>
<td>June</td>
<td>29.1</td>
<td>12.9</td>
<td>15.6</td>
<td>69%</td>
<td>48%</td>
</tr>
<tr>
<td>July</td>
<td>32.7</td>
<td>17.7</td>
<td>22.3</td>
<td>74%</td>
<td>51%</td>
</tr>
<tr>
<td>August</td>
<td>28.5</td>
<td>15.5</td>
<td>142.2</td>
<td>87%</td>
<td>65%</td>
</tr>
<tr>
<td>September</td>
<td>27.1</td>
<td>11.5</td>
<td>54.7</td>
<td>89%</td>
<td>62%</td>
</tr>
<tr>
<td>October</td>
<td>21.0</td>
<td>6.6</td>
<td>49.4</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>November</td>
<td>15.6</td>
<td>0.6</td>
<td>Traces</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>December</td>
<td>9.2</td>
<td>-1.8</td>
<td>20.5</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Source: Meteorological Centre Burzala, Srinagar.
### TABLE IV
MONTHLY DISTRIBUTION OF TEMPERATURE (IN °C)

<table>
<thead>
<tr>
<th>MONTH</th>
<th>DRASS</th>
<th>LEH</th>
<th>KARGIL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max.</td>
<td>Min.</td>
<td>Mean</td>
</tr>
<tr>
<td>January</td>
<td>-9.0</td>
<td>-22.2</td>
<td>-15.6</td>
</tr>
<tr>
<td>February</td>
<td>-6.7</td>
<td>-21.4</td>
<td>-14.5</td>
</tr>
<tr>
<td>March</td>
<td>-2.0</td>
<td>-15.0</td>
<td>8.5</td>
</tr>
<tr>
<td>April</td>
<td>5.4</td>
<td>5.2</td>
<td>0.1</td>
</tr>
<tr>
<td>May</td>
<td>15.1</td>
<td>1.5</td>
<td>8.3</td>
</tr>
<tr>
<td>June</td>
<td>20.5</td>
<td>5.6</td>
<td>13.5</td>
</tr>
<tr>
<td>July</td>
<td>23.7</td>
<td>10.6</td>
<td>17.1</td>
</tr>
<tr>
<td>August</td>
<td>23.6</td>
<td>10.5</td>
<td>17.5</td>
</tr>
<tr>
<td>September</td>
<td>19.6</td>
<td>5.9</td>
<td>12.7</td>
</tr>
<tr>
<td>October</td>
<td>12.8</td>
<td>-1.1</td>
<td>5.8</td>
</tr>
<tr>
<td>November</td>
<td>4.3</td>
<td>8.6</td>
<td>2.1</td>
</tr>
<tr>
<td>December</td>
<td>-4.0</td>
<td>-16.9</td>
<td>-10.4</td>
</tr>
</tbody>
</table>

Source: Climatological Tables of Observations in India, 1931 - 1960, Meteorological Centre, Canal Road, Jammu.
intense cold winters when all the activities come to a standstill. Representative temperature and rainfall curves for highland climates as a class do not exist and only the most flexible generalizations are broadly applicable.\(^3\)

Of all the climatic parameters in Ladakh, temperature variations have the greatest effect on climatic conditions in general. Due to high altitude and low air density, temperature affects are greatly increased as reflected in temperature conditions at Drass, Kargil and Leh (Table No. \(^{IV}\)). In Drass maximum temperature ranges from \(-9^\circ\text{C}\) in January to \(23^\circ\text{C}\) in July, while maximum from \(-22.2^\circ\text{C}\) in January to \(10^\circ\text{C}\) in July. In Leh mean temperature ranges from \(-8.4^\circ\text{C}\) to \(17.4^\circ\text{C}\) for the month of January and July respectively.

The data reveal that Drass is the coldest place in the region with below freezing temperature for over five months from last week of October to the beginning of May.

The dryness of the Ladakh region is reflected in the spatial distribution of rainfall. The annual rainfall at Drass \(-64.8\text{ Cm},\ Kargil 23.88\text{ Cm}\ and in Leh only 9.14\text{ Cm}\ (Table No. \(^{IV}\)). Most of the precipitation is in the form of snow light rain falls only during July and August.

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CHAPTER - IV

THE HABITAT: BIOME
CHAPTER - IV

THE HABITAT: BIOME

Since pastoral nomads have their entire socio-economic life revolving round their flocks, the nature and distribution of the vegetative cover plays an extremely important role in their life support system.

Types and Distribution of Forests:

The state of Jammu and Kashmir has been endowed with rich and varied forest resources. In their extent, distribution and growth potential, these forests constitute a major industry and hence form the mainstay of the state's economy. "The forests also play a vital role in the maintenance of ecological balance which is of paramount importance to a hilly region like Jammu and Kashmir."¹ They provide protection to the hill slopes from erosion, regulate water supply nullahs and rivers and enhance the aesthetics of the region as a whole. Besides the vegetation cover provides pasture for the nomadic herders. The natural fodder is used by the Gujjars and Bakerwals while they are on move and at the winter and summer pastures as well. The forests of Jammu and Kashmir, together with their associated pastures play an extremely important role in the economy and

<table>
<thead>
<tr>
<th>S.No.</th>
<th>District</th>
<th>Area in Km²</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Jammu</td>
<td>1445.49</td>
<td>7.16</td>
</tr>
<tr>
<td>2.</td>
<td>Kathua</td>
<td>789.25</td>
<td>3.96</td>
</tr>
<tr>
<td>3.</td>
<td>Poonch</td>
<td>825.53</td>
<td>4.09</td>
</tr>
<tr>
<td>4.</td>
<td>Rajouri</td>
<td>1296.40</td>
<td>6.42</td>
</tr>
<tr>
<td>5.</td>
<td>Udhampur</td>
<td>2278.69</td>
<td>11.29</td>
</tr>
<tr>
<td>6.</td>
<td>Doda</td>
<td>5403.27</td>
<td>26.78</td>
</tr>
<tr>
<td>7.</td>
<td>Srinagar</td>
<td>411.86</td>
<td>2.04</td>
</tr>
<tr>
<td>8.</td>
<td>Anantnag</td>
<td>2289.21</td>
<td>11.34</td>
</tr>
<tr>
<td>10.</td>
<td>Kupwara</td>
<td>1479.68</td>
<td>7.33</td>
</tr>
<tr>
<td>11.</td>
<td>Baramula</td>
<td>2504.83</td>
<td>12.41</td>
</tr>
<tr>
<td>12.</td>
<td>Pulwama</td>
<td>1008.76</td>
<td>5.00</td>
</tr>
<tr>
<td>13.</td>
<td>Leh</td>
<td>11.20</td>
<td>0.05</td>
</tr>
<tr>
<td>14.</td>
<td>Kargil</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total:</strong></td>
<td><strong>20173.74</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

culture of the transhumant communities of the state, specially the nomadic Gujjars and Bakerwals. Over the centuries, a perfect symbiosis has developed between the forests/grassland, and the mode of life of the Gujjars-Bakerwals. An understanding of the spatial distribution and the nature of the forests is, therefore, essential, for a proper understanding of the cultural ecology of these nomadic communities.

In Jammu and Kashmir 2,104 thousand hectare or roughly 9.5% of the total area of the state is under forests.\(^2\) One reason for this low percentage of forested land is the fact that the entire Ladakh region is totally devoid of forests. Ladakh accounting for over 69% of the total area of the state has only 4.6% of the land under forests.\(^3\) Forests, therefore, are confined only to the Jammu and Kashmir regions. In the two latter regions the forest cover occupies 45.5% and 56% of the total area respectively.\(^4\)

The forests of Jammu and Kashmir fall into the following broad categories:\(^5\)

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2. Thaper, S.D., *India's Forest Resources*; MacMillan and Company, India Ltd., Table - 1, p. 58.
4. Ibid.,
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Division</th>
<th>Area in Km²</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Jammu</td>
<td>8124.00</td>
<td>40.27</td>
</tr>
<tr>
<td>2.</td>
<td>Kashmir</td>
<td>12039.90</td>
<td>59.68</td>
</tr>
<tr>
<td>3.</td>
<td>Ladakh</td>
<td>11.20</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>20175.02</strong></td>
<td></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

i. Tropical Dry Deciduous Forests.

ii. Sub-Tropical Dry Evergreen Forests.

iii. Sub-Tropical Pine Forests.


v. Himalayan Dry—Temperate Forests.

vi. Sub-Alpine Forests.

vii. Moist Alpine Forests.

viii. Dry Alpine Forests.

1. **Tropical Dry Deciduous Forests:** These forests are predominently found in sub-tropical region of Jammu, extending from Basohli in the southeast to Mendher in the northwest, in all the foothills and lower valleys south of Pir-panjal. The environmental requirements of these forests are mean annual temperature from 24°C to 27°C, dropping rather lower at the northern limits. Summer temperatures are generally high, touching about 43°C and the minimum recorded temperature at the upper reaches in these forests are between -2.2°C to 6.1°C. High rainfall occurs during July - September period and light rainfall (500 mm to 1000 mm) during winter.

The common species of trees found in these forests are: *Holerrhena*, *Dodonaea-Viscoso*, *Carrisa-spinarm*, *Zizyplas*, *Acacia-Catechu*, *Dalbergia-Sisgou*, *Nannca-grandis*, *Aegle-marmelos*.

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JAMMU AND KASHMIR
FOREST TYPES

SOURCE: THE ATLAS OF FOREST RESOURCES OF INDIA
INDEX

SOURCES: THE ATLAS OF FOREST RESOURCES OF INDIA

SCALE: 1:4,500,000

FIG. 7
Eleretia-Laevis, Albizzia-Label, Acacia-modesta, Malrotus-phillipensis, Carrisa-spinarum, Woodfordia-floribunda, Adhatoda, Pueraria-tuberose, Bauhinia-varlicdandeo, Calamus-strictusnees and Ficusbeng-alaensis etc. 7

The tropical Dry Deciduous forests provide ideal habitat to the pastoral Gujjars and Bakerwals during winters, where they settle down for the season with their flocks. Tree leafs and grasses are also provided by these jungles to the herding community, when the higher altitude pasturs are covered with snow. Excessive grazing and encroachments by agriculturists have considerably demaged these forests.

ii). Sub-tropical Pine Forests:- These forests are found on the steep dry slopes upto 1500 metres, on the Siwalik conglomerates and sandstones. They are fairly common in upper Jammu, Udhampur, Reasi, Rajouri and Poonch areas. Lower Siwalik Chir is found in upper Jammu, Billawar and lower Rajouri areas. In upper Chenani, Reasi, Ramban and some patches of Rajouri-Poonch Chir pine also occur. Certain species of this type occur around Jhajjkarkotli, near Katra, Mansar, Kalidhar and Hathi in Kathua.

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This type occurs under a wide range of climatic conditions; They receive rainfall between 900 to 2500 mm per annum with high summer temperature. Snow in winters gives rise to Chir forests on upper reaches. The ideal temperature ranges between 15°C to 23°C with 1800 mm rainfall annually.

The common species found in these forests are: *Pistesia-integerrine*, *Olea-cuspidea*, *Pyras-pashia*, *Greviasoo*, *Albizziasoo*, and *Punica-granatum*. In general, the tropical Pine forest belt preserves species like *Lanneagrandis*, *Acacia-catachu*, *Dalbergia-sisso*, *Wandlandia-exerta*, *Carrisa-spinarum* and *Eupherbia-rolyleanh*, do regenerate naturally.

iii). Sub-tropical Dry Evergreen: Also known as Broad Leaved Sub-tropical forests, this type is widespread in Poonch Rajouri, Reasi and Doda, concentrating heavily in patches on sedimentary rocks such as sandstone and shale with shallow and sorts. They comprise of evergreen scrub and thorny species. These species flourish best in areas having hot, dry summers and cold winters. The annual precipitation is less then 1000 mm the lower altitudes are wetter with 300 mm to 1500 mm, rainfall occurring mostly in July - August.

iv). Himalayan Moist Temperate Forests:— These are extensive coniferous forests, occuring on schist and gneises are abundantly found in Niru valley, Banaoli, upper Billawar and Basant-garh. One of these important species, Deodar, is found in upper reaches of Rajouri, Poonch Wangat, Nayak, Najvan, Wayul nullah of Sindh valley in the Kashmir region. Temperate Deciduous species occur mostly in Bhadarwah, Sindh valley and Udnil Oak Scrubs are found in Dehragali(2194 m) (Rajouri), Sudhmahadev (Udhampur), Arnas (Reasi) etc. Khairsoo Oak, at 2700 to 3000 m is found in Sarthal, Deosa and Basantgarh.

The common species of these forests are: (Quarcus-incana) Lit-saesoo, Sympolocos-crataegoedes, Pistocia-intergarrima, Machilus-spp, Rhododendron-arloorm, Pieris-ovalifolia, Quarcus-delatala, Cedrus-deodara, Abies-pindrow and Pinus-walichiana etc. Moist Deodar forest species are: Quarcus-incana, Aesculus-indica, Pranus-padus, acerspp, Salix-wallicalianum, Pyrusphashia, Quarcus-semecarpilfolio; Betula-citilis, Abios-pindroo and Urtica-divca, etc.

v). Himalayan Dry Temperate Forests:— This type is found in the inner valleys of Greater Himalayas. In this type dry temperate Neozapine coniferous and Deodars are found having broad leafs in Padder, Thakri and Chatru nullah areas. While degraded forms of deodars are found in vale of Kashmir, specially in Tral, Kathri, Kishtwar and near Doda in Katal range. The
West Himalayan type is confined to Daksum, Lolab and Lidder valleys between an altitude 3000 to 3600 metres.

In the areas of these forests (inner valleys of Greater Himalayas) the summer monsoon never penetrates, consequently the precipitation is very low; Usually under 1000 mm precipitation mainly occurs in the form of snow in the winters. More suitable conditions for these forests prevail in Gilgit where mean annual temperature maximum and minimum are 22.4°C and 11.2°C respectively.

The main species in these forests are: *Pinus-gerardiana, Cedrus-desdara, Cedrus-decodara, Quercus-ilex, Zanthaxy-lunalalin, Quercus-incena, Daphna-Oleiodes, Parrotia-Jaccumontiana, Rosa-spp, Celtisaustvalis, Ephedra, Juniperus-maesopods, Anasnitida and Populus-salix* etc.

vi). Sub-Alpine Forests:– This type consists mostly of fir and birch in varying proportion besides dense scrap of silver fir in Drass, Tajwas, in Talel and other upper Sindh valley 'margs' above 3300 m. These species flourish best in areas having a mean temperature range of 5.4°C to 9°C and rainfall of about 80 mm. The sub-Alpine margs generally have alpine pasturlands.

The common species of this type are: Picasu-ithiena, Pruneapadu, Birch, Batolantilies, Abies-pindraw, Taxus-baceata and Pinus-wallichiana etc.

vii). **Dry Alpine Scrub Forests:** These forests are found in Ladakh where the scanty precipitation occurs in winters in the form of snow and temperature remains below freezing point for more than six months during the year. The important species in this belt are: Calagana-suppp, Juniperus-recurna, Commuies-Junipelas, Potentilva-spp, Ephedra-gevardiana, Artimisic-maritina, and Salix-supp, Myricarea. A number of medical plants occur on river banks and on upper reaches of the hillocks.

viii). **Moist Alpine Scrub:** These types are found in Aparwath and Tajwas at an altitude of 3600 m; and on the upper reaches of Pir-panjal, where no tree growth is possible. The common shrubs are: Trisanamore, Fritallaria-Primula, Syranjamodis, Aconitum-spp. Pasture species like gris, Anemore, Filtelasia, Primula, Jwiper are also found. A number of medical plants are found in abundance at upper reaches of the mountains.

**Distribution of Pastures (Meadows):**

For the pastoral nomads of Jammu and Kashmir, who have been practising transhumance for centuries, the distribution
of *margs* (meadows) and the routes connecting them are of crucial importance. Transhumance, in effect, consists of people and herds from one marg to another along traditionally assigned routes. The margs and the routes, therefore, constitute an interlocking system which is functionally and integrally incorporated in the socio-economic life of Transhumant.

The *margs* of Jammu and Kashmir fall into three broad groups:

1. Greater Himalayan Margs:
   a). Talel margs
   b). Gorez margs
   c). Sonamarg margs
   d). Pahalgam margs
   e). Wardwan margs

2. Pir-panjal margs.

3. Doda Margs:
   a). Kishtwar margs
   b). Bhadarwah margs

These margs occupy broad altitudinal zones from north to south. The Doda margs occupying the outer foothills south of the Pir-panjal in the Doda district of Jammu constitute the lowest and southernmost series of pastures which are the home of Gujjar-Bakerwals during the winter months. Because
of lower elevation and latitudinal position and the protective role of Pir-panjal against intensely cold winter winds, these margs provide ideal ecological conditions for the winter camps of the herders. Some important margs of this zone are: Chinta, Jahi, Sarthingal, Sunbai, etc. during summers and Mansar, Surinsar, Samba, Bhadu, Bilawar, and Ramnagar areas of Kathua district during winters.

The Pir-panjal margs occupy an intermediate location between the low altitude Doda margs and high altitude Greater Himalayan margs. The herders, on their way to the alpine margs have to pass through the Pir-panjal and the margs here provide pasturage for 15 to 20 days while the herds are in transit here and some of the Gujjars and Bakarwals stay in Pir-panjal margs and do not move upto alpine margs.

The important margs in this area are Pir-ki-marg, Katharkhal, Dobjan, Sathripain and Bala, Jaji marg, Girjan, Hafat Khor, Nanansar, Rahnerah, Jijinar, Sarimastan, Chittapani, Hillkaka, Kern, Nilana, Chandras, Rattanshah, Shakarmarg, Kharimarg, Dudwali, Jaddi, Janjwalli, Kandawali, Bela, Katharkhal, Kohlan, Khilanmarg, Chorpanjal, Toshmaidan, Aliabad, Simkore, Sanasar, Seoj, Dodhpatri, Ladhadhar, Tangdar, Mehva, Chhatapani and many others.

The Greater Himalayan margs occupy a broad belt at altitudes varying from 2000 m to 5500 m above sea level from
Talel through Gorez, Sonamarg, Pahalgam and Wardwan 3534 m. These margs are the summer homes of nomadic Gujjar and Bakerwals who remain here from last week of June to ending September. An important feature of these margs is, those at the highest elevation or generally utilised by only the Bakerwals. The Gujjars prefer to remain at comparatively lower alpine margs.

Some important alpine margs are : Talel area; Gangabal, Chornar, Neelgagar, Lasspathri, Satsar, Jabdwr, Maseetnar, Asliwali, Chhattergull, Lalmarg, Mammarg, Marmachh, Shirimarg, Khamri, Nawa, Lapathri, Puranaganga, Nai Ganga, Shadimarg, etc.

Sonamarg area; Machhpatheri, Tajwas, Mataln, Bugnu, Satnari, Gagangir, Kohlal, Baltal, Drass, Khilamarg etc.

Gorez area; Trakabal, Machhli, Karanbal, Gorez, Naibat, Kilshah Bishansar, Kishansar, Tar-sangam, Badda Aab, and Millen etc.

Pahalgam area; Astanmarg, Dodal, Gond pathri, Chandanwadi, Sheshnag, Sukhnala, Amarnath (4236 m), Khirnala, Gomri and many others.

Wardwan area; Somar, Kudratnala, Kaimnar, Haftinala, Marwa, Walkadal, Kargdam and so many others.

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CHAPTER V

PASTORAL NOMADS OF JAMMU AND KASHMIR:

GUJJARS AND BAKERWALS
CHAPTER - V

PASTORAL NOMADS OF JAMMU AND KASHMIR: GUJJARS AND BAKERWALS.

The state of Jammu and Kashmir is inhabited by different communities, some settled, quite a few nomadic. In the latter category the most prominent are pastoral Gujjars and Bakerwals. The former form part of a large conglomerate of tribal communities inhabiting many adjoining parts of the sub-continent and are variously known as Gijar, Girjars and Gujjars. Together they are spread over an extensive area extending from the Himalayas in the north to the Satpuras in the south, from the lushgreen valleys of the Himalayas to temperate lands of Rajasthan and the Khadar and Bhanger zone of the Ganga plain.

The fact that the Gujjars have always been of a nomadic disposition is borne out by the prefix Gujjars to a large number of place names over a wide area such as Gujrat (Kathiawar), Gujranwala, Gujjarkhan (Pakistan), Gujjar Garhi, Gujjargarh and Gujjar Nagar etc.

Origin:

The origin of the Gujjars is still a matter of debate. The problem requires gathering of information from diverse sources: historical, anthropological, ecological, folklores, traditions, customs, place names and ethnic study etc.¹

So far as the historical evidences are concerned, it is believed that the Gujjar first appeared on the scene towards the close of the 15th century or the beginning of the 16th century AD; though it has not been made clear whence they came and how they reached the territory of Jammu and Kashmir state. But there seems to be two points of view in this regard: that they are an immigrant people from central Asia and that they are an ancient indigenous inhabitants of India.

Brain, emphasizing the first view point, places their homeland in central Asia, hence they gradually drifted, in course of time, into the Indian sub-continent. The process was a prolonged one and took centuries to complete. In this context, it has been pointed out that the word "Gijar" is a mutilated form of the central Asian "Khizers", people who came to India from Central Asia, along with the 'white Huns'.

The physical similarity between the Gujjars and the Gaddis, who inhabit the Gurez valley of Kashmir region has also been noted. The Gaddis are known to have originally belonged to that part of Central Asia which lies across the

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western mountains of Sulaiman and Hindukash. If physical similarity is taken to imply common origin, the Gujjars also can be regarded as having once belonged to Central Asia.

According to Bandarkar, Gujjars came to India as a separate group with the 'Hun' caravans in the 6th century AD. According to Kennedy, the Gujjars, who are now predominantly settled in Jammu and Kashmir, were Sun-worshipers. This may imply that their original homeland was somewhere in Russia where the cult of sun-worship was prevalent.

The Hun connection of the Gujjars is again emphasized by Bhoker, who while describing the Gujjars of Rajputana says that they are part of the 'Huns' who settled in Rajputana. In support of this view Dr. Smith says that, "these people are almost outsiders and are related to white Huns." However, Smith discards the previous theories and considers the Gujjars to have been a branch of the Huns, who invaded India in 5th century AD; Dr. Bogchi also opines the "Lue Seen" is a part


of the Hyun tribe; the word having been anciently derived from the word 'Dosuen' which in 4th century AD, was 'Guseer' from which the word Gujjar is derived. So, they might have come with the 'Hyum' tribe. Latter the Gujjars might have established their own settlements. It was definetly proved latter that Bhoja's (AD 840 - 90) predecessors and successor belonged to the pratiharas (parihar) clan of the Gujjars tribe. Consequently this well known clan of the Rajputes is a branch of Gujjars or is of Gujjar stock.

According to Cambell, the identification of Gujjars with the Khazer tribe of Central Asia is obvious from the early history of the Gujjars. He points to their arrival during the last quarter of sixth century AD (470 - 520). According to him the Gujjars seem to be a pact of the great horde of which the 'Juan-Jwan' or 'Avans' and 'Ephthalites yatas', a 'white Hyun', were leading element. It is, however, not clear how far does the arrival of the Gujjars in India

during the early sixth century agree with the well known history of the Khazars. The name Khazer·appears under different forms in different languages and in different centuries: Khazers, in Russia and Khazors in Arminia. Other variations come closer to Gazare; These are Gazares, the forms of Kazar prevalent north of the sea of 'Azor'. Howarth follows Kalaprath in holding that the Khazars are the same as the 'white Hyuns.'

The Khazars also known to have been originally divided into two distinct physical types: a fair or 'Ak-Khazer', the Analzirai or Khazarai of Byzantine and a dark, 'Kara-Khazar'.

The white Khazare were fair skinned, black haired and beautiful, their woman in 9th and 10th centuries were being sought after in the bazars of Bhagdad and Byzantine. Accordingly white Khazars represented the white races who, since before Christ had settled arround the Caspean sea.

In Gujrat there is a Rajpute clan known as BadGujjars, which is supposed to be an aristocratic branch of this community. It is often said that though all the Gujjars, are not Rajputs, no Rajput becomes a hero unless he is suckled by a Gujjar woman. The Gujjars of India were distinguished in the past

10. Encyclopaedia Britanica; 1966, "Gazars of Asaf".


12. Ibid.
as vagrant, predatory marauders, and must have assimilated various foreign elements. Dr. Crook writes, "Gujjars have always been noted for their turbulance and habit of cattle breeding." Sir Combell is also of the opinion that the Sisodia or Gohlat Rajputes, the most illustrious of the Rajputes clan, are of Gujjar stock as well as the parihars and Chohans etc.

Munshi, who has studied the history of the tribe, is of the opinion that the "Gujjars of Jammu and Kashmir are outsiders", though he has written a detailed account of this community.

In contrast to the view expressed above, quite a few scholars maintain that the Gujjars are of purely Indian origin. In the middle of the 5th century AD, there was a Gujjar Kingdom in south-western Rajasthan, from where they were driven by the 'Balas' into Gujrat and about the end of the 9th century Allah Khan, a Gujjar king of Jammu, ceded the present 'Gujjar Desh',

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14. Encyclopaedia Britannica; 1966, "Gazars of Asaf"
Transition and Flow of Gujjars in India
500 AD to 1500 AD

GURJARS IN 500 AD GUJRAT
MT. ABU

KATHIAWAR MARWAR BEKANIR

CHAMBAL JAIPUR

MALWA ALWAR NARNUL

GAWALIAR MIWAT HARYANA

DHOLPUR DELHI EAST PUNJAB

BARATPUR KARNAL WEST PUNJAB

BULANDSHAR AMBALA GURDASPUR

MEERUT HOSHYRPUR

KANDI GUJRANWALA

KANNAUJ DEHRADUN RAWALPINDI

HUTIABAD MUZAFFARNAGAR POONCH

MAHARASHTRA MADHYAPRADESH HIMACHAL PRADESH

MADHYAPRADESH IN 1500 AD JAMMU AND KASHMIR

UTTAR PRADESH

SOURCE: MODIFIED AFTER GRISON'S LINGUISTIC SURVEY OF INDIA 1909

FIG. 10
corresponding very nearly to the Gujrat district (Pakistan) to the king of Kashmir.

However, there are facts on which historians do not agree. In any case the Gujjars appear to be flourishing during the medieval period in every part of north western India, from Indus to Ganga and from Hazara to the Peninsula of Gujrat. Many Gujjar dynasties existed in this region, more important among them being Jagadari-Burya and even today the Gujjars are quite numerous in these parts. 17

The Gujjars of Jammu and Kashmir are supported to have come from Rajasthan and the adjoining areas of Gujrat and Kathiawar. 18 A severe and prolonged famine forced them out of their original homeland and to move towards the northwest. It is, however, not clear exactly when this famine took place. Some historians believe that Gujjars entered the territory of Jammu and Kashmir in two different waves; the earlier one came directly from Gujrat through Delhi and the second, latter one, came via Punjab, where they had settled down prior to their migration into Jammu and Kashmir. This is also borne out


18. Ibid.,
by the fact that the Gujjars of Reasi and Rajouri villages still regard themselves to have come from the areas of Sialkote, Gujranwala, Jhelum and Rawalpindi (Pakistan) and from the Kandi areas of Punjab (India), which is still a homeland for the Gujjars.  

Similarly, the Gujjars of Pakistan occupied Kashmir also have a tradition of having originated in Gujrat. This seems quite feasible as the old Mughal Route also runs from district Bimber (Pakistan), via Nowshera, Rajouri, Behram Galla, Shopian and Srinagar, which is still used by the Indian Kashmiri Gujjars regularly. Parts of the Gujjars tribe may have accompanied the Mughal caravans and settled along the route, and appear to be carrying on this tradition in their seasonal migration from lowerfoothills and across the Pir-panjal, to the vale of Kashmir.

The Mughal historian Abul Fazal mentions the presence of Gujjars along this route across Sialkote. Contemporary historical records also mentions many complains made by the inhabitants of Bimber and Sialkote against the Gujjars.


An old history of Poonch by Fock reveals certain interesting facts. For instance mention is made of the fact that in the seventeenth century AD, the Gujjars of Poonch area were holding high ranks in the services. The last Gujjar king of Poonch was Rohillah Khan, who belonged to the sango sect of Gujjars. The Gujjar dynasty of Poonch came to an end about 1824 when the state was conquered by Maharaja Ranjit Singh.  

With the conquest of Poonch state by Ranjit Singh the Gujjars lost their sway in the region and were reduced to a sub-servient position. The loss of political supremacy also gradually disrupted the cohesion of the Gujjars society, which split into small groups who settled in different areas of the state, mostly along the Mughal route and the slopes of the Pir-panjal mountains where pastures for animals were available.

Bakerwals:

A sub-tribe of Gujjars is known as Bakerwal in Jammu and Kashmir state because of their specialization in rearing of goats. The Bakerwals according to 1981 census, number more than one and a half lakh. In Physical appearance they


are tall, well built and quite beautiful but have a revangeful disposition. Not all Bakerwals are nomads, quite a few are settled farmers. This tribe has the same sub-castes and goters as the Gujjars have: Jindher, Chohan, Khari etc.

Bakerwals are spread from Hazzara (Pakistan) to the valley of Swat and Yagistan. The ancient history of the Bakerwals is to some extent the same as that of the Gujjars. They also apparently came from Gujrat due to femines and draught there.

The Bakerwals fall into two sub-classes:
1. Kanhari
2. Allayvall
The basis of the division being the different dialects they speak, otherwise the difference between the two is little.

Kanhari Bakerwals are believed to have migrated from the valley of Kanhar, Bogadung and Konish, all lying to the north of Hazzara. The name of this sub-tribe has probably been derived from the name of one of the river valley, (Kanhara) whence they are supposed to have originally come. River Kanhara originates on the Kagan mountains and joins the Jhelum between Muzafferabad and Kohala. The Bakerwals who originally came from this general area north of Hazara, have therefore, came to be known as Kanhari Bakerwals.

The Allayvals sub-tribe had come from the western areas of Alai, Nandhar, Rajadnari, Kaladhaka Kohistan and Swat.
TABLE - VII

GUJJAR POPULATION, JAMMU AND KASHMIR - 1931

<table>
<thead>
<tr>
<th>Name of the area</th>
<th>Gujjars Total</th>
<th>Male</th>
<th>Female</th>
<th>Bakerwals Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>J &amp; K State</td>
<td>402281</td>
<td>215958</td>
<td>158823</td>
<td>5349</td>
<td>2888</td>
<td>2461</td>
</tr>
<tr>
<td>Jammu Province.</td>
<td>270610</td>
<td>149646</td>
<td>130964</td>
<td>3798</td>
<td>2078</td>
<td>1720</td>
</tr>
<tr>
<td>Distt. Jammu.</td>
<td>61439</td>
<td>33558</td>
<td>28881</td>
<td>362</td>
<td>216</td>
<td>146</td>
</tr>
<tr>
<td>Distt. Kathua.</td>
<td>17936</td>
<td>9463</td>
<td>8473</td>
<td>109</td>
<td>71</td>
<td>38</td>
</tr>
<tr>
<td>Distt. Udhampur</td>
<td>24871</td>
<td>13057</td>
<td>11814</td>
<td>918</td>
<td>483</td>
<td>435</td>
</tr>
<tr>
<td>Distt. Reasi.</td>
<td>71725</td>
<td>38232</td>
<td>33493</td>
<td>3368</td>
<td>1280</td>
<td>1088</td>
</tr>
<tr>
<td>Distt. Mirpur</td>
<td>26414</td>
<td>14027</td>
<td>12387</td>
<td>29</td>
<td>20</td>
<td>09</td>
</tr>
<tr>
<td>Jagir Poonch</td>
<td>76647</td>
<td>41031</td>
<td>35616</td>
<td>12</td>
<td>08</td>
<td>04</td>
</tr>
<tr>
<td>Jagir Chenani</td>
<td>578</td>
<td>278</td>
<td>300</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Kashmir Province.</td>
<td>119073</td>
<td>65554</td>
<td>53519</td>
<td>1551</td>
<td>810</td>
<td>741</td>
</tr>
<tr>
<td>Distt. Srinagar</td>
<td>29742</td>
<td>15605</td>
<td>14137</td>
<td>1523</td>
<td>797</td>
<td>726</td>
</tr>
<tr>
<td>Distt. Baramula</td>
<td>32982</td>
<td>18048</td>
<td>15934</td>
<td>27</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Distt. Muzaffarabad</td>
<td>55349</td>
<td>31901</td>
<td>23448</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sarhadi</td>
<td>3098</td>
<td>1758</td>
<td>1340</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gilgit</td>
<td>644</td>
<td>359</td>
<td>285</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sarhadi Area</td>
<td>2485</td>
<td>1399</td>
<td>1055</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Census of India, 1931, Vol. XXIV, Part II, J & K.
These areas, because of their geographical positions, were greatly influenced by the Pakhtoon language and culture, and hence they somewhat differ from the Kanhari Bakerwals in terms of dialect.

**Distribution of Gujjars and Bakerwals in Jammu and Kashmir:**

At present the Gujjars and Bakerwals constitute a prominent segment of population of Jammu and Kashmir. In 1931 the Gujjar-Bakerwal population in the state was 402,281 (Table-VII). After the 1931 census enumeration of population on the basis of caste and communities was discontinued. Present population of these tribes in the state, therefore, is a matter of conjecture. But if the number of Gujjari speaking population in the state is taken as a surrogate of Gujjar population, the total population in 1941 census comes to 381,457. As per the 1961 and 1971 censuses, the number of Gojari speaking population was 1,05,000 and 3,30,465 respectively. In the same manner the number of Gujjar and allied tribes in 1981 could be taken to be 4,69,000.

TABLE - VIII

GUJJAR POPULATION, JAMMU AND KASHMIR, 1961

Nos. in Lakhs.

<table>
<thead>
<tr>
<th>Name of the Province/Districts</th>
<th>Gujjars</th>
<th>Bakerwals</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anantnag</td>
<td>0.27</td>
<td>-</td>
<td>0.27</td>
</tr>
<tr>
<td>Srinagar</td>
<td>0.14</td>
<td>-</td>
<td>0.14</td>
</tr>
<tr>
<td>Baramula</td>
<td>0.23</td>
<td>-</td>
<td>0.23</td>
</tr>
<tr>
<td><strong>Total Kashmir Province</strong></td>
<td><strong>0.64</strong></td>
<td>-</td>
<td><strong>0.64</strong></td>
</tr>
<tr>
<td>Doda</td>
<td>0.25</td>
<td>-</td>
<td>0.25</td>
</tr>
<tr>
<td>Udhampur</td>
<td>0.25</td>
<td>0.03</td>
<td>0.28</td>
</tr>
<tr>
<td>Jammu</td>
<td>0.06</td>
<td>0.01</td>
<td>0.07</td>
</tr>
<tr>
<td>Kathua</td>
<td>0.03</td>
<td>0.01</td>
<td>0.04</td>
</tr>
<tr>
<td>Rajouri and Poonch</td>
<td>0.86</td>
<td>0.01</td>
<td>0.87</td>
</tr>
<tr>
<td><strong>Total Jammu</strong></td>
<td><strong>1.45</strong></td>
<td><strong>0.06</strong></td>
<td><strong>1.51</strong></td>
</tr>
<tr>
<td><strong>Total J &amp; K</strong></td>
<td><strong>2.19</strong></td>
<td><strong>0.06</strong></td>
<td><strong>2.25</strong></td>
</tr>
</tbody>
</table>

**Source:** Census of India, 1961 (Gujjars), Jammu and Kashmir State, Vol. XVI, Part - III.
GOJJARI SPEAKING POPULATION IN J & K 1971

REFERENCES

INDEX
0-4 PERCENT
3-8
9-12
13-16
17-20

BOUNDARY INTERNATIONAL
BOUNDARY STATE
BOUNDARY DISTRICT
CEASE FIRE LINE
NSA NOT SURVEYED AREA

SCALE - 1:4500000

SOURCE: A. N. RAINA'S GEOG. OF JAMMU & KASHMIR OUT LINE

FIG. 11
**Distribution:**

As for the distribution of population is concerned Gujjars, at present are settled all over the state, except the Ladakh region, where a few Bakerwals go during the summer in search of pasturs in the Kargil district.

Gujjarland par excellence has long been the lower slopes and valleys of the Pir-panjal and the Siwalik hills, where suitable ecological conditions for their nomadic pastoral economy abound, specially during winters.

In the district of Jammu prior to partition the Gojjari population accounted for 37% of the total district population. As per the 1981 census Gojjari speaking population number 65000 in the district which constitute only 5% of the district's total population. They are to be found in every part of the district. The entire district, barring the urban centres, can in a sense be regarded as the heritage of these semi-nomadic people. Prior to partition the Gujjars and their agnate tribes were still more predominant. Since partition however, large number of Gujjars either found themselves on the wrong side of the partition line or migrated to Pakistan thereafter. As a result the percentage of Gujjars to be total population

---

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the District</th>
<th>Total Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Anantnag</td>
<td>30576</td>
<td>7.1%</td>
</tr>
<tr>
<td>2.</td>
<td>Pulwama</td>
<td>27297</td>
<td>6.4%</td>
</tr>
<tr>
<td>3.</td>
<td>Srinagar</td>
<td>15022</td>
<td>3.5%</td>
</tr>
<tr>
<td>4.</td>
<td>Budgam</td>
<td>12021</td>
<td>2.8%</td>
</tr>
<tr>
<td>5.</td>
<td>Baramula</td>
<td>25222</td>
<td>5.8%</td>
</tr>
<tr>
<td>6.</td>
<td>Kupwara</td>
<td>40120</td>
<td>9.4%</td>
</tr>
<tr>
<td>7.</td>
<td>Doda</td>
<td>55168</td>
<td>12.9%</td>
</tr>
<tr>
<td>8.</td>
<td>Udhampur</td>
<td>46763</td>
<td>10.9%</td>
</tr>
<tr>
<td>9.</td>
<td>Jammu</td>
<td>11193</td>
<td>2.5%</td>
</tr>
<tr>
<td>10.</td>
<td>Kathua</td>
<td>6552</td>
<td>1.5%</td>
</tr>
<tr>
<td>11.</td>
<td>Rajouri</td>
<td>73512</td>
<td>17.1%</td>
</tr>
<tr>
<td>12.</td>
<td>Poonch</td>
<td>84657</td>
<td>19.7%</td>
</tr>
<tr>
<td>13.</td>
<td>Leh</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>14.</td>
<td>Kargil</td>
<td>03</td>
<td>nil</td>
</tr>
</tbody>
</table>

of the district has gone down considerably. At present substantial number of Gujjar families have settled down in Jammu city, taking advantage of various schemes launched by the Jammu and Kashmir government for their settlement and housing.

The important areas of Gujjar and Bakerwal settlement concentration in Jammu district are Jandrah, Jahri, Grotia, Golad, Charwal, Samoo, Kathi and Kandi, Bindi and upper Samba hills. Dodhi Gujjars are settled in Tahsil Rambir Singh Pura, Miransahib, Kotli and in a number of villages of outer plains and in proper Jammu at Gujjar Nagar and outskirts of Jammu town.

In Kathua district the Kandi area is occupied by the Bakerwals during winters when they return from high altitude pasturs. The outer plains of this district during the same period become occupied by the Dodhi Gujjars. The total population of Gujjars and Bakerwals in Kathua district according to the census of 1981 is only 7635, though the population was much higher prior to partition.

The Gujjar population on the whole is not numerically very important in Udhampur district, accounting for only 10%

of the total district population.\footnote{Census of India, 1981, Vol. VIII, Jammu and Kashmir Household and Language.} But in the upper reaches, especially in Mahore Tahsil, the Gojjari speaking population constitute a majority. Certain villages of the Reasi Tahsil especially Poni, Parakh, Talwara, Arnas villages are usually occupied by the Bakerwals during winter season. In the foothills of Ramnagar Chenani and Katra the Bakerwals population is supplemented, specially during winters, by large numbers of Dodhi Gujjars and Bakerwals.

The Gujjars are also highly concentrated in Rajouri and Poonch districts where about 20% of the total Gujjars population of the state is to be found.\footnote{Ibid.} Gujjar population is also settled in most of the parallel valleys which are framed by the offshoots of the Pir-panjal range. The most famous of the valleys, locally known as 'Nalas' are Darhal, Thanna Mandi, Peer, Ramgarh and Kotranka etc.

In Darhal many Gujjar villages have permanently settled down in valley in the neighbourhood of forests. The Gujjars of this region mostly belong to Didhar, Khatana, Jindar, Gors and Bajran sub-casts and Goters. Some of the important villages where they have settled down are Chowdhary Nar, Ujhan,
Dodaj, Nadian, Liran, Palyarni, Kothra and Danna. In Thanna Mandi Nala the Gujjar settlements lie in the villages of Fatehpur, Dodason Bala, Plangar, Panghai, Danna, Mangota, Dhok, Alal, Gurdhan Dhanore, Lah, Shahdera and Panihad, Karhad, Peeri, Sakri, Trala, Swari in Peeri Nalah and the villages of Katarmal, Kakora, Chamba, Panjgrain, Saroola in Ramgarh Nalah. To the south the lower foothill jungles of Nowshera and Kalakote are in the domain of nomadic Bakerwals, specially during winter months. The important hivernages\textsuperscript{32} in this area are Chingus, Narian Bagla, Garan, Upper Lumberi, Chaniprat, Dewak, Sair, Langar, Mogla, Tiryath, Tatapani, Dharamsal, Kharak Panjah, Metka, Godar, Potha, Sohlki Bandian, Pajnara, and Katarian etc. Here the Bakerwals come during the winter season and construct thatched huts for their stay. Some of them have also permanent shelters there.

The Gujjars are an ancient element in Poonch district where they still account for about 45% of the population of the district and 18% of the total Gujjar population of the state. The important Gujjar castes and gotars in the district are Kassana, Khari, Ladi, Checki, Doi, Tass, Bhatti, Tienda, Kataria, Poswal, Chauhan, Bajran, Gors, Lassana, Khari etc.

\textsuperscript{32} Hivernage means the ordinary settlement of nomads at winter station.
They are found settled all over the district, the important settlements being Gorsai, Hari, Phagla, Marrah, Lassana, Dharana, Kalaban, Bandichechian, Prat, Chitral, Darha, Kalai, Ghanai, Sanai, Gonthal, Kalar Kattal, Shindra, Banpat and Noona Bandi.

The Kishtwar and Bhadarwah tahsils of Doda district are mainly the home of Dodhi Gujjars whose main settlements are found at Najwa, Odelbajran, Kasdan, Saradi, Chinta, Jahi, Sunbain, Sartingal and Bholesia etc. According to 1981 census the Gujjar constitute about 13% of the total population of the district. During summers, specially, nomadic herders are to be found in great numbers on the upper reaches of the district.

Kashmir Region:

Gujjars are also well distributed in the Kashmir region. Most of them have in any case here to pass through this region in the course of annual transhumance. They are to be found specially during summers on all hills and mountains surrounding the main valley of Kashmir. Some of the side valleys are also homelands of the Gujjar population.

Gujjars are well distributed in the district of Baramula Kupwara, Anantnag, Budgam and partially in Srinagar and Pulwama district. In Srinagar the Sindh Nullah and Laar vadi are well known for Gujjar settlements. There is a heavy concentration of Dodhi Gujjars and Bakerwals in Kangan sub-division. During
GROWTH OF TRANSHUMANTS POPULATION
JAMMU AND KASHMIR
1961-1981

PERCENT INCREASE
1971-81 = 25.00

POPULATION
1981 = 4.69 LAKHS

1961-71 = 59.00

1971 = 3.49 LAKHS

1961 = 00.00

1961 = 2.15 LAKHS

FIG.13
summers higher slopes are mostly occupied by Bakerwals, who annually migrate to this region from Jammu across the Pir-panjal.

There are some exclusive high altitude Gujjars summer settlements at Phiryanwar, Taripura, Dashiabal, Manpaar, Chhan, Panjanoor, Balapura etc.

Seasonal Gujjar settlements are also quite numerous in Uri, Hindwara, Karnah and Bandipur tahsils of Baramula district. The main settlements are Sukhdar, Gualta, Urikhas, Gharkote and Punjayan, Jondi, Gujjarmarg and Modichhand etc.

In the lolab valley of Kupwara district the villages of Wadar, Bahmipura, Hafatroda, Khadi, Garatwar, Hi-hamami, Gujjarsori, Mahajan-Ferozpur and Qazipur have Gujjar settlements.

In Anantnag and Pulwama districts the main seasonal settlements are Daksum, Pahalgam, Sidau, Killar, Dipura besides a number of smaller ones.

Generally speaking, the Gujjar settlements are found mainly in comparatively low altitude ecological zones while the higher altitudes pastures on the mountains surrounding the Kashmir valley are mostly occupied by Bakerwals. Now there has been development taking place due to the housing plans and some of the markets and colonies are being settled on the district headquarters in the urban areas in Kashmir valley and in Jammu region also. But very few of them avail this opportunity.
CHAPTER VI

SPATIAL AND TEMPORAL DIMENSIONS OF NOMADISM IN JAMMU AND KASHMIR
Pastoral nomadism of the transhumance type is an ecological imperative in all mountainous regions. Jammu and Kashmir, being essentially mountainous, is no exception.

The problem of adjustment to an adverse and ecological unstable resource base varies from place to place. It is not entirely incidental that the famine prone areas of the world are those which are characterised marked physical and climatic fluctuations. On the other hand areas of relative constancy in terms of climate and physical layout are seldom afflicted by frequent famine and food shortages. As a natural concomitant of a relatively stable resource base social and economic organizations, are not only more stable and highly evolved that is found in areas of uncertainty.

One major form of ecological adjustment to the adversities of the environment is what can be termed as 'circulation' a device for meeting the hazards of local environmental rhythms.

Ecological circulation may take two forms, first, an intercommunity exchange of food which takes care of a restricted growing season or deficiencies of supplies resulting from whatever cause without either leaving its place of residence. Alternatively, nomadic people who depend upon domesticated
animals as their main source of sustenance accommodate to the environmental rhythm through their own movement. Such people move with changing season and with the fluctuation of the resource base. In other words they respond to the seasonal exhaustion of the primary resource base by moving to a new location. This seasonal round leads them through an 'orbit' which is repeated year after year. Thus the orbit becomes principal means of resource stabilization through movement. The socio-economic organization of pastoral nomads therefore, in mountainous region has incourse, which come to be characterized a marked spatial and temporal rhythm which pervade through all aspects of their life.

It is for seasons discussed above that transhumance has come to be so closely related to the physical environment of Jammu and Kashmir. The migrational mode of Gujjars and Bakerwals and their primary dependance on the pastoral products are not entirely the result of the free exercise of human will and choice. In general nature seems to have set certain limitations and exacting some circumstances through accentuated orography, seasonal rhythms of climatic conditions and shifting pastures to the free exercise of their will. These limitations which occur in varying combinations in different parts of the world as per "nature's masterplan", for man's economy and way of life. Any attempt to interfere with the basic layout of the
plan may result in disturbing the long established order of the natural forces and may expose man to the fury of the natural forces of environment which might be released as a consequence of the disruption of the ecological balance. The failure of the campaign of transforming the Iranian transhumant Zagws Range into settled agriculturists is a substantial proof of this point. In past people seem to have been wise enough to have adapted their life to the existing circumstances by avoiding a fully sedentary mode of life and a crop based economy wherever they were found to be incompatible with the regional ecology. In mountainous regions this inevitably results in nomadic pastoralism characterised by a to and fro seasonal migrations between high and low altitude pastures. This practice, known as transhumance, seems to be man's best socio-economic response to a mountain eco-system.

In Jammu and Kashmir nomadic Gujjars and Bakerwals in course of century, have evolved a socio-economic organization which operates in perfect harmony with the regional eco-system and which has enabled these communities to survive in a harsh environment. Their sustenance is largely derived from their animals and their way of life is determined by their seasonal movements synchronizing with altitudinally determined seasonal

ecological changes. Thus functional rhythms are observable in the concerted activities of the community in securing and maintaining its life support resource system so a natural concomitant, they shift themselves along with their herds and flocks from one eco-system to another in the mountain pasture economy. Pastoralists have an obligatory dependance on their animals and their relative freedom from outside control; rests on the fact that their connections with the settled people have untill recently been more complex. The economic universe of the nomadic Gujjars and Bakerwals is strongly influenced by an emphasis on social differentiation and kinship prevailing in nomadic societies, which has been emphasized by Lawrance in the words, "They exhibit a reciprocal traits superimposed on a basically closed large households form of economy."²

The nomadic pastoralists (Gujjars and Bakerwals) follow their herds of sheep, goats, cattle and horses over an extensive territory in search of the seasonally available pastures on which their flocks depend. Thus the temporal aspect of the ecological organization of their habitat and their total dependence on a pastoral economy make it obligatory for the Gujjars and Bakerwals to move in a cyclical manner on a prescribed 'orbit' from lowland pastures in winters to highland pastures in summers and back again to their basis in winter.

As a result of their nomadic way of life the Gujjars and Bakerwals do not generally live in permanently constructed houses. Instead, their mobile tent is their house. These portable tents are of medium size in order to facilitate their transportation from place to place; these tents can be set up at the camp site, is a matter of minutes.

Seasonal Rhythm of Pastoral Nomadism:

The seasonal rhythm of transhumance starts with the onset of the spring season, when nomadic Gujjar and Bakerwals caravans, with their herds and flocks of cattle, sheep and goats start moving across the Pir-panjal and the vale of Kashmir to high altitude pasturs and alpine meadows in the Greater Himalayas. Where they remain till the end of summers. On the approach of the winter season they start moving back to the lower foothills and the full advent of winter finds them in their winter habitat in the southern valleys and plains of Jammu region.

The pastoral nomads of Jammu and Kashmir move from pasture to pasture as per a time tested schedule of movement determined by signals heralding a change in season. In course of time the Gujjars and Bakerwals have become greatly adept reaching ecological signs impending seasonal changes which guide them from the lower plains, through the foot-hills to the Middle mountains of Pir-panjal and thence to the vale of Kashmir.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Season</th>
<th>Locality</th>
<th>Duration of Camp</th>
<th>No. of days</th>
<th>Nature of stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Winters</td>
<td>Outer foot hills and plains.</td>
<td>Mid Nov. to Mid April.</td>
<td>4 to 4½ months.</td>
<td>Fixed places.</td>
</tr>
<tr>
<td>2.</td>
<td>Spring</td>
<td>i) Valleys of Middle Mountain zone.</td>
<td>Mid April to last April.</td>
<td>7 to 10 days.</td>
<td>Daily marches changing sites shortly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii) Intervening Middle pastures</td>
<td>Last April to Mid May.</td>
<td>15 to 20 days.</td>
<td>Change camp sites after 2-3 days.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii) Pir-panjal Passes zone.</td>
<td>Mid to Last May.</td>
<td>7 to 10 days.</td>
<td>Long journeys with daily halt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv) Valley of Kashmir.</td>
<td>First Quarter of June.</td>
<td>5 to 7 days.</td>
<td>Very long marches.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>v) Side valleys zone across the Kashmir valley</td>
<td>First Quarter of June to Mid June.</td>
<td>9 to 12 days.</td>
<td>Change camp sites daily.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>vi) Side valleys to Greater Himalayas.</td>
<td>Mid to last June.</td>
<td>8 to 10 days.</td>
<td>Very short marches.</td>
</tr>
<tr>
<td>4.</td>
<td>Autumn</td>
<td>i) Side Valleys of Great Himalaya. First October.</td>
<td>7 to 10 days.</td>
<td>Short marches daily.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii) Valley of Kash-mir.</td>
<td>During Mid Oct.</td>
<td>4 to 6 days.</td>
<td>Long marches daily.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv) Pir-panjal Zone Mid to last Oct.</td>
<td>4 to 7 days.</td>
<td>Long journeys.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>v) Middle Mountain Last Oct. to pastures.</td>
<td>First November.</td>
<td>7 to 10 days.</td>
<td>Change camp sites.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>vi) Valleys of Middle First Nov. to foothills</td>
<td>Mid Nov.</td>
<td>7 to 10 days.</td>
<td>Daily marches.</td>
</tr>
</tbody>
</table>

Note: This chart is based on field work done by the author while moving with the Kafilas of the Bakerwals.
and the greater Himalayas, i.e., from a tropical to continental to an alpine climatic realm.

One cycle between winter and summer pastures has been termed a 'migration orbit'. A standard orbit operate as follows: The nomads stay for about four to five months, from mid-November to the end of March at their winter bases in the outer hills of the Siwalik. With the advent of spring by mid-April, the tented and thatched settlement and other temporary residented structures are dismantled and leave a deserted look i.e., the great movement towards the summer pastures start.

By the end of April the Middle mountains (the Pir-panjal) are reached. The Pir-panjal pastures occupying as they do, an intermediate position between the winter and summer pastures may hold the pastoral nomads from fifteen to twenty five days. By this time snow starts melting on higher reaches of Pir-panjal and the pastures come to life. The duration of stay in this zone is partly determined by the fact that some of the difficult and tortuous passes across the Pir-panjal may not yet be open the end of April. Sometimes the stay is also prolonged due to occasional hailstorm and snow storms which may occur in late April 'should thus happen the herders are faced with great hardship as feeding the herd becomes difficult. It is also during the stay at these intermediate passes that necessary preparation to cross the orduous Pir-panjal passes are made.
DISTRIBUTION OF SUMMER AND WINTER PASTURES
JAMMU AND KASHMIR

Source: Tourist Map of J & K.
As soon as the reconnaissance parties report the passes to be negotiable, the caravans again make a move. The Pir-panjal passes must be crossed early in the morning because with a strong sun, the melting snow makes the track even more treacherous.

Crossing the Pir-panjal is the most difficult part of the orbit and quite a few animals, specially horses may be lost due to malnutrition. Occasional intensely cold spells bad weather and damaged tracks, crossing of rivers and streams is a specially dangerous task for the herds. It roughly takes from two to three day's march to cross the Pir-panjal and a full 'dhiara'.

Once inside the Kashmir valley the nomads want to pass through as rapidly as possible, some times covering 25 to 30 Kms. per day. This is necessitated because of several factors. Firstly, the valley is intensely cultivated as the paddy has not yet been harvested there is a little space for pasturing the herd. Secondly, the side valleys often harbour groups of notorious cattle lifters, locally known as 'Galibans' who are apt to raid and steel cattle, sheep, horses and goats during the night halts.

The Kashmir valley is therefore, simply a transit zone for the nomads, who because of compulsions of geography have to pass through. Having rapidly crossed the vale of Kashmir,
The nomads stay for ten to fifteen days in numerous side valleys to the north of Kashmir valley. They stay in these valleys only as long as it is necessary because they have to vacate them before pastoralists from the valleys start arriving after the paddy plantation. Prolonged snowfall and inclement weather in the Great Himalayas sometimes delay the departure of the nomads for the summer destination in the high altitude pastures. While in the side valleys the nomads change their camp sites almost daily in search for new pastures.

The pastoral nomads reach the Alpine meadows known by them as 'Paarly Kashmir' by the end of June. Where they stay for three to four months till the end of September.

Different groups of nomads have their own traditionally assigned 'Margs' and pastures over which they have exclusive rights of exploitation.

Tents are pitched in respective margs and duties assigned to different groups for the efficient management and organization of the group's socio-economic life for the duration of the stay. Younger people go with the flocks, while the elderly remain at the camp site to look after children, construct and repair the 'Dharas' (Shelters) and other domestic chores. It is the duty of younger ladies to bring meals to the herdsmen in the pastures to some higher altitude.
The herders remain at the alpine pastures till the beginning of autumn in early October. With the advent of autumn the reverse position of the orbit starts i.e. from the high altitude pastures to the Kashmir valley and then across the Pir-panjal to the hivernages (winter location) in the lower foot hills where they reach by the middle of November. With the herder’s arrival at their winter camping sites, one ‘orbit’ of transhumance is completed. It may be pointed out that return trip is undertaken at a much faster pace because of the advent of severe winter conditions at higher altitudes.

In the preceding pages an outline of the spatio-temporal organization of the pastoral Gujjar-Bakerwal community of Jammu and Kashmir has been presented. It may be observed that orbital movement between highland and lowland pastures is the communities ecological response to the temporally varying spatial distribution of the resource base. There are two space-specific resource bases which alternately active during different seasons of the year, one in the lower foot-hills south of the Pir-panjal and the other in high altitude pastures of the Greater Himalayas. The alpine pastures become snowbound during winter months and hence their resource value for the pastoralists becomes seasonally dormant. That is why the herders cannot stay there from October to April. It becomes ecologically imperative for the herders to move down
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Kafila</th>
<th>Sub- Winter</th>
<th>Winter Location</th>
<th>Route of Migration</th>
<th>Summer Location</th>
<th>No. of Deras</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Abdul Ghani</td>
<td>Awan</td>
<td>Samoo</td>
<td>Mughal Route</td>
<td>Drass (Kargil)</td>
<td>65</td>
<td>Previously used Budil pass</td>
</tr>
<tr>
<td>2.</td>
<td>Karim Mukaddam</td>
<td>Bokra</td>
<td>Garan</td>
<td>-do-</td>
<td>Talel (Srinagar)</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Sooba Haji</td>
<td>Phamra</td>
<td>Mansar</td>
<td>Banihal Route</td>
<td>Mangal Nala Wardwan</td>
<td>57</td>
<td></td>
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<tr>
<td>4.</td>
<td>Sain Mukaddam</td>
<td>Bokan</td>
<td>Grota</td>
<td>-do-</td>
<td>Mughalpur (Kargil)</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Israel Chowdary</td>
<td>Khata-</td>
<td>Reasi</td>
<td>Budil (Pass)</td>
<td>Wardwan Margs.</td>
<td>71</td>
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<td>Kohli</td>
<td>Mogla</td>
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<tr>
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<td>Lala Chowdary</td>
<td>Bajran</td>
<td>Androoth</td>
<td>-do-</td>
<td>Gorez Margs.</td>
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<tr>
<td>8.</td>
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<td>Changla</td>
<td>Bathindi</td>
<td>Sarthal pass</td>
<td>Padal (Kishtwar)</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Aziz Khatana</td>
<td>Khatana</td>
<td>Godar</td>
<td>Rupri pass</td>
<td>Talel</td>
<td>47</td>
<td></td>
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<tr>
<td>10.</td>
<td>Abdullah Mukaddam</td>
<td>Doi</td>
<td>Tatapani</td>
<td>Mughal Route Tajwas</td>
<td>(Sonamarg)</td>
<td>63</td>
<td>Previously used Darhal pass.</td>
</tr>
<tr>
<td>11.</td>
<td>Kalu Banian</td>
<td>Balnoi</td>
<td>(Mendhar)</td>
<td>Noorpur pass</td>
<td>Gorez</td>
<td>17</td>
<td>Through Tosh maidan</td>
</tr>
<tr>
<td>12.</td>
<td>Israel Haji</td>
<td>Khatana</td>
<td>Bharakh</td>
<td>Budhil pass</td>
<td>Gummar (Wardwan)</td>
<td>35</td>
<td>Israel is dead now. Son heading.</td>
</tr>
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<td>Bajran</td>
<td>Androoth</td>
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<td>Bokan</td>
<td>Chingus</td>
<td>-do-</td>
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<tr>
<td>15.</td>
<td>Eil Chowdary</td>
<td>Doi</td>
<td>Lamberi</td>
<td>-do-</td>
<td>Luchpathri (Sonmarg)</td>
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<td>52 Kafila stay at Khimar.</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Name of Kafila</td>
<td>Sub-Caste</td>
<td>Winter Location</td>
<td>Route of Migration</td>
<td>Summer Location</td>
<td>No. of Deras</td>
<td>Remarks</td>
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<td>Abdul Ghani</td>
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<td>Samoo (Aknoor)</td>
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<td>Drass (Kargil)</td>
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<td>Previously used Budil pass</td>
</tr>
<tr>
<td>2</td>
<td>Karim Mukaddam</td>
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<td>Garan (Rajouri)</td>
<td>-do- Taleel</td>
<td>(Srinagar)</td>
<td>39</td>
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<tr>
<td>3</td>
<td>Sooba Haji</td>
<td>Phamra</td>
<td>Mansar (Udhampur)</td>
<td>Banihal Route.</td>
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<td>Sain Mukaddam</td>
<td>Bokan</td>
<td>Grot (Jammu)</td>
<td>-do- Mughalpur</td>
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<td>Israel Chowdary</td>
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<td>(Udhampur) (Pass)</td>
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<td>Mian Karamdin</td>
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<td>(Srinagar)</td>
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<td>Lala Chowdary</td>
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<td>(Sonamarg)</td>
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<td>-do- Luchpatril (Sonmarg)</td>
<td>52</td>
<td>Kaufila stay at Khimar.</td>
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</table>

Contd..
to lower and warmer altitudes, where they can pasture their flocks during winter months transhumance with all the inconvenience which it involves, has a tremendous survival value and the ecological price which these communities has to pay in order to survive and flourish.

**Routes of Migration:**

Gujjar-Bakerwal nomadism essentially consist of movement from pasture to pasture. The distribution of these pastures (margs) has been given in an earlier chapter. The margs are linked together by an intricate system routes and treks. As has been remarked earlier different margs have traditionally been earmarked for different groups for exclusive exploitation. In order to reach its assigned margs a group has to follow a well defined route system largely determined by the location groups of the low altitude and high altitude pastures. The haltages enroute are also traditionally fixed.

The important routes and haltages are as follows:

1. Mughal Route or Pir-panjal Pass Route.
2. Grand Trunk Route or Banihal pass Route.
3. Noorpur-Toshmaidan Route.
4. Darhal or Nananser Route.
5. Rupri pass Route.
7. Sarthal Route.
1. **Mughal Route or Pir-panjal pass Route:**

One of the important routes which the transhumant use is the so called Mughal route. As the name implies, this route was used by the Mughal emperors when they visited Kashmir valley. At present this route is extensively used by the pastoral nomads in their seasonal migration. Since this is the easiest of the routes, it is generally preferred by larger flocks. One of the Principal advantages of the Mughal route is that it is the first to open after the winter season. In view of the importance of this route the treks and seems (ordinary bridge of wood) are annually repaired by the state government before the movement of people and herds starts. Along the route there are numerous haltages where huts have been constructed for the protection of man and animals should unseasonal rain and hailstorms occur. Prominent haltage points where huts have been constructed are at Chandimarh (1920 m), Poshiana (2775 m) and Pir-ki-marg (3455 m). This route, both south and north of Pir-panjal divides itself into a number of subsidiary branches but the principal one leads directly to the alpine pastures.

The Mughal route is generally used by nomadic Gujjar and Bakerwals from the following areas: Thanna Mandi Nulla (Rajouri), Nowshers, Kalakote and Sunderpani Tahsils of Rajouri district, from Akhnoor Tahsil of Jammu district, from Mandher Tahsil of Poonch district.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Haltage</th>
<th>Distance in Kms</th>
<th>Altitude in Mtrs</th>
<th>Total distance in Kms</th>
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<td>00.0</td>
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<td>655</td>
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<td>4</td>
<td>Rajouri (Darhal Bridge)</td>
<td>35.5</td>
<td>943</td>
<td>88.2</td>
</tr>
<tr>
<td>5</td>
<td>Thanna Mandi</td>
<td>25.5</td>
<td>1355</td>
<td>113.7</td>
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<td>Rattanpir</td>
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<td>2499</td>
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<td>7</td>
<td>Behramgala (Poonch)</td>
<td>15.5</td>
<td>1825</td>
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<td>8</td>
<td>Chandimah</td>
<td>5.0</td>
<td>1920</td>
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<tr>
<td>9</td>
<td>Dogrian</td>
<td>12.5</td>
<td>2435</td>
<td>158.7</td>
</tr>
<tr>
<td>10</td>
<td>Poshiana</td>
<td>7.0</td>
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<td>11</td>
<td>Pir-Ki-Marg (Pulwama)</td>
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<td>3380</td>
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<td>1876</td>
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<td>Sonamarg</td>
<td>44.5</td>
<td>2636</td>
<td>385.3</td>
</tr>
<tr>
<td>21</td>
<td>Across Zojila</td>
<td>32.0</td>
<td>3400</td>
<td>416.3</td>
</tr>
<tr>
<td>22</td>
<td>Drass (Kargil)</td>
<td>25.0</td>
<td>3048</td>
<td>441.3</td>
</tr>
</tbody>
</table>

3. The distance given is approximate at some places, but altitude has been recorded in the field by the author.
While approaching the top middle mountains of Pir-panjal and to the Greater Himalayas the route again bifurcates a number of times to gaitable movements of people and herds to different margs in Talel, Gores (2377 m), Sonamarg (2636 m) and Pahalgam (2134 m), Drass (3090 m) etc. While the Dhodi Gujjars camp in the Pir-panjal margs along with the cattle i.e., buffaloes etc. in Doongi Marg, Jajinar, Sathri, Kohlan and many others.

2. **Grand Trunk Route or Banihal pass Route:**

The Bakerwal and Dhodi Gujjars who stay during winters in the lower foothills of Udhampur, Reasi, Jammu, Samba, Kathua, R.S.Pura and Ramnagar areas move along this route. This route in fact, is used by the nomads for only a very short distance by the National Highway, because even in early spring it is often hazardous to cross the Banihall pass. The Dhodi Gujjars for instance move only upto Patni Top (Dhoks) before turning towards Doda-Bhadarwah side. The Bakerwals, however, move across the Banihal pass to Pahalgam and wardwan meadows (3534 m). The following are the main haltages, their altitudes which were recorded by the author in a field trip from Garota (Jammu) to Mughalpur (Kargil).
TABLE - XIII

MAIN HALTAGES ALONG THE BANIHAL ROUTE

[From Grota (Jammu) to Mughalpur (Kargil)]

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Haltage</th>
<th>Distance in Km. in Km.</th>
<th>Altitudes in Mtrs.</th>
<th>Total distance in Kms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Grota (Jammu)</td>
<td>0.00</td>
<td>655</td>
<td>0.00</td>
</tr>
<tr>
<td>2.</td>
<td>Udhampur (Kirmchi)</td>
<td>32.00</td>
<td>762</td>
<td>32.00</td>
</tr>
<tr>
<td>3.</td>
<td>Ladha Dhar</td>
<td>29.5</td>
<td>2440</td>
<td>61.5</td>
</tr>
<tr>
<td>4.</td>
<td>Ramban (Doda)</td>
<td>37.0</td>
<td>1077</td>
<td>98.5</td>
</tr>
<tr>
<td>5.</td>
<td>Ramsu</td>
<td>26.5</td>
<td>1240</td>
<td>135.0</td>
</tr>
<tr>
<td>6.</td>
<td>Banihal Town</td>
<td>35.0</td>
<td>1700</td>
<td>170.0</td>
</tr>
<tr>
<td>7.</td>
<td>Banihal Pass(Shaitan Nala)</td>
<td>15.00</td>
<td>2804</td>
<td>185.00</td>
</tr>
<tr>
<td>8.</td>
<td>Verinag (Anantnag)</td>
<td>13.5</td>
<td>1828</td>
<td>198.5</td>
</tr>
<tr>
<td>9.</td>
<td>Achhabal</td>
<td>32.0</td>
<td>1790</td>
<td>230.5</td>
</tr>
<tr>
<td>10.</td>
<td>Pahalgam</td>
<td>38.5</td>
<td>2580</td>
<td>269.0</td>
</tr>
<tr>
<td>11.</td>
<td>Chandan Wari</td>
<td>15.5</td>
<td>3200</td>
<td>284.5</td>
</tr>
<tr>
<td>12.</td>
<td>Panjtarni</td>
<td>21.5</td>
<td>3931</td>
<td>305.0</td>
</tr>
<tr>
<td>13.</td>
<td>Amarnath</td>
<td>11.5</td>
<td>4236</td>
<td>316.5</td>
</tr>
<tr>
<td>14.</td>
<td>Mughalpur (Kargil)</td>
<td>31.5</td>
<td>3058</td>
<td>347.0</td>
</tr>
</tbody>
</table>

4. The distance of the Haltages is approximate at certain places but the altitude has been recorded by the author while on the field trip.
TRANSHUMANCE CYCLE
JAMMU AND KASHMIR

REFERENCES
X. Ar. Noymar

BOUNDARY INTERNATIONAL
BOUNDARY STATE
CEASE FIRE LINE
OSCILLATORY ROUTE
POK Pakistan Occupied Kashmir
PUNJAB

Source: Census of India Administrative Atlas

FIG. 16
As pointed out earlier a major portion of the route is used only by the Bakerwals. Their Caravans divide at certain selected points keeping in view the final destinations of different groups. Thus some caravans move along the Dhar Road leading to Mansar, Samba and Kathua foothills, others move west ward towards Katra, Jari, Nandni, Grota and Jandrah areas. Similarly, some of the groups of caravan bifercate from Ramban (1077 m) to east ward towards Pogal, Neel and Paristan in order to reach Marhwah and Daksum (2463 m) margs. Another trek turns from Ramsu (1240 m) towards northeast before reaching Verinag: The major caravan however, move along the present National Highway from Ramban upto Banihal and than bifercates. One branch moves towards varinag, Achhabal and Pahalgam. Another branch moves towards Kazigund, Salhar and Laganbal. After this point the two branches meet again and then jointly proceeds towards high altitude margs.

3. Noorpur-Toshmaidan Route:

The Noorpur-Toshmaidan route is preferred by the nomadic Gujjar and Bakerwals of Poonch (1001.87 m), Chilas, Balnoi and Gulpur areas, who use the Noorpur and Jamian Galli passes for crossing the Pir-panjal and entering Toshmaidan. While entering the Kashmir valley the nomads use this route divided into a number of branches. One branch of this route to the
FROM SAINOO (AKHNOOR) TO DRASS (KARGIL)

CROSS SECTION ALONG THE MUGHAL ROUTE (PIR-PANJAL PASS ROUTE)
Gorez valley pastures, the caravans, locally known as 'Kafilas' use the following places as haltage points: Balnoi, Krishnaghati (1579 m), Gulpur, Chandak, Mandi (1676 m), Loran (1889 m) to Jamiapass (4090 m) along the Ferozpur Nullah reach to Tungmarg, Sopore, Watlab, Bandipur (1615 m) to Gorez (2377 m) valley pastures.

Another branch move towards Khak valley, Sumbal and Bandipur areas. Yet another sub-track lead from Tangmarg to Baramula (1575 m), Kupwara and on to the Lolab (1828 m) valley high pastures. Some of the 'Deras' (families) may even remain in the Pir-panjal margs at Khilanmarg, Gulmarg (2653 m), Chhota Dhanvas, Pandan, Chor-panjal etc.

4. **Darhal Gali — Nanansar Route:**

From Darhal (1304 m) and Thanna Mandi (1251 m) Nullahs two routes take off to Nanansar: One from Thanna Mandi through Dara, Kuthwali galli, Girjan and Biar before terminating Nanansar; the other connects Kandhawali gali, to Nanansar via Darhal pass, Biar and Kaldhachni. At Nanansar the two routes converge and combine into one. The combined route then passes through Jadhi and Hafatkhor before joining the main Mughal route at Aliabad Sarai (3235 m). Another branches off at the Hafatkhor in the direction of Kohlan, Sedau and Ahrabal to finally meet the main route at Shopian (2040 m).
GROTA (JAMMU) TO MUGHALPUR (KARGIL)
CROSS SECTION ALONG THE BANIHAL PASS ROUTE FROM

DISTANCE COVERED IN KILOMETERS

METRES

10. PHALAGAM II. CHANDANWARII2. PANTANII1. A.MANRATHI4. MUGHALPUR (KARGIL)
6. BANIHAL TOWN 7. BANIHAL PASS (SHAITAN NALA) 8. VEIRING (ANANTNAG 9. ACHEHABAL
13. GROTA (JAMMU) 2. KRINCHI (UDHAMPUR) 3. LAHALA DHARA 4. RAMBAN (DODA) 5. RAMSU

HALTEES

100 200 300 400 500 600 700 800 900 1000
0 500 1000 1500 2000 2500 3000 3500 4000 4500

FIG. 18
Most of the nomadic Gujjar and Bakerwals 'Deras' (families) using those routes usually don't proceed beyond the Pir-panjal across the vale of Kashmir towards the alpine pastures but prefer to spend the summer months in the margs of Nanansar, Biar, Girjan, Bela, Jaddi, Kandanwali, Kagalna, Aasita, Simkor, Katar, Kohlan, Hafatkhor etc.

5. **Rupripass Route:**

The nomadic Gujjar and Bakerwals from Kalakote, Saranu, Kesargalla, Sialsi, Pajnara, Tatapani, Chambi Trar, Sair etc. villages of Rajouri district use this route for their seasonal migration. Important paraos (halts) before crossing the Pir-panjal along this route are at Beragoa, Kesargala, Saranoo, Dhangri, Kha-Jamola, Hubbi-Kandi, Bela to Rupri pass (3962 m). After crossing the Rupri pass this trek leads to Sedau, Ahrabal and meets to main Mughal route at Shopian. As this is a difficult route, it is used by very few 'Kafilas' (Caravans).

6. **Budhil Pass Route:**

Though this route passes through one of the most difficult terrains, it is used by many groups of herders, specially Bakerwals from Reasi, Pouni-Parakh, Arnas(Udhampur), Mehtka and Dalhori areas of Rajouri district. Enroute to the Budhil pass for crossing the Pir-panjal the important 'Paraos' (Haltages) are at Kharionala, Chili, Rad, Chanka, Nirtoo, Karmkatha and Budhil. Across the Pir-panjal the
route passes through Hamsan, Kangwatan, Fatun-panjal to Shopian. While across the Budhil pass one chenal of track leads to Wardwan margs through the 'Paraos' at Geoli, Chabni, Jawahri, Chhimer, Sarbegni, Deogol, to Verinag (1828 m) and Matibadhar meeting route No. II for Wardwan.

Across the Pir-panjal the principal destination of these groups are the 'margs' around Wardwan and Pahalgam ultimately. Didangalli is another subsidiary pass near Budhil, which also leads to Kosarnag, Islamabad to Pahalgam.

7. **Sarthal Pass Route:**

Dhodi Gujjars and Bakerwals from Mansar (609 m), Surinsar (670 m), Samba, Bhadu Bilawar, Ramnagar areas and from Kathua areas utilize this route. They make 'Paraos' (haltages) at Bhadu, Bhond, Bani, Sarthal pass before, crossing the Dholdhar near Bhadarwah to reach upto Kishwar. While the Dhodi Gujjars stay at Chinta, Jahi, Sarthingal, Sunbai, in Bhadarwah, rest of the groups proceed towards the Wardwan while crossing the Santhan pass (3784 m) and some kafilas proceed to Padre dhoks. There are numerous sub-routes and tracks in the zones such as Tatakuti pass, Pancheri pass, Kinth gali, DKG (2194 m), Bimber galli, and Didangali (3810 m) etc. But these are regarded as of little significance by the herders themselves.
GUJJAR-BAKARWAL TRANSHUMANCE

SUMMER:
- Grazing
- Shearing and selling of wool
- Social and religious activities
- Jirga (assembly)
- Marriages
- Some agriculture
- Breeding of animals
- Household industry
- Repair of equipments

WINTER:
- Grazing
- Some agriculture
- Breeding of animals
- Household industry
- Repair of equipments

MIGRATION SUMMER TO WINTER:
- Rapid migration grazing through Kashmir Valley and Pir-Panjal with minor halts

MIGRATION WINTER TO SUMMER:
- Slow with halts grazing crossing of middle mountains valley of Kashmir
- Selling and purchase of goods

FIG. 19
Illustrative Case Studies of Transhumance:

The salient features of Gujjar — Bakerwal transhumance has been presented in general terms in the proceeding pages. It may be noted that it is basically an annual orbital movement between low altitude and high altitude pastures along certain well defined routes and tracks. It has been mentioned earlier that one of the principal routes of migration across the Pirpanjal, through the vale of Kashmir to the alpine pastures is the Banihal pass route. To illustrate the seasonal migration in specific terms, given below are concise account of this particular orbit.

The Banihal Pass Route: This particular orbit occurred in 1983 starting on 16th April it took about 66 days to cover the distance between the winter base of the 'Deras' (groups) at Grota to its summer base in the margs around Mughalpur near Drass. During this period the group was on the march for 24 days and spent the rest of time at 'Paraos' (halting places).

The journey was completed in 10 dhiaras as follows:

(1). Grota to Kirmchi (Udhampur): Seven days march with several halts and two days halt at Kirmchi.


6. A continuous journey of several days with only night halts. Counted by the nomads while on move.
JAMMU AND KASHMIR
FOR NOMADIC GUJJARS AND BAKEERWALS

GRAPH SHOWING THE MONTHLY DURATION OF STAY
(2). Kirmichi to Ladha Dhar (Pancheri): with several intervening halts in the Pancheri nullah.

(3). Ladha dhar—Khaita—Tasaya Naka, of six days duration with number of night halts at Kainthgalli after 2 hours march, at Mirchula after six hours march from Kainthgalli, at Rasila after three hours march from Mirchola and at Tasaya-Naka after five hours march from Mirchola. At Tasaya-Naka this dhiara was broken for a day rest and for searching the animals which may have been lost.

(4). Tasaya-Naka to Surnikund, of two days duration with night halts at upper Ladha after five hours march, after Tasaya-Naka and at Surnikund after three hours march from where the dhiara broke for two to three days rest and grazing.

(5). Surnikund to Kabi-Khettar; this remained a very short dhiara which ended only after three or four hours march daily for rest and grazing purposes.

(6). Kabi-Khettar to Khettar Mal, also a very short dhiara at one and half day duration which ended after five hours march. The dhiara was broken at Khettarmal for a day's rest.

(7). Khettar to Shaïtan Nalla (Banihal Pass) of three and half days duration. This was a continuous march on the National Highway of 25 hours duration with brief halts of a few hours at Rambun (1077 m) and Ramsu (1240 m). The dhiara was
broken at Shaitan Nalla for only a days rest.

(8). Shaitan Nalla to Dingumar, also a short one day dhiara lasting about 7 hours. In this dhiara the Banihal pass (2804 m) was crossed through the Jawahar Tunnel. The flock however, have to use the Banihal pass, instead of the tunnel for crossing the Pir-panjal. As this is a very difficult and dangerous pass and should rain or hailstorm occur when the flocks are crossing the pass quite few animals may parish.

(9). Dingarnar to Salahr, duration two days with few night halts: at Achhabal after thirteen hours march and at Salahr after twelve hours march from Achhabal. During this dhiara the plains of Kashmir valley was crossed. The dhiara broke at Salahr for two days rest.

(10). Salahr to Masitnar, a very short dhiara of only four hours march. The halt at Masitnar was a prolonged one, lasting for sixteen days. This period was utilized for making necessary purchases for the onward journey and stay at summer 'dhoks' (pastures).

(11). Masitnar to Girwar, of one day duration involving eight hours of marching. Halt at Girwar was of two days duration only.

(12). Girwar to Sukhnalla, the dhiara of five days duration with the night halts at Chandanwari after 9 hours march at Gobdalwar after three hours march from Chandanwari
at Panjtarni after twelve hours march from Gobdalwa at Kabalmari.

(13). Gobdalwar to Mughalpur, the dhiara involved two days with one halt near Amarnath (4236 m) after three hours march, at Mughalpur after four hours march from Amarnath. Mughalpur was the final destination of this 'dera' (family group) where they stayed for grazing the flocks during the summer months.

On the basis of the above account certain generalizations can be made in regard to the seasonal migration.

(a). Herders pass through a succession of ecological zones, each with its own peculiar geo-ecological characteristics. The geo-ecological zones can be identified as: (i) Winter resort in the southern foothills, (ii) Middle mountain pastures, (iii) Pir-panjal zone, (iv) Valley of Kashmir, (v) Side valleys and (vi) Alpine pastures.

The natural and characteristic of the treck varies from zone to zone, depending upon local ecological conditions. In the first zone the herders march daily with short journeys. The continuous march is designed not only to utilize the grazing resources quickly but also to pass rapidly through settled areas inorder to avoid conflict with sedentary groups. The rapid movement is the herders response to the tension generalized by the possibilities of conflict with local villages
and fear of theft of their animals by the local people. This explains why this section was covered in only few dhiaaras of four to six days duration.

On the Banihal pass route the herders take 17 to 25 days for passing through the intervening pastures on the Middle mountains. Nine to twelve days are spent in journey and five to twelve days are 'Parao' (Halt) days. This zone is covered in four dhiaaras.

The Pir-panjal zone is covered in eighteen to twenty six days of which seven to ten days are spent in journey.

The Kashmir valley zone which extends from Varinag (1828 m) to Aishmuqam on the Banihal pass route and is crossed in three days with very long marches in one dhiaara. On the Pir-panjal route the valley of Kashmir zone extends from Hirpur (Pulwama) to Kangan (SGR) and is passed in one dhiaara with very long marches in six to seven days with a minor halt of night at Pampur or Harven.

Marches in this zone are characterized by early rising, rapid packing and rapid and long marches. This is a period of considerable tension and anxiety and the emphasis is to pass through the valley as quickly as possible. The valley of Kashmir is a fertile agricultural belt with a large number of settlement. Presence of the large flock, in this zone, if prolonged, will certainly lead to conflict with the local people.
The herders never want to prolong their sojourn in settled areas any longer that what is absolutely necessary. As a matter of fact conflict with the villages are not uncommon as the unscrupulous among them take advantage of the herders mobility to keep together the flocks in plain areas and steel many animals. Inspite of the good report between the common villages and the transhumants, such conflict arising out of theft of animals and damage to standing crops can hardly be avoided. Hence the herders are very tense while crossing settled areas.

In the side valley zone beyond the vale of Kashmir, the transhumants are out of the closely settled zone and hence are more relaxed and tension free. This is reflected in the pattern of their movement in this zone. The number of journey days drop with late awakening slow packing and leisurly movement. There is a long 'parao' (halt) of about fifteen to twenty days which also facilitates some cultivation of the part of the herders who reap the harvest on their return trip.

Enroute to the summer pastures the groups using the Banihal rout take East Ledder valley and cover the distance in two 'dhiaras', drifting in a relaxed manner in small groups 'deras'.
In the autumn migration in the reverse direction, from the alpine pastures to the winter pastures, the transhumant use the same routes but the movement is very rapid because in view of the rapidly approaching winter, quickly reaching the winter sites is given top priority.

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CHAPTER VII
TRADITION AND CHANGE:
FROM NOMADISM TO
SEDENTARIZATION
CHAPTER - VII

TRADITION AND CHANGE: FROM NOMADISM TO SEDENTARIZATION.

The pattern of transhumance in Jammu and Kashmir, as elsewhere in similar socio-ecological set up, reflects not only the distinctive environmental conditions of the region but also the social and economic context of particular periods and places. Altered socio-economic and political conditions in regions where transhumance is practised invariably bring about radical changes in the economic and social organization of the transhumant communities as well. Thus the pattern of transhumance in Jammu and Kashmir has been undergoing significant changes since independence when the state government started initiating new strategies for the overall development of the pastoral nomads and their integration in the mainstream of regional development. In this process of transformation not all transhumant communities were equally affected.

The Gujjars and Bakerwals of Jammu and Kashmir, specially the former, can at present only very loosely be called true pastoralists, for want of a better term. As a matter of fact many of them are now only partly pastoral and exhibit significant deviation from traditional pastoral transhumance, the deviations covering the entire spectrum from sedentarization
to entirely nomadic mode of living. Indeed many Gujjar communities now regard pastoralism only as a supplimental economic activity.

In view of the great changes that of late have overtaken the once pastoral nomads of the region three distinct categories among them can be distinguished as under:

1). Permanently settled type.
2). Semi-permanently type.
3). Nomadic type.

In an oscilatory society sedentarization process is a dynamic phenomena in a time and space continuum of socio-economic activities which often involve modifications in the traditional mode of production and settling down in a suitable locality which is a natural concomitant of adaptation of non-pastoral occupation, more particularly agriculture. Infact sedentarization is a shift from one primary production process to another. In the state of Jammu and Kashmir the process of transformation from an oscilatory society to sedentary life has made a considerable headway, particularly among the Gujjars, who have to a large extent adopted agriculture and a sedentary mode of living.

As a matter of fact quite a large number of Gujjar communities have entirely been sedentarized and taken to
agriculture and other economic activities. These sedentary Gujjars are regarded as the best agriculturists in the mountain agricultural economy especially in some areas of districts Rajouri, Poonch, Udhampur. Since the Gujjars were already practicing agriculture during their winter stay in the foothills, permanent sedentarization and transition to a wholly crop cultivation economy was a logical development. In this process gentle slopes and valley floors which served as winter pastures were gradually devegetized and converted into agricultural fields. The Gujjars were quick to learn the manners of agricultural production from the settled agriculturists in their neighbourhood. The process of sedentarization is also the logical concomitant of the spread of education and an overall upgrading of standard of living. Whenever a pastoral nomads achieves a satisfactory level of affluence or gets some education or both, the tendency to escape the hardships and uncertainties of pastoral transhumance by adopting agriculture, trade or service as an alternative source of subsistance, becomes manifest. This change is all the more welcome because the transition from pastoral nomadism to a sedentary mode of living also ensures vertical mobility in the social hierarchy.

Mechanism of Sedentarization: It appears that in the transhumant Gujjars society there is positive correlation between economic status and sedentarization tendencies. In
other words those at the upper and middle economic levels who can afford to, because of greater affluence, make a break with pastoral nomadism are the first to adopt a stable sedentary life. To begin with, an affluent Gujjar who comes to own a large flock, acts like an absentee landlord in an agrarian system. He would not himself move with his flock but would rather employ Aajiris (shephards) for the purpose. The Aajiris may be regarded as the equivalent of landless labourers in the agrarian system. The owner of the flock himself would construct a permanent Kotha (house), purchase some land and settle down as an agriculturists. He will plough back part of the income generated by his proliferating flock in buying more land for cultivation. A time may sooner or later come when agriculture becomes the dominant occupation with the flocks playing a sub-servient and supplemental role. Should, as it happens occasionally, such a person or his family decides to move alongwith the flocks, the agricultural holdings might be leased or left to the care of share-croppers. However, with increasing affluence and the greater security offered by agriculture the links with pastoralism may altogether snapped and the family then settles down as permanent, settled cultivator, thus abandoning for good the age old oscilatory mode of living.

Gujjar and Bakerwals have settled all over the state but their main areas of settlement are to be found at Ganderbal,
Budgam, Bandipur, Karnah, Uri, Shopian, Pahalgam, Dacsom and Tral areas in Kashmir region. In Budgam district the main villages where Gujjars and Bakerwals constitute important segments are Kahipura, Dababal, Sevasiar, Balapura, Maipura, Ghanrooth, Onghawachhan, Panjanoo, etc. The areas of Gujjar villages concentration in Baramula district are upper reaches of Bandipur, Machhal, Dhara, Wadha, Behnipura, Hafatroda, Khhuddi, Manbal etc. In Kupwara district, Kalaoshmori, Niarikoit, Jatwar, Kharana, Gratphara, Gagul, Lolab, Avor, Hechmarg etc. are important villages which have been sedentarized. In Kurnah villages of Gujjar concentration are Panchayan, Gondi Gojran, Dargrad, Deepkote, Moderchawa and in Uri Sukhdar, Goalata, Novaranda, Uri-proper; In Sawmari, Ajesh Bala and Ajesh Pain are the villages of sedentarization. In Tungmarg (Budgam) the important villages are Mahyan, Ponsepur, Darang, Quazipur, Darakesi, Rangwatan, Bandibala and Chaqtran. In Shopian (district Pulwama) the villages are Kellerchaq, Bhalibela, Dipura, Sidau, Dobjan etc. In Pahalgam (Anantnag district) important villages where nomads had been sedentarized are Vail, nagbal, Khair, Hafatnar, Achhnar, Sarichhan, Landroo, Khilan, Shaikhpura, Lasorham, Nari, Avada Nala, Lanogan etc. In Srinagar district the concentration of Gujjar settlers is in Laar valley, Kangan and on the sides of Sindh valley upto Sonamarg many villages had been sedentarized. In Taral (district Pulwama) the main settlements are Naristan, Postan, and Yolbstan where the Gujjars have
been sedentarized. Apart from these, there are scattered villages all over the valley of Kashmir, besides Gujjar-Bakerwal housing colonies in major urban centres.

In Jammu province the Gujjar and Bakerwals have settled heavily in Poonch, Rajouri, and upper reaches of Udhampur district and in Jammu, Doda and Kathua districts sparsely. In Poonch the pure and dominant Gojari villages are Mandhi Khatana, Bandi Chechyan, Danna, Dhakaryan, Sohri, Geigwand, Phagla, Chhajla, Gursai, Kalaban, Lassana, Nar, Chhangar, Dharana, Kasblari, Gonthal, Shindara, Hari, Marbote, Sanai, Kalai, Kalar Kattal, Noonabandi, Ghani, Chhatral, Mankot, Banpat and Pathana Teer etc. In Rajouri district the important settlements of Gujjars are Liran, Trala, Sokar, Badhanoo, Chaudhari Nar, Plangar, Alal, Panghai, Kothra, Dodason Bala, Fatehpur, Danna, Dodaj, Ujhan, Palyarni, Majhoor, Khawas, Kandi, Peeri, Prori, Katarmal, Nadyan, Dhanore, Kakora, Chamba, Gurdhan Bala. Mangota, Dhok, Urgi etc. In the town a market settlement has been developed and Gujjars are being attracted to town for settlement.

The important settlements in Jammu district are, villages of Mozakalas, Tasskalyan, Khaipar, Dhanda Kalan, Dhanda Khurd, Kharyan, Bhalisar, Gagian, Kasana Boolowala, Mehlo, Kotla Chohana, Dab-Chakian, Chhak Badhana, Gajansoo, Thekri Banian etc. In Jammu proper a good settlement of Gujjars is developed
and named after them as Gujjar Nagar. In Udhampur the settled Gujjars are found in Gool Gulabgarh, Mahore Tahsil, Arnas, Poni, Parakh and number of seasonal settlements are available in the foothill areas. In Kathua district Dhodi Gujjars and Bakerwals are settled certain places and mostly they settle temporarily during the winter season. In Doda district certain settlements are found in the Bhadarwah, Kishtwar and Bhalesha tahsils, mostly they move towards lower foothills during the winters. The important sedentary settlements are Najwa, Odelbajran, Kasdan, Saradi, Jahi, Chinta and many smaller ones in significant number.

The poorer sections of the community possessing smaller flocks, are incapable economically of breaking away from the eternal cycle of transhumance. The people at the lowest economic range also lack the material support, such as adequate tents and ponies, to cope with the hostile ecological conditions. They are thus highly prone to malnutrition, disease and other natural hazards. Should the flock be affected by some natural hazard the poorer nomads have no other option but to get attached as an Aajri with some rich Mukaddam (flock owner) to become a labourer or wage earner in some other economic activity. In this way also the poorer section eventually leave their links with nomadism and get absorbed into the sedentary workforce. Thus the process of sedentarization
operates at the two ends of the economic spectrum for entirely different reasons — affluence at the upper ring and abject poverty at the lower.

**Sedentarization at Winter and Summer Location:**

The process of sedentarization is naturally initiated and culminated at the two ends of the oscilatory cycle i.e. at the winter and summer camping sites. At any rate, the nomads, even in the transhumance cycle, have to stay for months together at the two ends naturally cultivate some land as a supplimental activity to their main occupation of pastoralism. At their main camping sites they usually construct *Kothas, Bandis* and *Baras* for providing shelter to themselves and their flocks. If agricultural land is acquired in the vicinity of these places a regular village may come up, indeed it is not uncommon for Gujjars and Bakerwals to encroach upon the forests or reclaim the nearby wastelands for cultivation. Such Gujjar settlements are to be found at numerous places in the side valleys of the Kashmir region where a regular cropping system spread over both the *rabi* and *kharif* season develops. In this way full sedentarization is achieved and the once pastoral nomads get transformed into farmers cultivating regularly the valley slopes. In the same manner from the very beginning at the winter sites this activity took place which led to a complete sedentarization of the
Gujjars and Bakerwals in the lower-foothill area and the southern valleys of Pir-panjal i.e. Rajouri and Poonch areas, generally between 1200 to 2000 m above sea level. At higher altitudes sedentarization is not possible because of extremely adverse terrain and weather conditions.

Anyhow, the presently settled pastoralists localities in the side valleys of Pir-panjal and other mountains were formerly the pasturelands for short term stay, then turn into agricultural lands.

The process and level of sedentarization does not operate uniformly, but varies from Kafila to Kafila depending upon the following factors:

1). Duration of stay.
2). Demographic Characteristics.
3). Availability of Land for Cultivation.

It has already been explained that the duration of stay at the margs is an important factor as it provides the nucleus for sedentary settlements. The Demographic structure of the population is another important factor. As the fecundity among these people is high as the custom of early marriage prevails, the birth rate is quite high. The population increased by over 74% between 1891 and 1941 (Table -XIV). As it became increasingly difficult for nomadic pastoralism to sustain an
ever increasing population, diversification of the economy in the direction of agricultures, trade and services became inevitable under the demographic pressure. Thus demography also became a contributory factor in the sedentarization process.

**TABLE - XIV**

**GROWTH RATE OF POPULATION**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Years</th>
<th>Growth rates</th>
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<tbody>
<tr>
<td>i).</td>
<td>1891 - 1901</td>
<td>+ 16.4</td>
</tr>
<tr>
<td>ii).</td>
<td>1901 - 1911</td>
<td>+ 14.6</td>
</tr>
<tr>
<td>iii).</td>
<td>1911 - 1921</td>
<td>+ 16.4</td>
</tr>
<tr>
<td>iv).</td>
<td>1921 - 1931</td>
<td>+ 15.5</td>
</tr>
<tr>
<td>v).</td>
<td>1931 - 1941</td>
<td>+ 11.7</td>
</tr>
<tr>
<td>Total :</td>
<td></td>
<td>+ 74.6[^1]</td>
</tr>
</tbody>
</table>

As for the availability of cultivable land is concerned, during the reign of Maharaja Gullab Singh, the land at their hivernage (winter sites) were allotted to Gujjar and Bakerwal pastoralists for winter grazing between contours 610 to 1220 m above sea level in the lower foot hills and valleys. The fertile valleys at altitudes varying between 1220 m to 1830 m were always customarily under their possession. It was in these lands that sedentarization primarily occurred. The

Gujjars and Bakerwals have customary rights over some pasture lands, called *miras* in the middle portions of the Pir-panjal. However, these lands are specifically meant for grazing purposes and cannot be diverted to any other use.

Of late the government's efforts to improve the lot of these deprived people has also become a contributory factor in sedentarization. The developmental strategy of separate sub-plans for the pastoral nomads was taken in the fifth five year plan. The main thrust of this strategy as well as that of the earlier Community Development strategy was at educational upliftment, health care and economic development. These measures partly succeeded in bringing about a general upliftment in the level of living and the resultant restructuring of the traditional socio-economic organization. The elite of the pastoral society, who were the principal beneficiaries of the governmental measures, thus were enabled to free themselves from the shackles of pastoral nomadism and became sedentarized.

As a result of differential impact of the modernization drive and general upliftment in the socio-economic conditions the sedentarized Gujjar-Bakerwal community has become structured. The different structured segments are as under:
(1). Economic Structure:
   a). Agriculturists.
   b). Forest Contractors.
   c). Traders, primarily engaged in the supply of pastoral products, i.e. milk, butter, ghee, khoya, cream, hide and skin, wool and wool products etc.

(2). Functional Groups:
   a). Aajris.
   b). Labourers.
   c). Government and other services.

(1). Sedentarized Group :-

Apart from agriculture, a large number of Gujjars and Bakerwals have taken to trade and commerce, besides being absorbed in the service sector. They are now permanently settled down in almost all towns and villages and several have their links with traditional ways of nomadic life. But it has been observed that the nomads have little aptitude for trade and commerce and more often than not prove to be a failure in these activities even though the government has done a lot to encourage trade and commerce by way of providing special markets for them in the urban centres. Their first preference in sedentarization is invariably agriculture and they are apt to encroach upon the forested slopes in the vicinity of their settlements, specially in the lower Pir-panjal zone.
(2). **Semi-sedentarization Group:**

A fairly large number of Gujjars and Bakerwals occupy an intermediate position between nomadism and a sedentary mode of life. Such communities are neither completely nomadic nor yet fully assimilated in permanent settlement. They live in permanent villages in the foot hills during the winter months while during the summer months they migrate to high altitude pastures like true nomads. The main feature of this group is that the entire family almost never moves. As they are slightly more affluent than the true nomads, they own some land in the foot-hills near their winter pastures. Part of the family, therefore, has to stay back and look after the agricultural field. Other family members who are not needed for agricultural operation migrate alongwith the flocks from pasture to pasture upto the alpine meadows and then back again. The socio-economic organization may be regarded as the first necessary step towards complete sedentarization. As the size of agricultural holdings increases and agriculture assumes a dominant position, pastoral nomadism may generally be abandoned.

(3). **Nomadic Type:**

A numerically fairly strong component of the pastoralists has not taken to sedentarization at all and are still wedded to the oscilatory migration of transhumance. They are true pastoral nomads in the strict sense of the term. To this
category belong most of the Bakerwals and Dodhi Gujjars who continue to depend entirely on goats and milch cattle respectively. Economically they are not as well off as the settled component. It's their object poverty which binds the nomads to extreme hardships of pastoral nomadism.

These pastoral nomads, being at the lowest ring of the socio-economic ladder, have access to fewer pastures, specially during the winter months when they often have to buy fodder for their flocks. The situation is not quite as bad during summer because many of these groups possess their own summer margs where they spend four to five months each year.

The unique social organization of Gujjar-Bakerwal group evolved over centuries, to this day is maintained and preserved in its pristine glory, by these truly nomadic sections of the community. In conformity with their age old traditions they are almost entirely to this day, dependent upon their flock for sustenance. They have developed a perfect symbiosis between their culture, the environment they live in and their animals. Relatively free from outside control and influences, unlike the settled components of their communities, their economic universe is strongly influenced by emphasis on social differentiation and kinship prevailing in nomadic societies and exhibit a reciprocal trait superimposed on a basically closed, large household framework of economy.
The oscillatory transhumance, described elsewhere in this dissertation is the dominant socio-economic trait of the truly nomadic type of the Gujjarars and Bakkerwals. They move over an extensive territory in the course of a year, from one pasture to another with their entire flocks—goats, sheep and cattle together with their entire worldly possessions. Their tents and other necessary items are highly portable and can be loaded and off-loaded in no time, even though the more affluent among them often possess elaborate tents and sufficient utensils, containers, weapons and clothing.

Because of their peculiar mode of life, the pastoral nomads in the past acquired considerable military power and thus were able to through about their weight out of all proportions to their numerical strength. They invaded and terrorized the settled agriculturalists of the regions for centuries.

However, increasing sedentarization, expanding market economy and the conversion of part of their winter pastures into agricultural fields and the growth and expansion in the power base of the settled people have combined to place the nomads in a subservient position now under the impact of modernization many nomadic groups are now getting absorbed into an exchange economy though still largely retaining their traditional mode of life. Some of them even practice agriculture in conjunction with herding and thus become more or less semi-sedentarized.
The nomads have often been accused of ecological vandalism and a menace to the eco-system over which they operate. This view is the result of an incorrect understanding of the true transhumance culture. Far from being an ecologically destabilizing factor, true transhumance operates in perfect harmony with the ecology of the region and thus helps in the preservation of the ecological balance. Transhumance represents a symbiosis between human culture and the environment. It becomes a factor in ecological deterioration only when the size of the flock considerably exceeds the carrying capacity of the forests and pastures. The settled people of the valleys have never come to terms with the mountain eco-systems of the region in a manner the transhumants have. To the sedentary population the mountains have always been alien, the abode of gods and demons, to be dreaded and revered seldom to be refriended. But where the realm of the valley alluvium ends, where maple, poplar and willow cease to grow, the land of transhumance par excellence begins the negative attitude of the settled people towards the mountains has squeezed them within the narrow confines of the valleys. But the nomad is fully at home in the mountains and the forests. Over the centuries they have continued to be a separate and distinctive socio-cultural stream, in harmony with their environment and with the settled people of their region. Their relationship is symbiotic and commensalistic not competitive and disruptive. In the semi-closed system...
of mountains and valleys, spreading from the foothills, across the Pir-panjal and up to the high alpine meadows, the nomads are generally welcomed. Their flocks fertilize the agricultural fields and they barter pastoral produce with goods and other necessary items of their use with the valley people provide.

That pastoral nomadism of transhumance variety has persisted in the region for centuries speaks volumes about the resilience, adaptability and functional compatibility with their socio-environmental milieu. The entire ethos of these people their social structure, familial structure, kinship organization and division of labour are all geared towards maintaining the symbiotic relationship with their environment.

*****
EPILOGUE
EPILOGUE

Pastoral nomadism of the transhumance type, as practised in the study area at present is the manifestation of the interaction between the distinctive environmental conditions of the region and the changing socio-economic context from time to time and from place to place. A recurrent theme in studies relating to transhumance has been the use of environmental models to explain the origin, development and characteristics of this distinctive mode of living. Thus the classical explanatory models explicitly or implicitly associate the practice with the land and to specific environmental characteristics. Generally it is theorized that exigencies of a long, dry summers in the lowlands or the foot hills which make pastures scarce, necessitates an upward migration of the stock to high altitude grasslands for summer pasturing. The resultant regular oscillatory movement of men and flock is seen as a socio-economic response to this specific feature of the environment, epitomising the symbolic interdependence between man, animal and environment.

In the spatial context of the study area the environmental explanation seeks to depict the practice of transhumance in terms of the seasonal distribution of pastures which calls for a to and fro movement of men and flocks between winter pastures in the Pir-panjal foot-hills and
the summer pastures in the alpine meadows of outer Himalayas as a component of the symbiotic relationships. The socio-economic organization of the people is not viewed as a specific grazier economy but as a general *genre de vie*. The central theme is the adaptability presented by transhumance in overcoming environmental constraints. Thus, a particular concern of much waiting on the subject has been the extent to which the character of transhumance is seen to reflect the relationship between physical environment and socio-economic organization, a concern which was at the heart of much methodological debate in the first decades of this century. In Europe, examining the geography of transhumance in the Mediterranean would provided opportunities to study the relationship between environment and culture, between *milieu externe* and civilization.

The environmental frame work within which transhumance operates is highlighted in the works of such scholars as Sorre whose monograph on transhumance in Longuedoc accorded primary status to environmental conditions and asserts that in such physical conditions sheep farming will play a dominant role and that most herds will be of necessity transhumant. While in the case of Sorre such an interpretation is not deterministic. Other scholars such as Dedijer and Cvijic stress the physical factor above all other factors. For
scholars like Miss Semple environment was of course the paramount and determining factor. Discussing the influence of geographic conditions upon ancient Mediterranean stock raising she notes the unmistakable impress of the environment. Similarly Veyret's study of Alpine transhumance again stresses the mountain-plain symbiosis in arguing that the practice reflects the natural control so well that it has become one of the characteristic traits of human geography. More recently Isnard's 1973 study of the Mediterranean economy has emphasized how transhumance was born from the complementarity and association of pastoral resources in the region. Thus the environmentalist position in regards to transhumance can be summed up in the words of Blache, "It is the law of nature rather than human ingenuity that accounts for the beginning of transhumance, laws that both man and nature must obey."

The environmental explanation is, however, over-simplifications of a complex man-environment interface. It grossly under estimates the role of historical and cultural factors as well as the transient nature of transhumance. A review of current works on the subject clearly demonstrates that transhumance is neither ubiquitously present nor continuously practised in similar environments. The inadequacy of the environmental explanation of transhumance is now clearly recognized and the emphasis in recent works on the subject
has clearly shifted from the assumed environmental complementarity to focus more clearly and critically on historical and cultural factors which can provide more reasonable explanation.

It has been pointed out that over emphasis on environmental factors has tended to make transhumance a highly misjudged activity. It is also now being opined that transhumance represents not the inevitable consequence of particular predetermined conditions, but rather a rational means of assessing and utilizing physical and human resources more efficiently. It is more important to examine contingent conditions rather than fixed environment. In accordance with this shifting emphasis recent studies of transhumance tend to concentrate more on specific characteristics of the practice such as pasturing techniques rather than viewing the practice in general environmental terms.

However, a more correct methodological position would be not to emphasise too much either the environment or the culture. A distinction can usefully be made between the basic structure of transhumance which may reflect in a general way the role of ecological factors between regions and variations of the practice reflecting social and economic factors. Such a view, by doing away with the environment–society dichotomy, may well represent a more realistic interpretation of transhumance.
In the present study an attempt has been made to interpret the practice of transhumance in terms of the latter viewpoint i.e. taking into account the socio-economic as well as environmental factors into account when considering the character and spatial extent of transhumance in the state of Jammu and Kashmir.

The environmental framework within which transhumance takes place in the study region is characterised by great contrasts in summer conditions in the foot-hill zone of the Jammu region and the highlands of the outer Himalayas. The transhumance economy of necessity, seasonally oscillates between these two points. This is an environmental imperative. There is an utter contrast in summer conditions between the foot-hills and the high Himalayas. During the summer months the foot-hill pastures wither away under intense heat. There is not enough pasturage left. The pastoral nomads, therefore, have no option but to make a move towards new verdant woods and pastures green. Thus for centuries seasonal movement of stock has been practised to overcome seasonal deficiencies of fodder or water in parched lowlands, thereby establishing the annual rhythm of transhumance between lowlands and uplands. There is, therefore, little doubt about the antiquity of this practice in Jammu and Kashmir. It can safely be presumed that the local Gujjars and Bakerwals have been transhuming
ever since they colonized the region. Literary evidences indicate the presence of the practice in the region much before the Mughal period. The practice remained important until sub-recent times.

Centuries of transhumance resulted in the establishment of a symbiotic relationship between the Gujjar-Bakerwal community, their stock and their environment. A set of social norms and familial and group relationships evolved in order to harmonize the culture, economy and society with the physical attributes of the environment. It is, therefore, not surprising that there arose in the region a distinct ethos and a general *genre de vie*. The persistence of this practice for centuries across a range of ecosystems, ranging from the foot-hills, the middle mountains, the Kashmir valley and high altitude alpine pastures, is a testimony to the resilience and adaptability of transhumance as a viable socio-economic system. The environmental origins of transhumance in the region is neither in doubt nor the fact that the traditional culture and economy of the people was an ideal response to ecological factors.

However, in recent years a number of distinct changes in the geography of transhumance in the study region have evident, changes which highlight the transient nature of this activity. The social and economic context has started exerting a great influence on the nature and function of
transhumance. The environmental influences cannot by themselves account for the development and changing character of this pastoral practice. The physical environment has not changed the locational complimentarity of the summer and winter pastures has not altered a bit. Winter pasturing remains confined to the foot-hills while the chief summer pastures continue to be at higher elevation. Transhumant herds still move to and fro between these pasture zones. The major changes that are now taking place relate to the basic structure and viability of this form of pastoral nomadism.

Sedentarization, in the sense in which understand the term, is completely alien to the culture and way of life of the transhumant communities. The prolonged camping, spread over a few months, at the summer and winter camps is not partial sedentarization but an integral component of transhumance economy. But recent socio-economic developments in the region have introduced true sedentarization, with the result that whereas previously the Gujjars and Bakerwals were basically nomads, sizable numbers among them have become entirely sedentarized with no or very little links with their migratory habits. Distinct areas of Gujjar sedentary concentration have emerged, in the foot-hill zone and in the side valleys of Kashmir. This development reflects a general decline of transhumance even though the environmental framework remains the same.
Pastoral monoculturalism is a basic ingredient in the man-animal-environment symbiosis of transhumance. A strong polycultural element has now been introduced with the adoption of agriculture, trade and service as a means of subsistence. One major impact of this policulturism as explained earlier was the adoption of a sedentary mode of living. In man-environment symbiosis of classical transhumance various components of the environment and the social organization are in a state of static equilibrium. Such a major deviation as sedentarization can not but throw out of gear the traditional pattern of transhumance. That is the reason why the Gujjar-Bakerwal community is at present in a state of flux. It may take some time for a new, radically different pattern to emerge.

It has been shown earlier that in the state of Jammu and Kashmir, affluence and transhumance are inversely proportional. Only the poorest section of the community is still truly transhumant while the affluents have by an large severed their links with the migratory mode of living and have settled down in agriculture, trade or some other economic activity. It can be said that, at least in the context of the study area, transhumance, as of now, is not environmentally ordained but is rather the function of the stage of development and its concomitant economic capability to switch over to a
new socio-economic order. This is borne out by the fact that in Jammu and Kashmir the affluent sections of the Gujjar-Bakerwal community have more or less completely discarded pastoral nomadism as a way of life and have permanently settled down. It is only the poorest of the Bakerwals who still adhere to transhumance. Indeed a vertical mobility is clearly discernable in the social structure, dependent upon the degree of sedentarization.

To summarize them, a number of distinct changes in the geography of transhumance are evident. What role do the underlying environmental and economic factors play in bringing about these changes. To most important point that has emerged out of the present study in transhumance is essentially a transient socio-economic organization. It is not a permanent structural feature of the people concerned, as the die-hard environmentalist would like us to believe, but as essentially conjectural phenomenon linked comparatively short-term social and economic conditions. The changing pattern identified in the present study indicates a practice, which no doubt originated and persisted for long due to environmental factors, has been shown to be highly susceptible to economic influences and which can no longer be satisfactorily explained simply by reference to general environmental conditions.
At first sight the pattern of transhumance does appear to be easily explainable in terms of the physical environment. The highest densities of winter pasturing are to be found in the foot-hill zone. Summer pasturing is densest in the high altituze meadows. By implication the upland-lowland symbiosis still appear to be reflected in transhumance. Furthermore, the rhyme of practice, its dates of departure and return appear to mirror closely changes in pasture conditions.

But if this environmental explanation is examined more closely, as has been done in this study, the greater importance of cultural and economic factors becomes apparent. The practice, therefore, is not immutable as the classical theories of transhumance suggest. Also, since the practice of transhumance is so deeply entrenched in the socio-economic regional structure of Jammu and Kashmir, it is but natural that it be highly susceptible to broader regional influences. Many of the transhumant communities have taken to polycultural practices and often nomadic pastoralism is an adjunct to the farming economy. It is, therefore, not inconceivable that in future pastoralism is fully incorporated in the regional farming economy.

We can end by stating that exclusively environmental explanations of transhumance are highly tempting and the role
of the physical environment can easily be over-emphasized. But it would be highly unrealistic to underplay the significance of the social and economic milieu. In theory the geography of transhumance suggests a long, evolved relationship and balanced upland and lowland pastures. In practice, however, vicissitudes and fortunes of transhumance suggest that the practice is placed firmly in a distinctive regional context with its changing social, economic and cultural milieu.

***
(1). A Bara For Flock at winter location near Kalakote (Rajouri)

(2). Inner side of a temporary thatched shelter at winter location near Tatapani (Rajouri)

(3). Bakerwals at the entrance with kulharis
(4). A Bakerwal boy in Kandi Area of Foot Hills near Mansar (Udhampur)

(5). A Bara for Goats and sheep flock with Dhara and Thatched shelter.

(7). Gujjar and Bakerwal shephard having a vigil over flock in lower hills area.

(8). Dodi Gujjar men and woman busy in milk loading and unloading at R.S.Pura (Jammu).

(9). Gujjar and Bakerwal market in Urban area at (Rajouri).
10. The land turned to terraced agriculture from forest encroachment near Dehragali (Poonch).

11. Bakerwal shearing the wool at winter location Narayan (Rajouri).

12. A flock in search of pasture while enroute in Thanna mandi Nala.
(13). Flock stayed under shade of trees while on migration halt at Rakiban (Darhal).

(14). Shephards with flock on a risky trek to higher altitude near Dogran (Poonch).

(15). Begging is one of the professions in Gujjars and Bakerwals.
(16). Gujjars with buffaloes crossing the risky bridge at Bahramgala (Poonch).

(17). A Gujjar Karvan on route Dharas can be seen temporary at summer marg in Pir-panjal.

(18). A Gujjar waiting for ponis to carry food-stuff to summer marg on Leh Road.

(20). A dera enroute to Pir-panjal waiting for reconnaissance signal, Fire is their companion at Gaon Gaddi (Pir-panjal).

(21). A sheep flock on migration in Pir-panjal at Upper Poshiana.
(22). Birth of a baby during migration at Goangadian (Near Pir-panjal pass).

(23). Mother-in-law preparing a special dish for newly born baby's mother.

(24). A rich Dera on halt near Poshiana Pir-panjal.
(25). Gujjar Bakerwal sheds for Parao at Poshiana back view is Pir-panjal pass.

(26). A temporary settlement at poshiana.

(27). The Parao place gives deserted look when a dera is shifted.
(28). Selling of sheep and goats and their products in Kashmir valleys near Srinagar.

(29). A Dera on move to winter hibernage. A Hurry affair at Azmatabad.

(30). After crossing Ratan-pir fire wood becomes acute problem in lower valley.
(31). A sheep husbandry doctor treating the ailing goat near Zojila.

(32). A mobile dispensary, workers being assigned duties before the reconnaissance signal of crossing the pass.

(33). A medical-cum husbandry camp at Sonamarg.
(34). View facing the Sukhte Sarai (Parao) and Marg Across Pir-Panjal.

(35). A great Samala can be seen close to the river at Sathri marg.

(36). View of Hafatkhore marg and track leading to Nanansar from Aliabad.
(37). Aliabad Mughal sarai Checking for identity cards here.

(38). A dhok near Jajinar Dharas and buffaloes can be seen at a lower level.

(39). A view of Talel marg (Alpine Meadow).
(40). A Dhara of Stone sills in Pir-panjal margs.

(41). Doongi marg animal shed for hail storm days.

(42). A kafila in summer margs tents and deras can be seen in the background at upper pahalgam.
(43). A Kafila's marg near Baltal (perpetual glacier).

(44). A'kafila'at halt in Great Himalayan route close to Leh Road.

(45). A Bakerwal lady and children at the upper reaches of Sonamarg (close to Tajwas).
(46). View of Kalahai peak from Sonamarg.

(47). Horse labour and Taxies for Tajwas valley at Sonamarg.

(48). Bakerwal tired having a tobacco puff from his chilam.
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