

*Security Sensitivity
of
Punjab and Kumaon
Himalaya*

Dr. S. K. Singh Sengar

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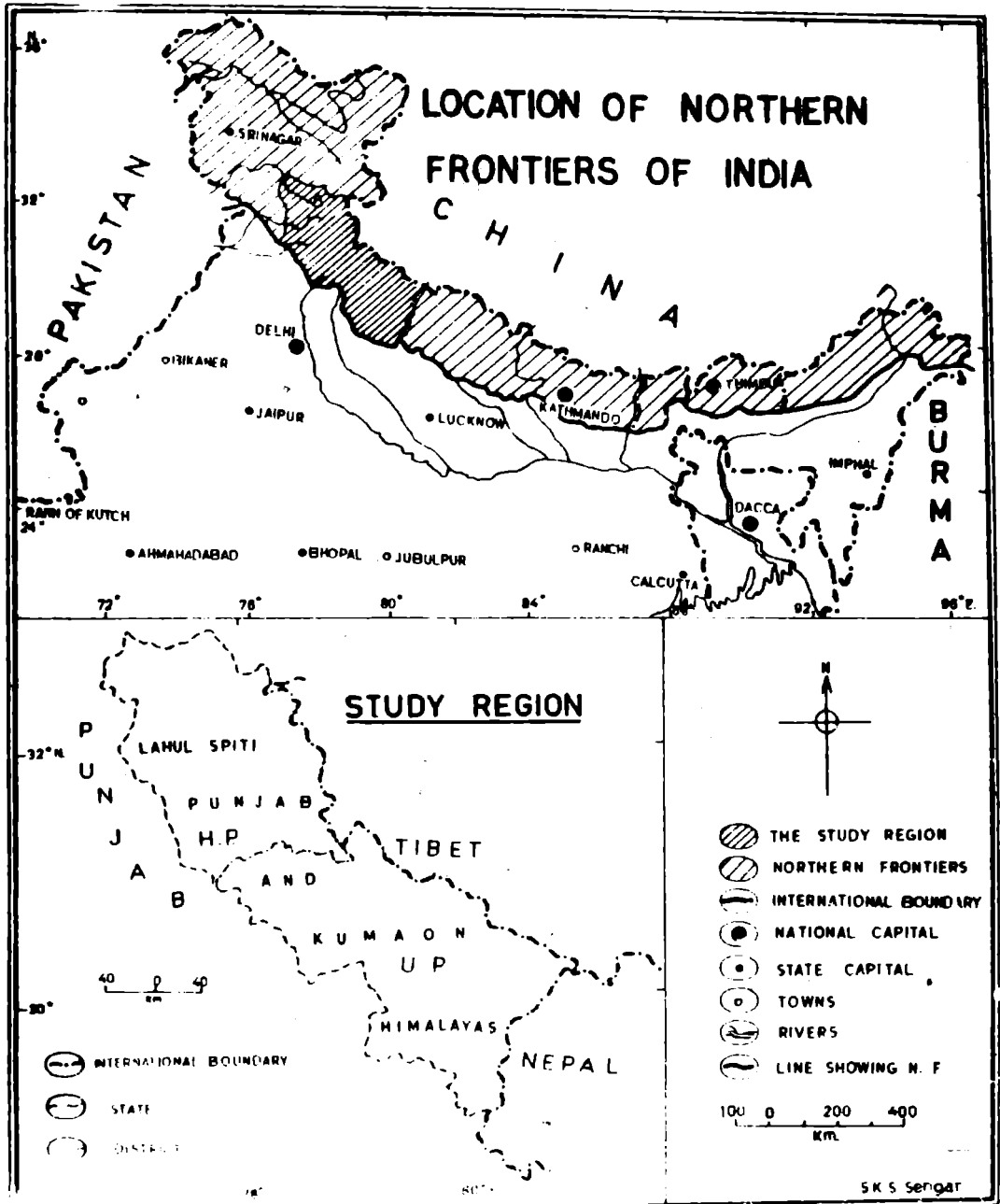
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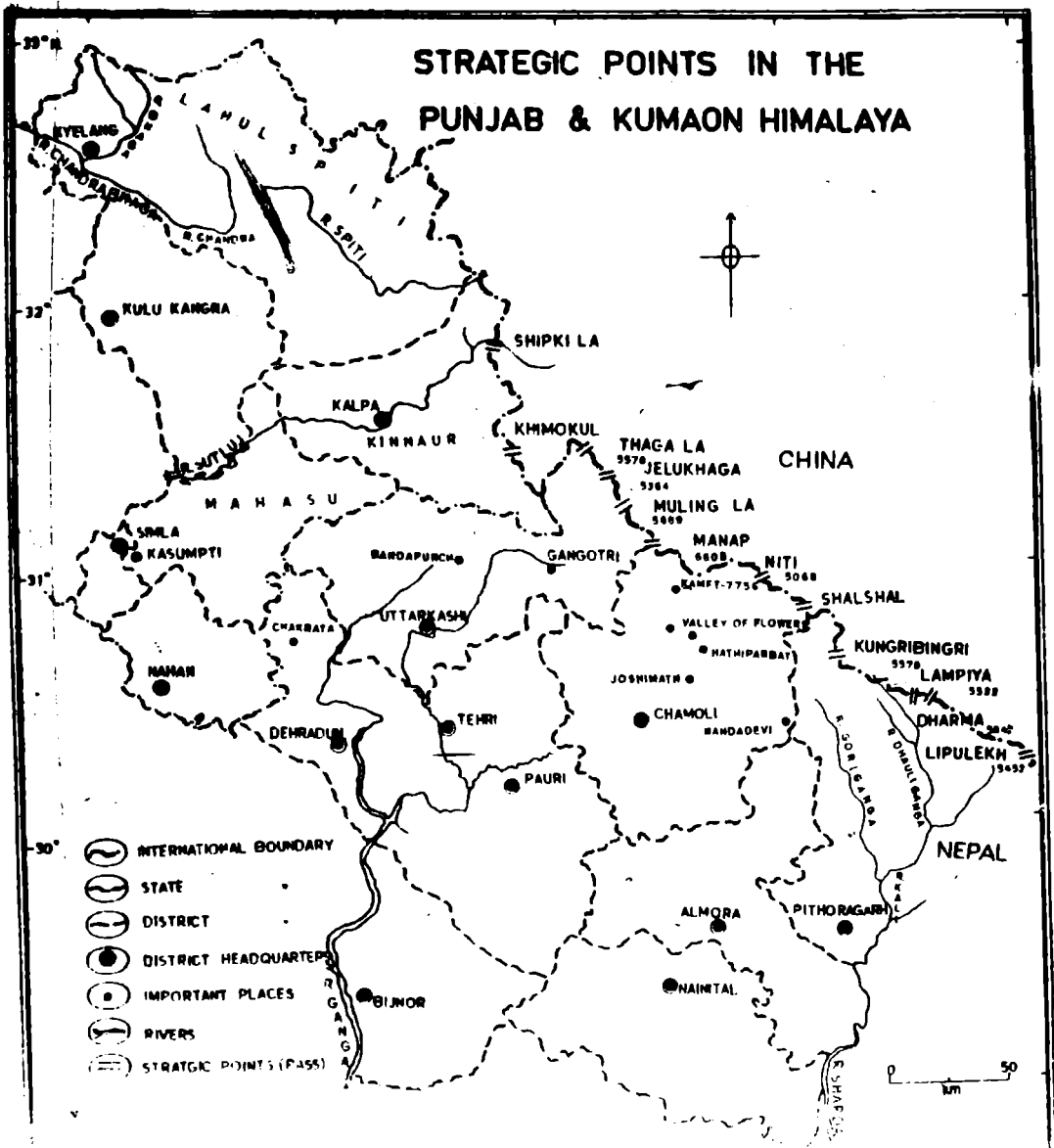
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V.S.S.D. College,
KANPUR








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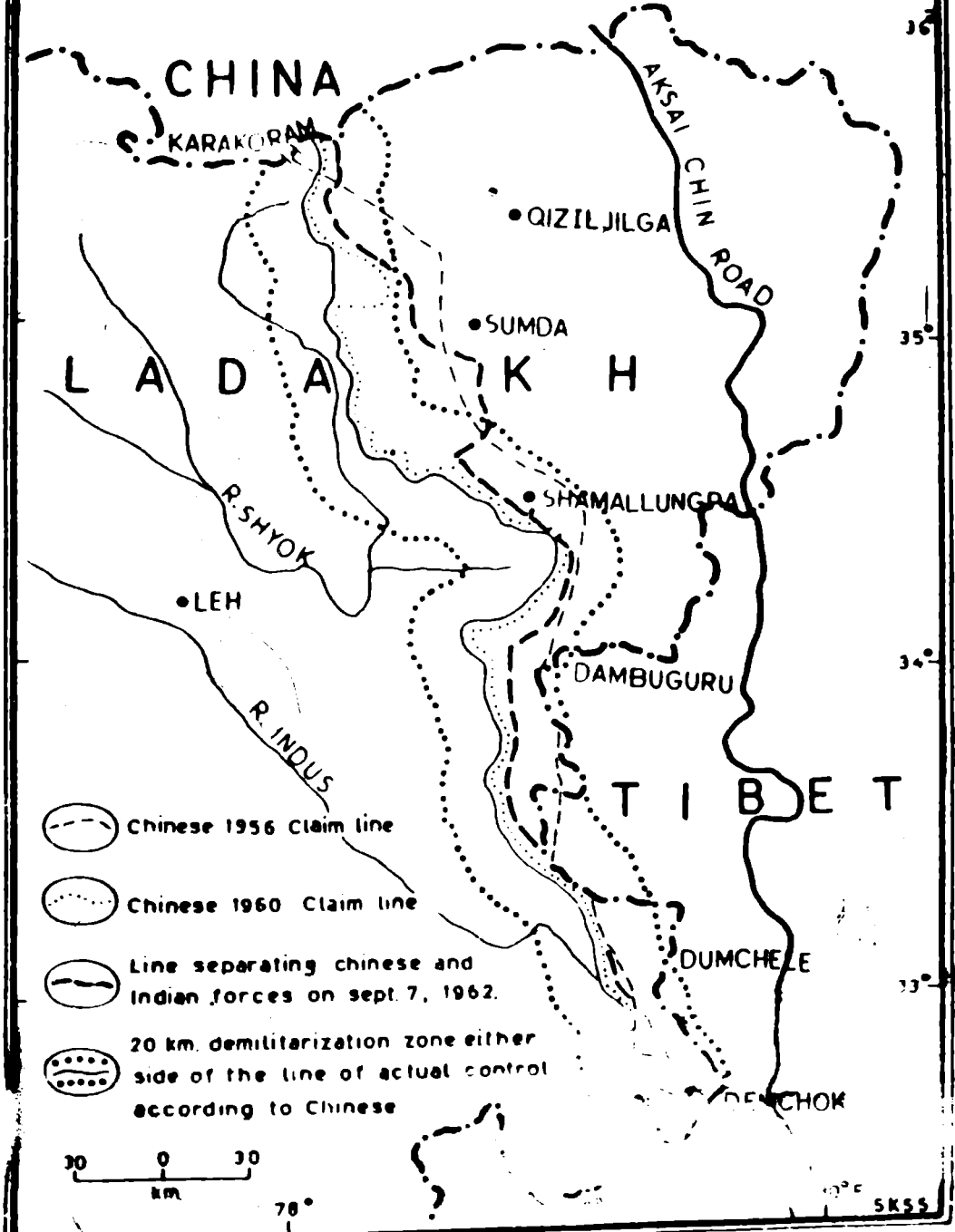
STRATEGIC POINTS IN THE PUNJAB & KUMAON HIMALAYA



-  INTERNATIONAL BOUNDARY
-  STATE
-  DISTRICT
-  DISTRICT HEADQUARTERS
-  IMPORTANT PLACES
-  RIVERS
-  STRATEGIC POINTS (PASSES)

0 50
km

TERRITORIAL CLAIMS BY CHINA



Source: Pub. Div. Govt. of India, 1963. FIG. 3

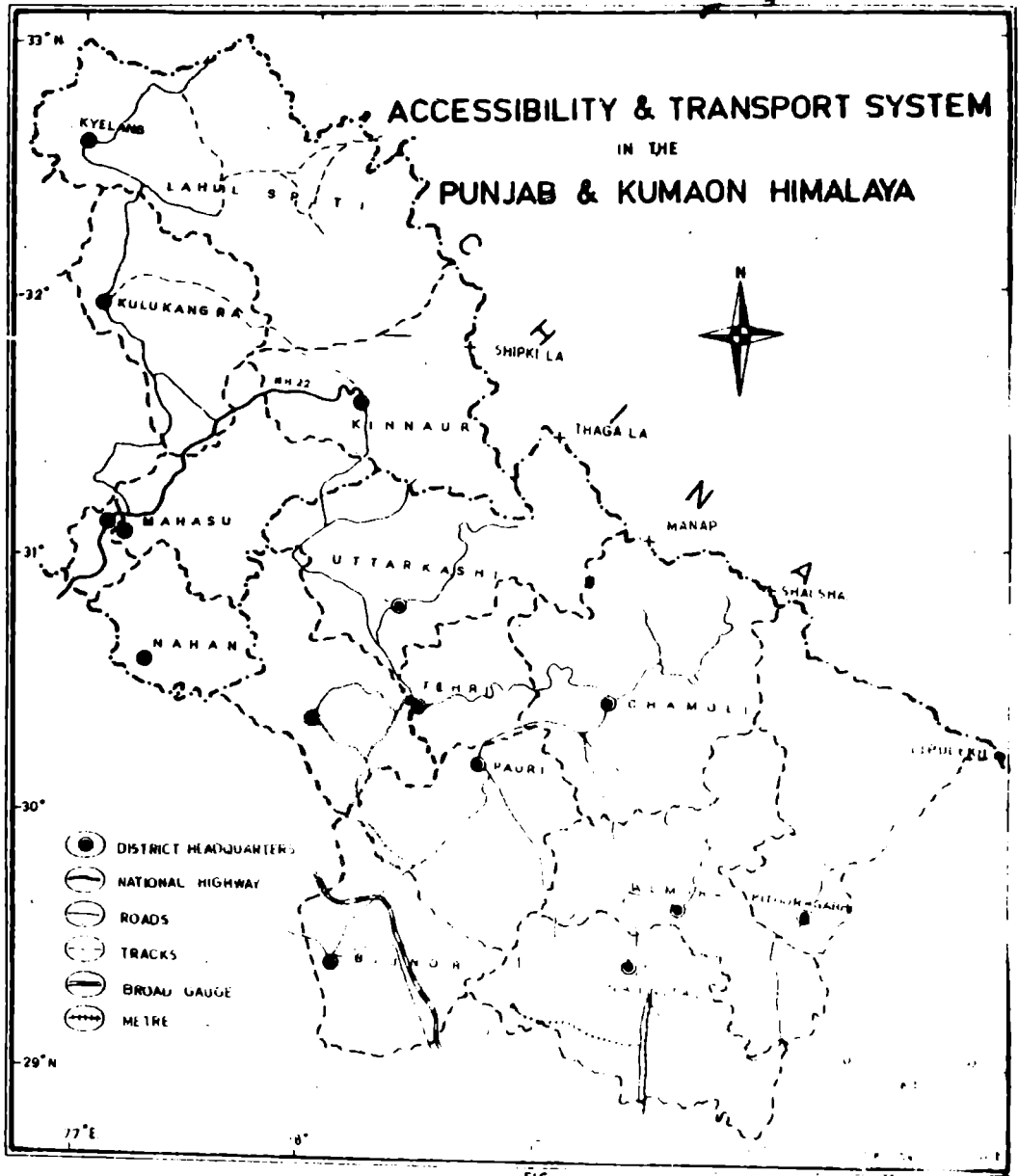


FIG. 4

ALTITUDINAL ZONES IN THE PUNJAB & KUMAON HIMALAYA

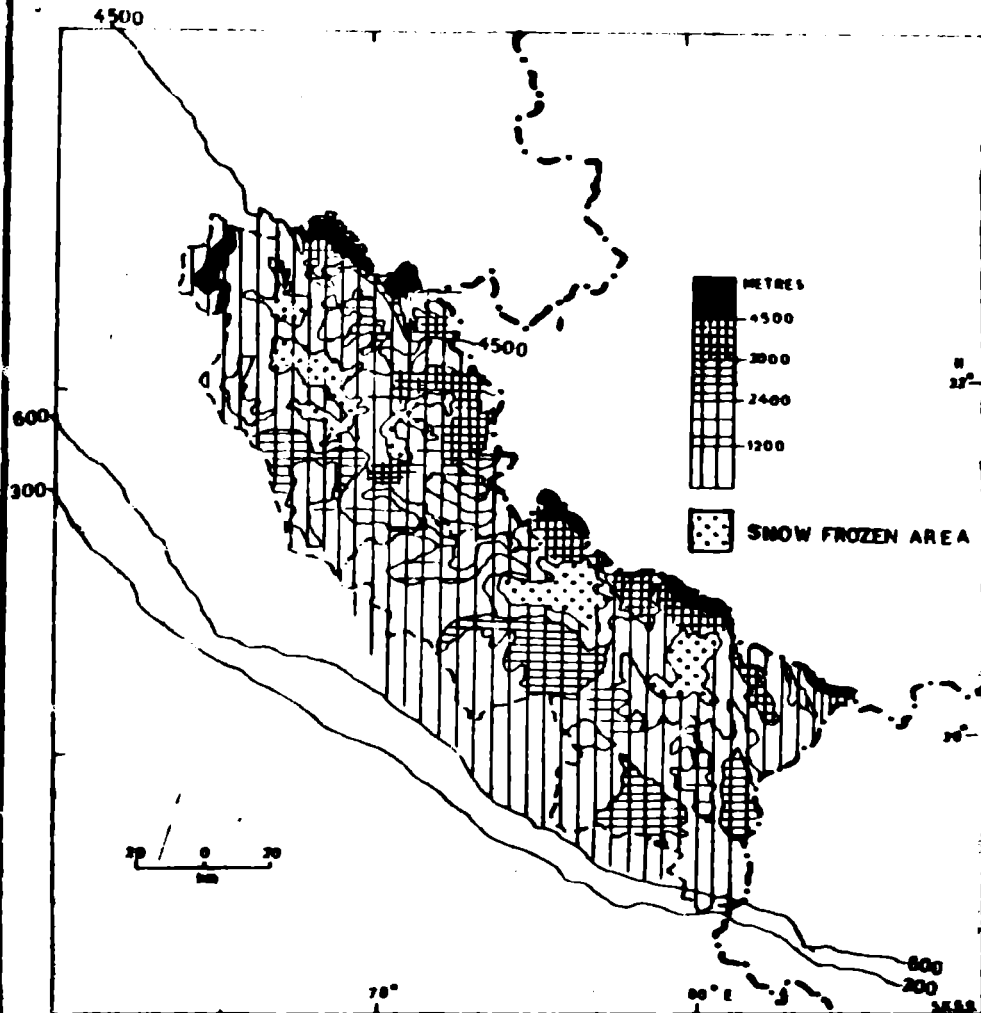


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Methodology

The proposed work is based on library work and field work. The author had to consult various Universities, libraries, Government Institutions, departments of Hill Divisions etc. for collecting the literature on this sensitive region. The study of books and journals helped greatly in the application of the concept and the basis of the organisation of the work. The Himalayan Gazetteer, Imperial Gazetteer and the Government Gazetteer published by State Government, census reports, other statistical diary, Hill Division, U.P. and Hill Development, U.P. Government helped me to discuss the theme and geo-strategic concept of this region. Government's various departmental survey and interviews with local hill people provided the secondary information.

Field work is an essential part of strategic research. Many first hand informations are gathered through field work. As such field trips were organised to get the information regarding problems of defence as acclimatization of soldiers, logistical problems, accessibility, mobility, visibility of troops in the area. For this purpose, interviews and discussions are also arranged with the influential old persons and military personnel.

Laboratory work is essential for data analysis and the preparation of maps. Various maps have been prepared to reveal the main geostrategic characteristics of the study area. The detailed strategic maps explaining the military bases, checkpoints, O.P., deployment of personnel on forward areas are top secret and restricted from security view point, not available in national Atlas. The tables and diagrams are taken from authoritative sources. The work has been illustrated with the help of six maps and diagrams. Authentic appendices are given from authoritative sources. Geographical glossaries are also given at last. National security must, to a great extent, be assessed within a regional or even global strategic environment because neglect of contemporary strategic concepts can lead to imbalances in defence policies.

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Introduction

The work has been divided into six Chapters. The premises of each chapter is geo-strategic, geo-political and socio-economic setting peculiar to the areas concerned.

Chapter I discusses the Himalayan climatic conditions which have impact upon Indian defence forces. Geo-strategic importance of this region has compelled the Indian defence scientists and intellectuals to look the significance and defence bearing of Punjab and Kumaon Region (from Kilong to Leipu-Lekh) from Crown period to seventies decade. Figure No. 1 depicts the study area from Leipu-Lekh (5453 M) to Kilong (Lahul Spity) *i.e.* 450 kms. direct distance between two points. The strategic pockets in Kumaon Himalaya such as Lipu-lekh, Mangaha Dhura, Lampiya-Dhura, Darma Pass, Kungri Bingri La, Kiogad Pass, Bakha Dhura Pass, Shal-Shal la, Marhila, Tunjin la, Niti Pass, Mana Pass, Muling la, Tsang la, Tsang chokla, Thagla Pass and Khimokul Pass, Sipki la, Imis la in Punjab Himalaya aggravate the strategic sensitivity to this region. The Himalaya belongs to all mankind. Man is the only creature who because of superior intelligence, is able not only to adopt to the environment, but to exploit the environment to his own needs.

Himalaya should also be critically analysed in the context of security perspectives. The time has gone where Himalaya was considered as a barrier for India's northern defence. Owing to new defence development in arms and strategy, the security sensitivity would require a fresh look and dynamic thinking.

In part 'B', Geo-strategic importance of Punjab and Kumaon Himalaya is discussed. The geo-strategic importance of this region was considered by British rulers and would be considered by the present political set up of India. Hill development is taken into active consideration.

(B)

The role of armed forces and their composition is decided by the geo-strategical situation and the political attitudes of one's neighbours. Topography and influence of terrain is assessed from strategical and tactical view point. Because the terrain of an area determines the tactical characters of the operation to be fought in that area. How far geo-strategy of India has dictated the requirements of her defence and also how far it has been an asset or liability from security point of view.

In part 'C', the basic pattern of weather and climate over the Himalaya are governed by the summer and winter monsoon systems of Asia. After 1962 debacle, it has to be accepted that human being should also adjust to the acclimatisation and familiarity of the region.

Chapter 2 portrays the historical background of this region. From Crown period, this region was influenced by the concept of power equation and power struggle. The sensitivity of this area was mainly due to the fact that two or more powers always converged in this region and manoeuvred for favourable balance of power. The frontier was assumed by the British Empire as a sensitive for global strategy in Central Asia. Power equation and global diplomacy was main consideration to Britishers.

Indian perception regarding the frontier with Tibet is also debated in this chapter.

'B' and 'C' sub-chapters, specially underline the concept of security from Crown period to 1947 and subsequently Himalayan defence policy upto seventies. Major changes have taken place in the political complexion of the countries bordering it. Foreign policy of the British rulers of India was directed towards securing the alliance, integrity of neutralisation of the border lands and minor states covering the land approaches to the Indian empire.

The dangers to Punjab and Kumaon Himalayas were effectively met by the British Policy from Crown period to 1947,

(C)

The main thrust of British policy was against the danger from Russian expansionism. It will be noticed that throughout the Crown period the security sensitivity need of this area has been central motivating factor in the formulation of British India defence policy for this region. After World War II, both blocks tried to maintain and extend the area of influence in different parts of the globe. After 1947, the Himalayan Defence structure took a new shape due to changed geo-political and geo-strategic conditions.

The disappearance of Tibet as a buffer State and so the emergency of Chinese power dramatically influenced the security sensitivity of Himalayan Frontier. In 1954, one observer declared that all along the frontier from Kashmir to Assam doors are being guarded more closely than before. Pt. Jawaharlal Nehru adopted the double policy in response to the Himalayan challenge posted by China. Simultaneous with certain military precautions which did not basically alter defence policy towards, Pakistan, steps were taken to strengthen the administration in the strategic border areas. The army's role during 1947-65 period was consistent with its pre-World War II responsibilities of internal security and war on the frontiers.

In sub-chapter 'D' and 'E', Pakistan factor is also taken into consideration. China's aspirations and their implication for India's security drew the attention of defence scholars to review the strategic situation and sensitivity of this region. Punjab and Kumaon Himalaya became more sensitive due to undemarcated boundaries and unwilling partition of India. Figure No. 3 depicts the territorial claims by China and the position of the forces after 1962. Chinese intention may be assessed. After glaring weaknesses of defence on the entire Himalayan region, India adopted the forward policy, to protect the territorial integrity and sovereignty. Time to time defence policy from Independence upto seventies took new shape due to enmity attitude of bordering countries.

India inherited the problems of this area also after British withdrawal. The partition of India into Pakistan and India, the

(D)

problems of North West Frontier passed into the hands of Pakistan. Chinese holding the Karakoram Highway does not altogether eliminate the dangers to Indian security from the North West Frontier. Thus the security sensitivity is aggravated in this region. Thus the North West strategic strain is bound to be felt on the Punjab and Kashmir Himalaya also. The Kashmir conflict affects the virtual sensitivity of Punjab Himalaya.

Punjab and Kumaon Himalayan border will be affected by our parallel road communication from Kashmir to Assam and Chinese vertical line of communication into Tibet.

Chapter 3 presents area study background of Punjab Himalaya and Kumaon Himalaya. On 15th April 1948, the Punjab hill states and Punjab States were merged to form Himachal Pradesh. Few Punjab States and areas of erstwhile Punjab State were transferred to Himachal Pradesh on 1st November, 1966. Himachal Pradesh was declared as the 18th full fledged State of Indian Union on 25th July 1971.

The region (U.P. Himalaya) looks like the 'Crown of U.P.' and stands guard to the upper Ganga plain. Garhwal and Kumaon have developed distinct personalities on the basis of separate dialect, history, culture and more rugged or milder topography. Kumaon comprises the three eastern districts of the U.P. Himalaya ; Pithoragarh, Almora and Naini Tal. Garhwal comprises five districts of the U.P. Himalaya ; Dehradun, Pauri Garhwal, Tehri Garhwal, Chamoli and border district Uttar Kashi. The geographic significance of Kumaon is, therefore, in many ways, Kumaon is a politically sensitive area on the northern frontiers of India.

The geographic dimension, physical and cultural diversities have deep rooted foundation on security of Punjab and Kumaon border area. The climate, inaccessibility, heights and relative distances focuses the strategic and tactical implications upon armed forces employed in the operations. The climate, structure, trade, communications and administrative structure

(E)

are also discussed critically. The defence support from physical region for India's forces is a basic factor. The rising strategic importance of our Tibet border and our strained relations with China resulted in a phenomenal development of roads in Himachal Pradesh. It is sincerely proposed to frame new orientation programme to enhance the contribution of these border areas.

Sensitive passes to western Tibet are also discussed. Mana, Niti and Unta Dhura passes have its own importance. The structure and its type, agriculture, industrial structure, economic and defence structure add changes in the borderland areas. The depth of passes, height of peaks and topographic rugged terrain decides the likely pattern of warfare in Punjab and Kumaon Himalayan security. A sound planning policy for hill areas should be built up in order to achieve integrated rural area development in hill environment. A sound infrastructure has to be built up. Road development, in fact, is indispensable infrastructure to bring the changes in the fields of agriculture, mining and in the field of national security. Global strategical implications will also influence the security sensitivity of this region.

Mineral resources of Kumaon Himalaya are also considered. Resources and their exploitation constitutes the strength of a nation. The resources which have a bearing on the defence are mineral resources, forestry, power resources, agriculture and man-power. Kumaon is rich in its mineral wealth. India had adequate range of useful products for her industrial development. No other mountain has contributed so much to the life of a country as to Himalayas have in respect of India. The exploitation of resources decreases the foreign dependence and increase the self-sufficiency. It will certainly strengthen the defence capability and war economy. Still the vast area of Himalayan region especially Punjab and U.P. Himalaya remains to be surveyed.

Chapter 4 analyses the people and pattern of Life. Environmental problems in the Himalaya have received atten-

tion from scientists of varying fields. Environment is a basic dimension of development especially in the Hills. Forestry practices have been a major ecological threat to Himalayan environment. Ecological conditions also influenced the military operations from time to time. Hence Defence and ecology should be analysed critically viewing the future threats. It has lasting impact upon defence personnels.

In sub-chapter 'B', the importance of Punjab and Kumaon Himalaya in the context of population and society, density pattern, human resource, cultural heritage, settlement pattern, education and migration is the chief characteristic of the U.P. Himalaya's population. It is reflected in each aspect of population composition. Pastoral migrations are ecologically well adjusted to the mountain economy.

Culture heritage refers to a distinctive way of life—a specific set of learned, shared, transmitted ideas and behaviour. In this chapter, people and pattern of tribal life in border areas are interpreted in a broad spectrum. Their life pattern is always a considerable factor for national security. The tribes are simple, straight-forward and frank. The hill tribes generally have their homesteads in the upper and middle level of the hill slopes. Gaddies, Gujjars, Kinners, Lahulas and Spitians are tribes in Himachal Pradesh who have different religious belief, traditions, conventions. They have their social organization and conventional customs. Kinners have Mongoliad features and tradition are more akin to Tibet.

The Lahulis inhabit the Lahul-Spiti region of Himachal Pradesh. Gaddies, Gujjars, Kinners (Kianaujas) are the main tribes to be found in Himachal Pradesh. Spitians follow Buddhism as their religion. In Kumaon Himalaya, the climate and topography determines the population distribution. Tribal life in border areas are Jadhs, Marchas, Bhotiyas of Pithoragarh, Bothiyas of Johar Valley and Dharchula. Most of the tribal people are Bhotias. The Bhotiyas and Jadhs have had a distinct socio-economic position in this area, constituting a buffer between the Buddhist Community of Tibet and the

(G)

Hindu communities of India. The Bhotiyas have always migrated along with their live stock to the central parts of Kumaon and Garhwal in the cold months. The Bhotiyas are an industrious and intelligent people who will go a long way to make the hill areas prosperous. Attention should be concentrated on their domestic and social problems. It is urgently needed to bring these people in the main stream of Indian national life.

Seeing the security implications of this region, it may be concluded that the people of these border areas are full of enthusiasm and high morale that they are prepared to defend the sovereignty and territorial integrity at all cost even to making their life sacrifices. Now Tribals are to be trained and provided all needy necessities to units and to face the challenges.

Now it is clear from different angles that this region is always considered sensitive area from defence point of view. New economic orientation programmes and plans should be implemented specially with the border land communities so that their national feeling may be channelised to the rest of the country. The urgency of defence and security needs of the region should clearly be understood by the officers implementing the plans. Speedy and full implementation of the Annual Draft Plan, Defence Plan will go a long way to meet the security sensibility of this area (from Leipu-Lekh to Kilong *i.e.* 450 kms. direct distance).

Chapter 5 is concerned with the emergence of power-pattern in the region and its implications. The strategic sensitivity of the geographical location assumes greater or bigger sensitivity according to the power equation converging on that area. The convergence of power brings conflicts of political, economic and territorial interests. The action of one power creates reactions in other power that be and thus continuous process of stability and instability continues in the area with the change of power equation. Central Asia became an area for intense rivalry among the major powers. The first four decades of the 20th century were marked by comparatively amicable relations between Kashmir and neighbouring states.

(H)

One thing is apparent from the discussions that the power equation in this area have dramatically changed. During pre-Independence period, British India was strong power and acted from that power position. These global political compulsions made this region more sensitive from security view point. Security considerations are based on alike territorial claims. The super powers had their interest in a favourable power distribution in this area and Russia is the nearest super power to this region.

China is not only keen on territorial claim but also to maintain the leadership of Communist World. The Chinese policy and border claims proved that Himalayan region especially Punjab and Kumaon was more sensitive since British rule in India. In 1947, British power withdrawal from this Continent and India became independent Sovereign power. Indo-Pakistan 1948, Sino-India 1962 and Indo-Pakistan conflict 1965 had proved the strategic value and international recognition of this region. I have tried to show that there are few recent trends and changing pattern which should help us in formulating our own policy. In this changed situation, there is need for greater flexibility in our policy. Efforts were made to develop indigenous defence production from 1958.

It is concluded that emerging trends and new developments in Indian sub-Continent are serious considerations for the regional powers. India must think on broad lines to assume the territorial integrity and democracy. The factors like political, economic, diplomatic and cultural have their bearing on the realities of Punjab and Kumaon Himalayan security sensitivity. This region is linked with Kashmir problems especially in Ladakh sector and new found Sino-Pak friendship.

Chapter 6 focuses the conclusion and recommendations in this research work. This last chapter is divided into three parts, A, B, and C. From the strategic, political and geographical parleys, it becomes clear that whole Northern Frontier has always remained sensitive area in the consideration of Indian security. The security sensitivity of this area was mainly

due to the presence of powers and their national interests. The conflicts were solved by treaties, compensation and adjustment. Power equation in this area add new defence bearing. India always have a vigilant defence perception on Punjab and Kumaon Himalaya since 1947. This is politico-military environment of this area. The region from Lahul-Spiti to Leipu-Lekh covers the Punjab and Kumaon Himalaya. The distances from Leipu Lekh—Kilong (450 kms) Liepu-Lekh (5453 M) to Sipki La (3505 M) are 284 km. and the most strategic point Thagla in the Kumaon Himalaya and Khimokul Pass in Punjab Himalaya stresses the defence bearing to this region.

Security considerations are debated on the basis of military factor, human factor and administrative factor. A military factor is a basic and foremost element to project the national power and potentiality. The military strength in numerical strength as well as qualitative shape protects the nation from external aggression. Analysis of the factors provides the basis for a conclusion that recommends a specific line of action. Military factor must be strong and sound to ensure the dynamic defence system on Himalayan region.

Human factor plays its significant role in the security considerations of Himalayan frontier. The region is less inhabited due to natural constraints and other administrative reasons. India occupies second highest population in the world. Man power is a defence asset only so long as the country is in a position to feed its people. The allocation of man power resources is a critical function of the Government because the demands of national and international commitment continue to increase. Punjab and Kumaon Himalaya is inhabited by numerous hill people and tribes who lead simple life in the lap of nature. It is realised that the people of border areas should find scope for the satisfaction of their ambitions and aspirations. The spirit and tradition of the defence of motherland is not lacking in them.

In part (iii) administrative factor is taken into consideration. A region can only be developed by judicious administra-

tion. It is traced from history that during British regime, there was no effective administration in the hill districts. The region was kept as underdeveloped as a whole and administration was confined to urban areas. A faulty administration cannot fulfil the aspirations of tribal people and borderland communities of Himalayan region. These areas suffer from continuous exploitation and have remained cut-off from the main stream of national life. The Britishers kept limited administration in the hill areas which could not meet the ambitions and aspirations of the people by and large.

The frontier chapter of the Himalaya has always conditioned the system of administration in the border areas. Hence it is suggested that the type of administration that meets the law and order should be the object of the type of administration. Recommendations are also given for economic prosperity, defence deployment and regional planning.

The last sub-chapter 'C' is devoted to the hill development in the Himalayan region. The type of strategy and approach will decide the future development of these areas. The development work came into action after 1967 and Government of India and Uttar Pradesh Government accelerated the planning system, hill expenditure and rural industrial development seriously after 1971. Similarly, when Himachal Pradesh came as a full fledged State in 1971, took new schemes the implementation of New 20-Point Programme and other developmental strategies on Punjab Himalayan sensitive border.

Table-I outlay Special Central Assistance and Expenditure and Table 2—outlays and expenditure—Hill Region gives a clear picture of Sixth Five Year Plan (1980-85). The hill people live at a very low level of economic standard and seek temporary migration to plain in order to earn, save and bring money in the mountains to supplement their meagre income. This region has its own specific problems of terrain, accessibility, climate and the resultant elements. The strategy for the development depends upon several factors such as Human factor, natural resources, industrial and administrative factor.

(K)

The topography and poor socio-economic conditions of the fragile hill area have accounted for special problems of its own.

The development of network of roads has been considered as a condition precedent for opening up the economy and utilisation of vast natural resources of the hill areas. Efforts are being made to develop tourism as an industry in the Sixth Plan. Garhwal and Kumaon Development Corporation and its subsidiaries are making efforts to develop the region. In modern parlance, development is regarded as synonymous to industrialisation and thereby related with maximum production drive. Hill development in the Himalayan region will certainly ensure the security needs of this area and will achieve favourable conditions for sound defence and security plans. A satisfied population willing to sacrifice for the cause of defence adds greater strength to defence forces based in the area.

Chapter 1

The Himalayas

The question I wish to ask is, 'Whose Himalaya' ? One may think, this is a very silly and factitious question, but it certainly leads to a number of very interesting eco-problems and I suggest that these should be kept in the back of our minds while we go in-depth studies during the course of Himalayan security. For years merchants crossed these high mountains looking for trade while religious men travelled to and from India and China seeking enlightenment on the Buddhist scriptures. In present day unimaginative strategists see the Himalayas as a vast radar screen. The Himalayas have dominated the Asian policy of Britain, China and Russia. And since geographical factors remain to a large extent constant, they still determine the shape of policy adopted by China, India, Pakistan and the Soviet Union as well as that of the smaller states which are on the Himalayan periphery.¹ In the age of the Nuclear Bomb, America joins the Himalaya complex.

The question 'Whose Himalayas' ? First of all leads to the term 'possession' when we ask to whom something belongs, we are really asking who possesses it, who owns it.² Ownership of course means the authority to dispose of something. This authority of being able to utilise something, naturally also rests the responsibility. Hence, in certain sense, what happens in the Himalaya is, in fact, important also to the people who

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1. Woodman, Dorothy; 'Himalayan Frontiers', 1969 (London Barrle and Rocklift, The Cresset Pre).
 2. Rieger, M. Christoph, 'Key note address in the National Seminar on Himalayan Ecology; Dehradun 1978.

experience side-effects from this usage. They may be deeply affected by droughts and floods or destruction of hydrological works caused by de-forestation in the mountains. The destruction of forests at the present rate would mean the elimination of the numerous sources of beneficial drugs, foods and industrial products. We have ignored the mountain eco-system all along, history has repeatedly shown that when the eco-system changes in the high lands, changes take place in the valleys and the plains. The Himalayan arc, stretching from Afghanistan through Pakistan, India, Nepal and Bhutan to Burma forms an ecological Gibraltar.¹ From these ranges flow the three major rivers of the Indian sub-continent—the Indus, the Ganga and the Brahmaputra—which in a sense sustain life and sometimes cause death and destruction in Pakistan, India and Bangladesh.

Now let us look at some of the possible answers to this question—‘Whose Himalaya’? First, of course India has to accept that the Himalaya is the ‘abode of the Gods’. So we can assure that they own it. Whenever we utilise the resources of this mountain system we are in fact acting in trust for the Gods. Ganga came down from the mountains and was caught in Shiva’s hair. I here quote English version for Ganga :

“Ganga, whose waves in Swarga flow,
Is daughter of the Lord of Snow,
Win Siva, that his aid be lent
To hold her in her mid descent
For earth alone will never hear,
These torrents hurled from Upper air.”

Now let us turn a little away from the scriptures and religion and mythology to the practical affairs of every day life. The next answer to the question—‘Whose Himalaya?’—can be given in terms of international politics. The owners of the Himalaya, at present situation is, are number of countries viz., India, Pakistan, Nepal and Bhutan. All these countries have

1. Nair, G. Ravindran : ‘Threat to our Mountains’ (The Pioneer Paper, Sept. 4, 1983).

parts of the Himalaya, so that we can say there is joint ownership to a certain extent. It is not demarcated in the sense but the demarcation has all along been accepted on the basis of traditional usage and power equation and fluctuations. The position remains same today. Any frontier not well demarcated, mutually and internationally accepted, must lead to friction and conflicts.

Therefore, there is urgent need to determine such demarcation all along the Himalayan frontier to reduce the security sensitivity to great extent. But if it were simply a question between two countries or three actually bordering on the Himalayas the settlement of frontiers would have less complexities but as the position today that these Himalayas have global strategic implications and also natural resource implications for countries not actually bordering on the Himalayas such as Bangladesh. But what about countries like Bangladesh? Bangladesh is a very interesting case. As we all know, Bangladesh has a very large number of rivers running through it but only 7% of the catchment areas of these rivers actually lie within Bangladesh itself. The rest 93% lies outside, mostly in the Himalayan range. The system of national boundaries is something which, in life of the Himalaya, is very new. We can see natural and beautiful vista of the whole Himalayan range by planes and helicopters. In addition, nations have strategic military interests in the Himalaya. For countries India has looked upon this mountain range as a natural border and line of defence. Today the dangers of nuclear warfare and most sophisticated weapons across this range with all the concomitant of environmental hazards must be regarded as a potential reality. This wider and varied involvement of the countries in the Himalaya enhances the security sensitivity and makes the settlement much more complex.

If we look against the question, 'Whose Himalaya?', we can answer the question in a different way. If we look Indian part of the Himalaya then certainly Uttar Pradesh, Himachal Pradesh, Assam have a higher degree of ownership vis-a-vis the

Himalayan range than Madhya Pradesh or Gujarat, because the latter are removed from there. Because the former States have for more authority with regard to the utilisation of the area as well as more responsibility. Hilly people have number of problems like deforestations, degradation of Himalayan ecology, flood and drought etc. The question of local organisation of the use of public property is, therefore, very important. These mountains stretching from Kashmir to Assam are defence potential resources, full of ample minerals and power resources. The economic prosperity and sound industrial development also depends on proper utilisation of mountain energy. Another aspect is the ignoring the social costs in production processes. Social costs are costs which do not enter the cost calculation of the individuals who cause them but which have to be borne by society as a whole.

Another aspect, not only in the Himalaya range, but in many other parts of the world, is that among the local communities. Here is, in general, lack of identification with public property. The public property is not generally treated as we would treat our own property. I think any scheme may be framed — which will help to save forests in the Himalayan area will have to take account of the fact that responsibility is connected with ownership and therefore, the authority to utilise something is an important aspect in designing social system in which there will be conservation and preservation of the environmental heritage.

Let me now turn to another aspect of my question — 'Whose Himalaya'. There is only one Himalaya. Because of the uniqueness of this, fantastic mountain range, one could conclude that the Himalayas belong not to individual countries but in fact belong to all mankind. If this is so, one would permit tourists from outside and interested scholars and scientists to take an interest in the mountain ranges, and to go there and to enjoy it and to study it. Now even if we say the Himalaya belongs to mankind in general, the question still arises, does it belong to this present generation alone ? Or do we not have to include

future generations also, our children and our children's children. If it is going to belong to mankind in wide sense than what we do with the mountain range today, is important for what will be left for our children in the future. There are other species also like animal, insects, birds, reptiles, which have been there very much longer than man, some of us who have full realisation of this fact.

Man is the only creature that, because of superior intelligence, is able not only to adopt to the environment, but to adopt the environment to his own needs. Man is the creature who can adapt to cold environments by building hutments and domesticating fire, and to hot environment by inventing other gadgets such as air conditioning and other facilities. This is something which no other species have, and this again is which determines the great responsibility which mankind has vis-a-vis environment. We come to the industrial and scientific revolution, it really explodes and goes up almost vertically.

The arrival of new weapon *system has created hazards* and panic on mountain eco-system. The international diplomacy and grand strategy is at present dis-balancing the survival of mankind on hill regions. It is now high time that the Himalayan States may form a consortium for the protection, preservation and conservation of the natural resources of the Himalayas. Himalayas should also be critically analysed in the context of security perspectives. The time has gone where Himalayas was considered as a barrier for India's northern defence. Owing to new defence development in arms and strategy, the security sensitivity would require new dimensions of thinking and acceptable solution.

(A) GEO-STRATEGIC IMPORTANCE OF HIMALAYA :
(PUNJAB AND KUMAON HIMALAYA)

Geography is a study of the earth's surface, climate and its product in relation to man. It deals with the lithosphere, hydrosphere and atmosphere. Such a knowledge is fundamental to the study of human activities. Military geography deals with

such geographical factors as have a bearing on the defence of the country. It is exploitation of the geography of a country for military purpose. Military operation must be based on consideration of geographical factors which a permanent nature whereas details like for bridges, railway lines, canals, etc. can be modified. Factors like terrain or climate have to be put up with. In its broadest aspects, defence of a country is essentially a geographic phenomenon. Military geography or the geo-strategy is the military appraisal of the geographical factors of an area.

Concepts of strategy and tactics have been recognised being as old as hills. These concepts have been considered as the very heart of all military thinking and therefore, the very key to the full and proper grasp of all other military concepts. The word strategy, which used to mean the art of general, has taken a vast variety of new and hitherto unfamiliar names. Strategic considerations have become inseparably intermingled with policy, force structure, weapon system, logistics and international law. War itself was divided and sub-divided into various categories, the concepts of modern strategy also acquired such names as 'Global Strategy', 'Grand Strategy', 'Politico-economic Strategy', 'Weapons Strategy' and 'Strategy relating to Guerrilla'. The concepts of modern strategy emerged to be a complex combination of social, political, economic, scientific, technological and military factors. Strategy in this context embraced all combat operations of strategic scale. Operational Art and tactics defined the more concrete methods of conflicts to achieve strategic aims.

Strategy has two main modes—direct and indirect. In the direct strategy, the basic concept is the military forces, as the principal weapon to achieve victory or deterrence. In the indirect mode are included all forms of conflicts in which decision is sought not by direct clash of military forces, but by less direct methods. Implementation of strategy has been recognised as the most important and most taxing and exacting mental exercise. It has finally been concluded that modern strategy, like our civilisation, is being carried along by the

galloping advances in science and technology and changes in political philosophies and way of life.

According to Clausewitz, tactics are methods for use by the armed forces in battle engagements. According to Farrow, the term means the methods employed in handling troops in battle. Generally, the term has been defined as the immediate employment of weapons and forces to attain the objectives determined by strategy.

A country's location in relation to land or water dictates the strategy of the State. Continental and Oceanic location of the nations have an overwhelming influence on their strategy. Strategic situation in terms of land, sea and air bases also influences the defence of a country.

Topography

Terrain dictates strategy. The terrain of a country, its mountains, passes, valleys, rivers and coastal lines play an important part in military operations. These features no longer serve as barriers to an advancing enemy since air power has eliminated all barriers. However, the surface features still determine the nature of offensive and defensive strategy. The land features act to influence mobility, observation and the proper use of equipment. The mountain ranges on the northern borders of India make it necessary for our troops to be trained in mountain and jungle warfare and also for them to carry a particular type of equipment. Mountainous terrain is usually characterized by one or more of the following : exaggerated terrain features, heavy woods or jungle, glaciated peaks and extreme weather conditions or high altitudes. Mountain terrain lends itself particularly well to surprise, but successful surprise action depends on skilled troops and commander who knows how to use them. Such terrain have many vantage points for enemy observation and ambush thus requiring the placing of added emphasis on security. When defending against well trained and aggressive enemy troops, no mountain range or terrain obstacle can be considered as insurmountable, and every

conceivable approach must be guarded. In the Himalaya it is observed that all the main ridges and valleys have a constant tendency to follow directions either parallel or at right angles to the main lines of water parting. Both in Kumaon and Garhwal the most important of the passes of snowy mountains are found in groups along a line from 20 to 30 miles south of the water parting with which they are ; moreover, connected by lofty ridges covered with perpetual snow. Himachal hill ranges are also snowy and few ranges create strategic defence barrier.

Influence of Terrain

The terrain of an area determines the tactical character of the operations to be fought in that area. During winter the vast empty spaces of the northern regions permit unrestricted manoeuvre and movement for troops sufficiently equipped and trained to operate in these circumstances. Hostile artillery and mortar fire can be evaded or avoided. A mobile force can gain surprise and strike deep in the flanks and rear areas of the enemy disrupting his lines of communication and finally destroying him. The physical features of the terrain between two countries are not, of course, conclusive of the expectations of neighbouring States about boundaries between them. Mountain combat lacks the unity characteristic of combat in rolling terrain, particularly in the offensive phase. The configuration of the terrain tends to give the battle field a piecemeal character and to divide it into more or less isolated conflicts difficult to control by higher commanders. Frontal daylight attacks in narrow sector have little chance of success. Simplicity of plan is the essence of a successful night operation.

The danger of avalanches must be carefully considered when military operations are being conducted in the snow-covered mountains. The avalanches has become even greater in modern warfare because of the vibrating effects caused by explosions. Weapons will function under extreme conditions, provided they are properly maintained. Ammunition should be kept at the same temperature as the weapon. Artillery defensive

fires in mountains must be carefully planned and prearranged. Himalayan mountains especially on Himachal and U.P. region, most of the terrain is an obstruction to movement and mountains favour the defence.¹ Logistical considerations are greatly affected in mountain operations.

This is very important to see as to how far the geostrategy of India has dictated the requirements of her defence and also how far it has been an asset or liability from security point of view. The Himalayan ranges in the northwest, north and the northeast of the country have served as an effective barrier all along. But the Chinese aggression of 1962 has belied the belief and the barrier is no longer considered impossible even for large numbers. The loss of the buffer State of Tibet and full use of the same by China has created the complicated security problems for India.

For centuries the rulers of the Himalayan kingdom kept out foreign influence by closely controlling traffic and virtually sealing the borders against foreigners, particularly Europeans. The growth of power of the People's Republic of China and the Communist occupation of Tibet makes a cold war battleground between democracy and communism. Chinese infiltration in the Himalaya had made millions painfully aware of the strategic location of the border State. Mountains are no longer sufficient guarantees against aggression. The mountain passes of Uttar Pradesh (Kumaon and Garhwal) and Punjab Himalayas have served as routes to the holy places in Tibet. Though far fetched it could be used by Chinese communists to gain access to the fertile Himalayan Valleys, the Gangetic plains and indeed the whole of India. It is also important to assess the major geopolitical aspects of the Himalayan region. Basically these features are the result of interaction among three factors ; Himalayan environment and cultural patterns ; location between the two major Asian powers, China and India, and the changing character of the power pattern in Asian politics.

1 Das, S.T. : 'Tactical Military Operation' 1972, (Sagar Publications, New Delhi)

Politico-Geographic Aspects

The study area of Punjab and Kumaon Himalaya is immensely influenced by political factors. The main concern which dominates the area are geo-political conditions and conflicting territorial area. Strategy is bounded by political and geographical changes, new dimensions and global equation. On this region, Pakistan, China, Afghanistan, U.S.S.R., India are in conflict over political and geographical claims in order to keep their influence for power equation. The documents submitted by China and India as evidence of the traditional validity of their respective boundary alignments were primarily travellers accounts containing description of the borders as actually encountered. Assertions of administrative jurisdiction were based on official documentary material such as revenue and census records, reports of survey maps or records of military and police control.

One of the common politico-geographic problems of powers in this region is the lack of strong territorial organization resulting from the rugged nature of the terrain¹. The northern boundaries with Tibet are ill-defined, and for much of their length these are no accurate surveys. In the absence of clearly defined borders, China disputes the existing traditional boundary. In the past neither the Himalayan States nor China (nor Tibet) exercised effective political control over the frontier area in High Himalaya. One of the major problems of Himalayan region (Punjab to Kumaon region) lies in the lack of national consciousness or sense of national identity amongst the people. The tribal loyalties come first ; national allegiance comes second, if at all. In this region, geography favours the retention of local identity. Regional identity is aided by difficulties of communication which effectively block the exchange of ideas and normal acculturation expected in smaller countries. The inhabitants of the high Himalayan valleys are largely of Mangolod ethnically. The Chinese have continually tried to woo people of the frontier region. An essential politico-

¹. Karan, P.P.—Jankins ; 'The Himalayan Kingdom' 1963, page 18.

geographic feature of a state is the existence of a pattern of circulation that permits the free exchange of goods and the ideas among the people within the Indian territory. Other obstacles to national integration will be much easier to solve with an increase in the ease and swiftness of communication. A further problem related to population lies in the distribution pattern. The population of this region are generally distributed along river valleys. Settlements are small and widely dispersed over much of the Himalayan area. There is no labour movement of consequence, and difficulties of communication have so far prevented the tenant farmers from presenting a united front although they share common problems and dissatisfactions. The language problem is important on frontiers but more serious is the problem of the multiplicity of languages within the interior. This multiplicity of language imposes a serious obstacle to any attempt on the part of national governments to foster a feeling of national unity. There are two other cultural considerations : the state of health of the population and the state of technological ability. The people of Punjab and U.P. Himalayan region are not skilled from the stand-point of modern technology. The disease is a tremendous factor in reducing efficiency of workers. The inhabitants possess some handicraft skills which might be employed in the establishment of manufacturers for foreign markets. Economic development and political stability will encourage the higher living standards of the local people. The geo-political constituents analysed earlier require India to maintain a large army. This gives the impression, especially when compared with the force-levels of neighbouring states. India has a preponderance of military power. Though the Indian army and the Air Force seem adequate to meet the challenges from various sectors, it is a moot point whether India can defend all its sectors simultaneously. This diplomatic efforts will have to be directed to avoid such an eventually.

India's land frontiers are long and varied, ranging from the desert of Rajasthan to the irrigated fields of Punjab in the west and high mountains in the North and the North-East. These sectors require special types of weapons, training and logistic facilities like mountain divisions in the North and

North-East and armour in the West.¹ India has to spread its forces rather thinly, all along its frontiers. Pakistan has a relatively small frontier, its line of communication are within a narrow span, enabling quick switching of forces. Pakistan has so far projected an altogether different type of relationship. The future of the Indo-Pak relationship is largely bound up with Pakistan's military links with super power politics. By itself Pakistan is not a major security threat to India. However, Pakistan has links that could constitute a serious danger. On the otherhand the largest and most powerful among India's immediate neighbours, China has passed through many vicissitudes, both in its internal and external policies. India as China's second largest neighbour and following a different path to economic development and with a different form of Government. Further more, these two vast countries are becoming competitors in international markets, both developed and developing, with China as a new claimant for international assistance. India's security requirement also demand a negotiated settlement of the border dispute between the two countries. The border negotiations should be pursued with patience and realism.

It is noticed that politico-geographic relationship of India with two neighbour states are considerable factor to utilize the geo-strategic importance of Himalayan region. Geographic phenomenon determines the political power equation in any region whereas politico-geographic aspects influence the strategic environment and defence problems in the region.

The existence of a State depends upon the will of its inhabitants. No such determination of adequate intensity is present among the people of Himalayan region. An essential politico-geographic feature of state is the existence of a pattern of circulation that permits the free exchange of goods and ideas among the people within the territory. The limited road nets, whether controlled air services, and the secluded nature of the

1. Bajpai, U.S. : 'India's Security', 1983 (Lancers Publications).

mountain valleys lead to the conclusion that the problem of circulation is basic. Other obstacles to national integration will be much easier to solve with an increase in the ease and swiftness of communication.

Geo-Strategic Implications

In any country and at any time, the role of armed forces and their composition is decided by the geo-political situation and the political attitude of one's neighbours. Therefore, it is important that we should also know the cause of our own environs and to what extent we may change them by diplomatic and other means. Wisdom demands that after examining our alternatives we take into account what role the armed forces must play and what their composition should consequently be and will be. We have to remember wise remarks of Gen. Eisenhower, "that every dollar spent on the armed forces is a dollar less that can be spent in relief of the poor."¹

Today India is a purely sub-continental power. It has neither the ambition nor the capabilities to wage wars beyond its own frontiers and shores. The geo-physics of the country are from the military aspect rather peculiar. For never before in history has any government been able to turn back the enemy who came beyond the Ravi. The role of the armed forces of India will depend primarily on our relations with our neighbours ; secondly, on the effect of the big powers and the world economic and political forces on ourselves and on our neighbours ; thirdly on the unity and freedom from class discords inside our country ; fourthly, the suitability of our man power to be placed on a war footing and to take its place in a high class war organisation.

To the north of the Himalayan region of U.P., also known Uttarakhand, is the international water shed with 17 major passes. In the west, Dhauladhar range separates Himachal Pradesh while in the East the river Mahakali forms natural

1. Habibullah, Maj.Gen. 'The Sinews of Indian Defence' 1982, page 50.

boundary between U.P. and Nepal.¹ Garhwal and Kumaon together have eight hilly districts stretching over 51,000 sq. kms. More than 200 peaks, soaring at places upto 6,000 mts. in height is an arch of over 500 kms. best visible from Ranikhet, Kausani, Binsar and Pauri. The Hindukush is the outer area for the defence of the sub-continent of India but it is not impassable range. Now Himalaya is no more impregnable due to scientific and technological developments. A country's location in relation to land or water dictates the strategy of the State. Location of a country from the point of view of accessibility is an asset to the State. Such countries have always dominated the scene more than countries like South America and Astralia which have marginal accessibility.

The region from Lahul (H.Q. Kilong) to Lepulekh of Punjab and Kumaon Himalaya which is our study area for research, has geo-strategic importance in this region. The mountains form very sensitive border region of great strategic importance and following Chinese invasion of 1962, the government has on its own initiative taken keen interest in building a good network of roads and other communication links for ensuring preparedness from the defence point of view. This region has proved its geo-strategic importance, sensitivity and as a vulnerable frontier during 1948 Kashmir operation, 1962 Indo-China conflict, and 1965 Indo-Pakistan conflict, (Though not directly involved but India could not afford to thin out its forces from Himalayan sector to strengthen the Western Sector.) U.P. Himalaya has number of strategic passes on Indo-Tibetan border which plays a significant role during tactical operations. In Kumaon Himalaya, strategic pockets Sangaon, Shillong (12910'), Sitpani (14080'), Dung (13720') near Gori Glacier are important.² Likewise *Barahoti pass*, *Niti Mana* and *Kungri Bingri pass* also have strategic value on this border. In Punjab Himalaya, *Sipkila*, *Imisla*, *Jodhang*, *Giu Kanrik*, *Demchok* are geo-strategic defence pockets and places which plays key role in any operation. The region of Himachal

1. The Northern Inida Patrika, June 22, 1984.

2. Knight, E.F. : 'Where Three Empires Meet' 1896.

is bordering one side Ladakh and another side China (occupied Charding La and Tibet) has its own importance. *Ghusul, Charding La and Jarala in Himachal border was affected during 1962 operation.* The direct distance from *Thagla to Khimokul pass i.e. 280 kms.* is tactically very vital and strategic. The whole study region having direct distance of 450 kms. is sensitive from many considerations, may be militarilly and politically. All these passes open into Tibet which is from security point of view very sensitive area for the Chinese. To leave these passes unguarded would be to keep the doors open for aggression into the country. Therefore, these passes and their control is bound to be a bone of contention between the countries on either side for geo-strategic advantage. The global power distribution today is always busy in spreading its area of influence beyond its own frontier wherever the strategic interests are envolved. The strategic interests of great powers from this point of view converge on the Himalaya.

Now Indian Government has taken step to connect the inaccessible areas by link roads, strategic roads, by air services so that the arms, supply and other logistical facilities may be sent to the forward areas. *Border Road Development Board* has the task of making the border areas accessible by developing arterial routes. The Government has also sanctioned Rs. 200 crores for constructing a trans Himalayan road connecting Chusul with Lohit. The road would pass through precarious snow bound areas and high altitudes such as *Srinagar-Kargil-Leh Road* which passes through *Zoji La Pass (11,000' high)*.¹ *Manali-Leh Road* is another lateral road for the security of Ladakh.

From the discussions, it becomes clear that Punjab and Kumaon Himalaya and the whole northern frontier has always remained sensitive area in the considerations of Indian security. The area strategically so located that the none of powers involved could ignore the presence of another power in this area.

1. Military Geography (A Bulletin Officer Training School, N.C.C.)

(B) THE CLIMATES OF THE HIMALAYA

Himalaya, called by Kenneth Mason 'the greatest physical feature of the earth', is climatologically one of its least know areas. Its stupendous size, inaccessibility and its very climate present a closer and more detailed look. Knowledge of the region comes from travellers, migrants, invaders, traders and missionaries who have crossed its high passes for centuries in the course of trade, religion and war ; from the thousands of pilgrims who make the arduous journey every year to the sacred places in the Himalaya. The explorers have studied its topography, geology to natural history. In recent years serial surveys and meteorological satellites have begun to provide us with the kind of information on the Himalaya we have never had before ; its could and snow cover, the output of its rivers and the movement of its glaciers and avalanches.

Weather over the Himalaya

The basic patterns of weather and climate over the Himalaya are governed by the summer and winter monsoon systems of Asia. Himalaya are affected by extra tropical weather systems that more over the north of the sub-continent from west to east in winter. There are two periods of wet weather in the Himalayan region, the winter rains brought by the western disturbances and the summer rains brought by the summer monsoon winds. The post monsoon months of Oct. and Nov. are the least clouded and most delightful of all the seasons in the Himalaya. Broadly speaking, the general air flow at low levels is from the south to north in the summer months and north to south in the winter months. For all the seasonal regularity of the monsoon winds and rainfall, local climates over much of the Himalaya are quite variable.

The Himalaya, containing the highest mountains, the highest passes of the deepest gorges on earth and with some of the world's largest and most violently erosive rivers, is a region liable to frequent earth quakes, landslips and floods. Mountains display no uniformity in temperature or even the

kind of weather that may swirl about their peaks; their location, elevation and topography determine this. For every 1000 m. the mean temperature falls by as much as 6°C ; however, the temperature varies greatly from place to place and from hour to hour, so this is the air and so intense the radiation from sun at higher altitudes.¹ During the day one can suffer from sun stroke and at night from acute frostbite. Mountains also produce the most astonishing contrasts in living conditions that may be found anywhere on the globe, harsh almost beyond belief. Local relief gives rise to some peculiar thermal effects in mountainous regions.

Broadly speaking, there are four main seasons in the Himalaya-winter from December to February ; the pre-monsoon or summer season approximately from March to Mid-June, monsoon season generally from mid-June to mid-September and post monsoon season generally from mid-September to November. The Himalaya has a profound influence on the climate of the sub-continent, as it has had on its past political history. Forming an almost impassable barrier to the North, the Himalaya acts as a climatic divide, affecting the air and water circulation systems of the region. It also exercise a dominating influence on the metrological conditions over the sub-continent to the South and the central Asian highland to the North. The average annual rainfall on the south of the range is about 1500 mm of Simla in the Western Himalaya and 3000 mm of Darjeeling in the eastern Himalaya.

Variety of Climatic Pattern in the Himalaya

It must be obvious by now how manifold are the climates within the Himalayan region. This caused by the relief features as rule as the differential effects of the weather systems in the different regions. The four parallel ranges which constitute the Himalaya, and the Sub, Lower, Higher and Tibetan Himalayan Ranges have their own distinct physiographic features. The

1. Lall, J.S. 'The Himalaya : Aspects of Change' page 5 & 6, 1981 (Oxford University Press).

main difference in climate between the eastern and western regions of the Himalaya is caused by the difference in the duration and strength of the monsoon in summer and the passage of the western disturbances in winter. The eastern Himalaya has a prolonged monsoon from June to October. The western Himalaya, on the other hand, has a short monsoon from July to August and fairly long wet season from November to April. The arrival of the monsoon in the west is thus sudden with an abrupt change in cloudiness, temperature, humidity, winds and rainfalls. It is in winter that snow accumulates around the Himalayan high peaks and the snow-line comes down to about 1500 m in the western Himalayas whereas it is at 3000 m in the eastern Himalaya.¹ The wind pattern in the Himalaya is extremely complicated. The general direction of the wind flow over the mountains in winter is from north east to north west. At higher levels, the winds are westerly, of about 120 km. per hour reaching 160 km. hour or more. At low levels, they are about 50-60 kms per hour. In Simla at an altitude of 2200 m, the hottest month is June with a mean temperature of 20°C, and the coldest month is January with a mean temperature of 5°C.

The very nature of the Great Himalaya Range and its topography, deeply cut by erosion, and its complex geological structure, leads to continuous movement and change. However, in the last few hundreds years, modifications in the micro-climate of the local region of the Himalaya may have been inadvertently brought on by man, by conversion of natural vegetation, followed by poor agricultural practices and over-grazing, use of wood for fuel. Vast areas of the Himalayan foot-hills have been stripped of forest, of which only fragments remain. The plains and lower hills are almost bare of vegetation of any kind. At this time, the effect of deforestation on the heat and water budget of the region and on the micro-climate of the area is accepted. Nature is resilient and has survived. But its balance is delicate. In our mountain forests

1. Hunt, John : *Ascent of Everest* ; page 11-12, 1953
(London : Hodder and Stoughton)

in the Himalaya we have done so on a large scale and more permanently. As Schweitzer said "the great fault of all ethics hitherto has been that we believed ourselves to have to deal only with relation of man to man."¹ Man has misused land, forests and water, exploiting them for the benefit of those who do not live in them. In Bacon's word "we cannot command nature except by obeying her".

Natural Vegetation

Owing to a wide range of altitude and climatic conditions, Himachal Pradesh has a diversified and rich flora. Here we come across every type of West Himalayan flora from Himalayan meadows and high level birch and rhododendron down to tropical scrub and bamboo forests of the low foot hills. Forests are not uniformly distributed throughout the region and are mostly confined to higher hills and interior valley. National Forest Policy lays down that in hilly tracts like Himachal Pradesh, 60% of the total geographical area should be under forests. The tree line is reached at about 3,950 m. beyond which are the Himalayan meadows. The snow line is reached at about 4,600 m.² The distribution of different species follows of fairly regular altitudinal stratification except when the micro-climatic changes due to the aspect and exposure and local changes in rocks and soils bring in vegetation inversion.

A major part of U.P. Himalaya is covered with forests constituting enormous wealth of the region. There are three main factors which determine the broad features of vegetation of the region : (i) atmospheric (ii) edaphic and (iii) biotic. There are four main zones as follows :

- (i) Sub-tropical forest zone
- (ii) Temperate zone

1. Singh, J. S. and Singh R.P. : 'Science and Rural Development in Mountains' : (This article is published in 1981)
2. Bose, S.C. : 'The Geography of Himalaya' 1972.

(iii) Sub-Alpine zone

(iv) Alpine zone.

Sub-tropical forest zone, extending turn north-west to south-east, almost covers the Sub-Himalayan tract of the region. Sal is the most important species. The temperate forests are generally found between 1050 and 1900 in southern and between 900 and 1,800 m. on northern slopes. The chir pine is the dominant tree of this zone. A considerable area is occupied by sub-alpine forests. The chief trees, mostly of higher sub-alpine zone are : silver fir, spruce, deodar and birch etc. Each forest occupies some definite localities between 2000 and 3000 m. soils of this region do not form a compact block. Alpine zone soils and mostly gramitic sandy loam. The alpine pastures are the main vegetal cover on the high altitudes.

It is noticed that due to differentiation in climatic conditions, the military operation will only be restricted for a certain period. The type of climatic and physiographic conditions will dictate the pattern of hill war-fare, in different months. It is also assumed that tough, hard terrain and strategic topography will create time and space problems in which one standard of arms and equipment cannot be used. From Himachal to Kumaon Himalaya, the passes are limited for military operation. The approachability and weather conditions also influenced the operational activity on certain strategic passes *i.e.* Mana Pass, Niti Pass, Kungri Bingri Pass in U.P. Himalaya and Sipki La, Amis La and Khimokul Pass in Himachal border.

Brig. J.P. Dalbir in his popular book 'Himalayan Blunder' states "India was therefore taken by complete surprise politically, diplomatically and strategically ... no National policy ; no grand strategy and total unreadiness for military operations in the Himalayan mountains against a first class land power". Hence it has to be accepted that Human being should also be adjusted with the acclimatisation and familiarity of the region.

Their training and endurance will be deciding factor for such operation. In keeping with these conditions, arms and equipment should also be in adequate number and quality on such a extensive borderland with a powerful country. Himalaya is a permanent feature. Geo-strategic and geo-political conditions say that the country should have special type of arms and war materials. What would be the nature and type of war? This question is to be left to the defence experts and technologists to devise the solution.

Chapter 2

Historical Background

A. THE FRONTIER THAT WAS ASSUMED

India's Frontier with Tibet

It was an Indian perception regarding the frontier with Tibet. The frontier was assumed by the British Empire as sensitive for global strategy in Central Asia. Power equation and global diplomacy was main consideration to Britishers.

On the basis of goodwill between India and China, there was no problem of frontiers between them which could not be a matter of adjustment. There was no cause in 1947 for the paraphernalia of boundary commissions along virtually inaccessible mountains and bleak plateau. Imperialist Britain's policy regarding Tibet as legitimate sphere of political interest was not one which Nehru was prepared to assume for an independent India.

Historical factors engender the case of Ladakh. The case of Ladakh, at present time the most sensitive area in the Sino-Indian dispute, is a perfect illustration of the role geography plays in international relations. At the beginning of 19th century, it was important for two reasons. First, the track along its river valley, across its salt plains and through high Himalayan passes led to the backdoor of China was then regarded by the East India Company as a kind of *Eldorado*. Secondly, a Russian invasion of India, then believed inevitable, would have required to traverse Ladakh before it reached the plains of Punjab. In the terms of Britain's Central Asian Policy Ladakh acquired temporarily a significance which was

matched only when Communist China challenged what India had regarded as her traditional and customary boundaries and claimed 14,000 square miles of its territory.¹ The struggle was between China and Tibet, with buffer countries such as Baltistan being subject to one or the other according to the fortunes of war. Chinese army was then assisting Baltistan Chieftains against the Tibetans.

The 1684 treaty is another of the mileposts in Ladakh-Tibetan history that has aroused controversy in contemporary Sino-Indian relations. Durand Line in 1896 between Afghanistan and British India (now in West Pakistan) also played important role to restrain the Soviet influence. The Chinese Communist Government, in line with its policy of refusing to recognise the validity of any of the Ladakh-Tibet border agreements, has attempted to cast doubt on the very existence of the treaty. The governments of China and India are also in fundamental disagreements over the significance of the "Lapchak" mission which Ladakh was to send regularly with gifts to the Dalai Lama and other Lamaist authorities in Tibet.

Moorcraft was the first European to cross the Himalayas, when in 1811 he walked over the Niti Pass. He described his life in Leh from 1820 to 1822 in long discursive letters, mainly to the East India Company. He was a veterinary surgeon merchant, historian and in his own way, politician and empire builder. He reflected the dual policy of the Company by assuming that trade and the struggle for power among Russia, China and Britain in Central Asia were closely inter-woven. Ladakh was the springboard, strategically and commercially. Moorcraft proposed an agreement to the Political Department that 'First, such an agreement did not deal with a country which passed the natural boundary, second, it did not involve the Company in the risk of war ; third, it did not disturb the existing commercial relations with China, since that country never had nor ever has made a claim of a political nature upon Ladakh'. The Company rejected Moorcraft's proposed agree-

1. Woodman Dorothy : *Himalayan Frontiers*; Page 19, 1969.

ment ; they were not yet alive to the potentialities of trade with the Himalayan countries. Moorcraft's description of the road from Leh to Rudokh is important today as it establishes the then accepted boundary. The boundary he describes conforms to India's present alignment. Chusul is one of the military outposts India built in 1959. Indians and Chinese now regard each other as enemies along the banks of the Pangong Lake. He was thinking in terms of a Russian invasion of India. He assumed the Chinese to be a political ally against a common rival. In the early part of the 19th century the traditional boundary line between Tibet and India was known by custom. It was not a defined line as we understand it today, but obvious geographical features could and did provide the basis of a satisfactory working arrangement.

Gulab Singh and the Sikh Expansion

The favourable external conditions that allowed the Ladakhis to indulge in domestic quarrels with impunity did not long continue. The rise of Khalsa (Sikh Confederation) empire in the last years of 18th century and the expansion of the British rule in India added new facets to an already complicated problem. The Sikhs, reassured by the Company's abnegation of any interest in Ladakh, moved to strengthen the defences of their new Kashmiri possessions by establishing relations with Ladakh on the same basis that had existed when Moghul and Afghans ruled Kashmiri. The Sikhs demanded that Ladakh continue to pay 'tribute' to the Governor at Srinagar and recognise the suzerainty of the Khalsa Maharaja. Ladakh refused to accede to this demand and terminated all tribute payments. Sikh involvement in hostilities with the Afghans started.

Gulab Singh now enters the picture. He was a dependant of the Sikh Kingdom of Lahore, and Lahore was an ally of Britain. His general Zorawar Singh was an energetic strategist. The Dogra brother became so useful to their new master that by 1822 Gulab Singh had been made hereditary Raja of Jammu. By 1841 he had occupied all the land up to Lakes Rakastal and

Manasarowar, including the important trading towns Rudok and Gartok.¹ B.J. Hodgson, the then British representative, believed that the Company's interest would be best served by preventing Gulab Singh from taking any further step which would provoke China. Gulab Singh was determined to stretch his territories as far as possible without provoking either Chinese action or British restraint. His general Zorowar Singh wanted a maximum military victory with minimum political consequences. But Chinese authorities in Tibet had reached the end of their 'wait and see' policy and Chinese and Tibetan troops cut off Zorawar Singh's army in December 1841. His defeat was so conclusive that 4000 out of his 5000 men were killed and he himself was wounded and died before Capt. Cunningham could give him the benefit of the Company's advice to retreat while there was still time. Gulab Singh himself did not accept defeat, and in spite of a revolt by Ladakhis he raised another army. The Tibetan troops, therefore, marched on to Leh, where upon Gulab Singh asked for British help. In this classic situation of checks and balances British neutrality was the only solution. Gulab Singh had not played the British game. The Company could not afford to challenge China on the frontiers of India when it was already fighting her on her eastern seaboard.

Overshadowing the loss of the wool trade, however, was the Dogra capture of Taklakot, close to the Nepal border. When Gulab Singh had first annexed Ladakh, it had been rumoured that his real aim was to establish direct relations with Nepal in the hope of promoting a mutually advantageous alliance. Zorawar Singh intended to build a chain of Forts from Ladakh to the Nepal border and to gain Nepali cooperation in this endeavour. It was conjectured that Nepal hoped to obtain from this alliance a means of recapturing Kumaon. For many years also, the British had watched with apprehension and continued expansion of Nepal's disproportionately large army. It was a cardinal objective of British Policy to see that Nepal did not obtain a common frontier with any other 'powerful and

1. Fisher : *W. Himalayan Battle Ground*, page 52.

aspiring hill state' and above all to prevent any coalition between Nepal and Sikh empire.

The complex Sino-Tibetan-Ladakhi triangle has recently been revealed in documents translated for the first time into any western language by Margaret Fisher. Lao Rose and R. Huttenback. "The defeated Tibetans then signed an agreement with Gulab Singh on Sept. 15, 1842 in Leh. It took the form of an exchange of documents which were in Persian and Tibetans. The Dogras were accepted as the legitimate authority in Ladakh, while Gulab Singh surrendered all claims to West Tibet". "The old established frontiers were re-affirmed. Both signatories agreed to have nothing to do with the countries and bordering on the frontier of Ladakh... to carry on the trade in Shawl, Tea as before by way of Ladakh."

Three years later, the pattern of relations between these Himalayan regions was again changed. A war between Britain and Sikh ensued as such wars tended to do in India. When the Sikh army was defeated at Sobraon, the British Government annexed all the Sikh hill possessions between the Sutlej and the Indus, including Jammu, Kashmir and Ladakh, legalising this occupation in the Treaty of Lahore of March 9, 1846. Accordingly, a week later, Gulab Singh signed the Treaty of Amritsar by which the British Government made over to him and his family the territories of Jammu, Kashmir and Ladakh. This Treaty is highly relevant to the present Sino-Indian dispute.

The year 1847 was decisive in the history of the Frontier with China. The boundaries of Lahul and Spiti had been settled by Cunningham and Vans Agnew.¹ Cunningham describes the Karakorum or 'Trans-Tibetan Chain' as forming the natural boundary of Ladakh.

India's perception as indicated in the beginning was 'that India had no problem of frontiers with China', Since India had

1. Woodman Dorothy : 'Himalayan Frontiers' ; 1969, page 38.

no hostility with China instead of history of long relationship, there would be no problem in border settlement. The perception is unilateral whereas China maintains the same assumption itself. Mac Mohan Line 1914 (Britain, China and Tibet) also added to stabilise the international border line. But China did not rectify the treaty. According to power equation changed, it remains the same power equation throughout only the status of power took new dimension in present global strategy. At that time China was a weaker state whereas in the present context India is a weaker State in presence of mighty China.

Now this is significant to perceive the border sensitivity and to look at the Punjab and Kumaon Himalayan border in this changed power equation.

(B) SECURITY SENSITIVITY FROM CROWN PERIOD TO 1947

For a full understanding of India's land borders, it is worthwhile visualising the physical formation of the Indian sub-continent in the context of the Asian Mainland. The Himalayas, this 'unbroken sheet of snow' not merely in winter but all the year round at higher altitudes forms the northern land boundary of India. It has been the traditional boundary from times immemorial, unchanged. But, major changes have taken place in the political complexion of the countries bordering it. Tibet which used to serve as a buffer state between India and China no longer functions as such, as it has become a Chinese province under complete control of Peking.

British Policy

The period of Crown rule in India extended from Queen Victoria's Royal Proclamation on 1st Nov. 1858 to the formal withdrawal of British authority from the sub-continent on 15th August 1947. During this period, Indian people lived under one paramount rule. The problem of border defence of independent India, and its financial resources were the burden of the Britishers. It had the advantage of having natural geographical barriers and the countries beyond the borders were no

match for the British might. India's external defence was a major concern of the British Foreign policy which aimed at securing India's territorial integrity by keeping the potential enemies at a safe distance from the borders. On the Himalayan border, the policy of the British Government was to ensure that no Foreign influence operated in Tibet. In 1847 Britain and China were neighbours. Their frontier was not demarcated, but throughout the countries, village people and traders had known the extent of Chinese influence, merely odd piles of stones on a mountain side had been accepted as a signal of overlordship. The limits of Russian or British control were as familiar as British imperialism consolidated its power in India and the East India Company saw opportunities for extending their trade beyond Karakorum. The Government of China, already very weak, could hardly interfere in British activities in Tibet. The weakness of Chinese Government also allowed the Tibetans to follow an independent policy. In the West, the British policy was to ensure that Russia did not come near India and for this purpose, the British wooed Afghanistan, ensured its neutrality and used it as a buffer state between the two countries. This policy met with complete success when in 1907, an Anglo-Russian convention was held in which Russia recognised that Afghanistan was not within its sphere of influence.¹

Early in the 20th century, there was some indication of increasing Russian influence in Tibet through the activities of Dorjjeff who was at that time an emissary of the Czar of Russia. Lord Curzon decided to send a military mission to Tibet under Col. Francis Younghusband. The mission had a triumphant march through Tibet. After Gurkha invasion and the strengthening of Chinese Control over Tibet. British realisation of Sikkim as the effective route for correspondence between Calcutta and Lhasa was visibly demonstrated. Its success led to the Treaty of Lhasa (1904) according to which the Chumbi Valley was to be occupied by the British troops till war in-

1. Chatterji : *India's Land Borders* ; 1978, page 3.

demnity was paid by Tibet.¹ Great Britain was given complete control over the foreign policy of Tibet. No part of the Tibetan territory was to be given to any other country. The Treaty of Lhasa put Tibet practically under the control of the British Government of India. In fact the British had been following a sort of Monroe Doctrine making this part of Asia its exclusive sphere of influence.

The policies of British rules of India were based upon what was considered to be the best interests of the Indian people. British Government was under constant liability to reinforce India with troops in the event of emergency ; at the same time India was responsible for reciprocal action in times of imperial need. The Foreign Policy of the British rulers of India was directed towards securing the alliance, integrity or neutralisation of the borderlines and minor states covering the land approaches to the Indian empire. The system which resulted was known as the "ring fence" and comprised two more or less concentric circles.² The 'inner ring' consisted of the Himalayan Kingdoms of Nepal, Bhutan and Sikkim and the tribal areas in north and north-east Assam and on the north-west frontier. The 'outer ring' consisted of the Persian Gulf, Afghanistan, Tibet and Siam. The success with which the 'ring fence' was maintained during a century of intense rivalries among the great powers. Great power rivalries, skilful British manipulation of the balance of power, and British naval domination of the Indian Ocean minimised the possibility of a series of major threats to India.

The Indian people posed "constant threat" to internal security. Militant tribes in the north-west and north-east were a serious and continuing danger to the settled areas and to the tranquility of India. Thus the defence planning of British India was the security of the north-west frontier against the hostility

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1. Ghosh, Suchita : *India's Quest for Security 1967*, page 9 (Berkley and Los Angeles).
 2. Kabic L.J. : *India's Quest for Security 1967*, page 9 (Berkley and Los Angeles).

of the fanatical tribals and possible hostile actions by Afghanistan and Russia. India's defence posture remained static until Russia's absorption of the Khanates and infringement upon the borders of Afghanistan and Persia in 1884-85. The defence works were pursued with urgency on the north-west frontier. Defence expenditure rose from Rs. 16.7 crores (1857-58) to Rs. 54.3 crores (1930-31) while dropping during the same period.¹ Lord Curzon created a North west Frontier Province in 1901 and substituted a policy of frontier garrison drawn from the people themselves. The Army's policy of maximum self-sufficiency was enhanced by concentrating harness and saddlery shops at Kanpur and gun carriage factory at Jubbalpore, rifle factory at Ishapore.

The First World War

At the state of the First World War, India's defence outlay totalled Rs. 29.8 crores (1913-14) or 24% of the total expenditure of the Central Government. The armed forces consisted of 75,000 British and 1,60,000 Indian soldiers exclusive of non-combatants and reserves.² A Royal Air Force Unit was in the process of being set up. Army was prepared for war, for her internal security, for tribal control on the northwest frontiers and for defence against a minor power like Afghanistan and against a major power like Russia. India's preparedness was based upon a principle of limitation. The war effort of India was noteworthy in terms of men, money and materials. India supplied equipment and stores for various theatres to the value of £ 80 million and in 1917-18, made Britain a free gift of £ 13,500,000 which was equivalent to an entire year's revenue.³

Postwar Defence Plans

India's postwar military establishment aimed at sharp

1. See Appendix I for the outlay on defence for years 1891-1950.

2. Whitaker's Almanac, 1915. p. 585 : Composition of the Army in 1914.

3. Ibid.

educations of both Civil and Military expenditures. Anglo-Indian Auxiliary Force and Indian Territorial Force composed of urban and rural units. The Royal Air Force was re-established in India in 1932 and Royal Indian Marine was recorded as a combatant service in 1928. The authorities responsible for Indian defence were, however, mainly concerned with the traditional contingency of waging limited war with Afghanistan using India's own resources. 'Blue Plan' of 1927 designed to take the offensive against Afghanistan on two lines of advance towards Kabul and Kandhar. In 1938, an outline Plan of operations was drafted to envisage the possibility of war with Afghanistan and internal security of India. The Plan of operations was based on the hypothesis that the Afghans would have the initiative in launching any attack and that war would commence with air raids, propaganda in the frontier districts and Waziristan.

In 1933, Britain commenced payment of an annual subsidy of £ 1.5 million towards the modernisation of Indian defence. The problems of Indian defence were reassessed in 1939 by an expert Committee appointed by Britain at the request of the Government of India. India accepted the Chatfield Committee report for modernization and mechanisation of the army, the improvement of port defences, and the raising of first Indian Air Force Squadron.

The Second World War

The defence expenditure of India for the last year of general peace (1938-39) totalled Rs. 46.68 crores. The armed forces had limited responsibilities and were dependent upon external (mainly British) sources of supply for all major items of weaponry and technical equipment. The army was expanded to a force of over two million men, the navy to 126 Vessels of types and the air force to nine squadrons. The ordinance establishment was expanded to a total of 30 production units.

The All-India Congress Committee declared in Sept. 1945 that a Free India would especially seek to develop common policies for defence, trade and economic and cultural development with China, Burma, Malaya, Indonesia, and Ceylon. Pt. Jawahar Lal Nehru reaffirmed the intention of Free India 'as far as possible' to keep away from the power politics of groups aligned against one another and expressed the hope that India would develop close and friendly contacts with other nations. The problem of internal security and the North West Frontier had undergone no radical change and still required the maintenance of strong military forces. The defence planning of the interim government was undercut by the formation of the Muslim State of Pakistan simultaneous with the formal withdrawal of the British power from the sub-continent at midnight on 14-15 August 1947. There was the need for some kind of permanent joint defence council of the two States, since the defence of India as a whole must be of supreme concern to both dominions.

It will be seen that the security needs of the Punjab and Kumaon Himalaya were effectively met by the British policy from Crown period to 1947. It will be noticed that the power equation that existed during that period was a triangular (Russia, China and Great Britain) one in which the Chinese power was the weakest. The main thrust of British policy was against the danger from Russian expansionism. The Chinese power with all its potentialities was at a dormant stage ; taking advantage of China weakness, Tibet under the encouragement of Great Britain had assumed almost an independent status. This served in confining the Chinese sphere of influence. For to the East of Tibet and still further from the British Frontiers in the North Tibet thus served as an effective buffer State.

It will also be noticed that throughout the crown period the security sensitivity need of this area has been a central motivating factor in the formation of British India defence policy for this region.

(C) HIMALAYAN DEFENCE POLICY FROM
1947 TO 1965

Pt. Jawahar Lal Nehru was sole architect of the Foreign and defence policy of independent India. As Michael Brecher has pointed out in his penetrating political biography, he was the philosopher, the architect, the engineer and the voice of his country's policy towards the outside world.¹ After Independence what India needed most was peace and friendship with all nations so that she could devote herself to the task of building up her strength. This demanded that she should follow a policy of non-interference and non-involvement.

After World War II, the world was divided into two blocs the imperialist and the communist. China also belongs to the communist bloc. Both blocs tried to maintain and extend the area of influence in different parts of the globe. After 1947 the Himalayan defence structure took new shape due to changed geo-political conditions. The withdrawal of the British power from Indian sub-continent completely changed the power equation and global influence of the area. The disappearance of Tibet as a buffer state and the subsequent emergence of Chinese power dramatically influenced the security sensitivity of the Himalayan Frontier. An ideologically motivated power, China, extended her influence in Tibet by derecognising the suzerainty. The cease-fire line in Kashmir especially Ladakh sector also added new dimensions to the Himalayan security. The above factors dramatically add to the complexities of the security problems of this region. Consequently, they need a fresh look in the context of modern politico-military conditions.

The long-term aspects of the Himalayan security were investigated by the high level defence committee at the request of the Defence Ministry. The recommendations, with several exceptions, were accepted and implemented. The Ministry of Home Affairs undertook the development of the border areas with the relevant State Governments.

1. Brecher Michael : Nehru – A Political Biography, p. 584.

Middle Sector

In 1950 there were in the middle sector (Punjab, Himachal and Uttar Pradesh) only two check-posts, both on the Himachal Pradesh-Tibet Border.¹ The number of check-posts were moved closer to the Tibetan border in 1954. U.P. State incurred Rs. 1,70,000 for special police guarding the border with Tibet. Improvements were also made in the communications in these areas. U.P. authorities announced that a \$ 5.6 million road building programme financed by the Centre was shortly to be launched to link places of strategic importance in the Kumaon Hills adjoining the borders with Nepal and Tibet. The First air link with the Kulu Valley was opened on 18th January 1956, and on 25th May 1956 a seven-mile jeep and road linking Sainewala to Kandaiwala (H.P.) was officially inaugurated, with plans to extend the road to the Tibetan border via Chini within 3 years. During the Second Plan period (1956-61) the Punjab State government constructed a nine-mile connecting Grampjoo and Keylong. Indian attention had initially been drawn to Ladakh by the advances of Pakistani forces early in the Kashmir conflict. Their capture of Kargil had temporarily cut the 200 mile mule track linking Srinagar and Leh via the 11,500 foot high Zojila Pass, forcing the Indian Army to improvise an air strip at Leh and hastily construct an alternate and less vulnerable land route to Leh from Manali in the East Punjab via the 16,200 ft. high Bara Lacha Pass. The Chinese entry into the western Tibet late in 1950 does not appear to have greatly alarmed New Delhi.

The construction of a motor road from Srinagar to Leh commenced in 1954, and in early 1956 it was reported that the work was being speeded up on the road, which was designed to provide a closer link between Kashmir and northermost strategic areas of Ladakh whose 37000 square miles border with Tibet on the east and Chinese Sinkiang on the north.² It was not

1. Nehru's J.L. Statement in Parliament on 23 Feb. 1961.

2. Delhi Correspondent in 'The Times' 29 May 1956.

possible to adopt the same policy in the changed circumstances and changed power equation. At that time Pt. Nehru declared in the Parliament that there was no danger on the border but in reality security sensitiveness persisted.¹ Hindustan-Tibet road was first suggested in 1841 by an official of the East India Company J.D. Cunningham, as an inducement to merchants from Amritsar and Delhi to undertake the journey to Gantok in search of shawl wool. Nehru advanced the view that a free India would enjoy relative security against external aggression. He felt that the frontier problem could be solved by a friendly approach along economic lines, as the restlessness of the tribes was due to their harsh environment. This is how our policy perceptor saw the situation. The fact is that border security has assumed greater importance than in the British times. However, it will be wrong to say that Nehru was obligious of this increased sensitivity, as is evident from the significant approaches adopted in the Himalayan region.

Significant Approach in the Himalayan Region

The significance of India's activities in the Himalayan region during this 1947-59 period, though generally unnoticed by observers is preoccupied with studying Nehru's global diplomacy in all its peculiar manifestation. In 1954, one observer declared that all along the frontier from Kashmir to Assam doors were being guarded more closely than before. A large part of India's growing military budget is being quietly spent on building strategic roads and strengthening patrols on Tibetan border of Pakistan. India's small but efficient army is watching the Himalayan passes.² *Indian policy* was to avoid giving provocation to Peking at almost all costs and to continue the tranquility of the Himalayan region primarily by astute diplomacy. Chinese intrusions of the long and difficult Himalayan frontiers compelled the Indian political thinkers for understandable reasons to be given to material and economic

1. Lamb Alistair ; Britain and Chinese Central Asia, p. 83. (London, Routledge and Kegan Paul, 1960).

2. Ferdinand Kuhn ; Washington Post, 27 Dec. 1954.

development in the allocation of very limited resources and certain risks had to be taken. A vigorous and publicised programme of the Himalayan security measures was also virtually precluded by the fear that such activities would comprise the government's profession of friendship and goodwill towards China and provoke the very response which Indian diplomacy sought to prevent - an overt challenge along the long Himalayan frontier. Diplomatic, administrative and police measures were taken by the Government.

Pt. Nehru adopted the double policy in response to the Himalayan Challenge posed by China - defending against further intrusion and demanding a withdrawal of Chinese forces from Indian territory while seeking a settlement of the issue by conferences. Simultaneous with certain military precautions which did not basically alter defence policy towards Pakistan, steps were taken to strengthen the administration in the strategic border areas.

Six border districts, modelled on the pattern of the political division in N.E.F.A., were established in 1960—Pithoragarh, Chamoli and Uttarkashi in U.P., Lahul and Spiti in Punjab and Kinnaur in Himachal Pradesh. The Police patrolling the Indo-Tibetan border in the middle sector were placed under overall military control in late 1959, and steps were taken to strengthen the constabulary. The Union Government extended the Punjab Security of the State Act 1954 to include Himachal Pradesh.¹

This double-policy of Pt. Nehru might have helped in giving credibility to the policy of non-alignment, non-interference and settlement by negotiation. But in the matters of security and defence half-hearted measures deprive the defence policy of its vigour and effectiveness.

1. 'The Act empowered the Lt. Governor, H.P. to take special measures to prevent activities prejudicial to the security of the State or the maintenance of public order.'

Development Schemes

After the clashes in the years 1948 and 1962, the urgency of strategic communication and security of border districts was felt in greater impact.

In 1960, a Committee was set up in the Cabinet Secretariat to ensure the Government's effective coordination of development programme in the strategic border areas. For the period of the Third Plan, an outlay of Rs. 5 crore was envisaged for roads, buildings and irrigation works in Ladakh. The Punjab Government increased its allocation for such Schemes in the Lahul-Spiti district for fiscal to Rs. 2 crores as against Rs. 1 crore for 1959. The U.P. Government undertook 12 road projects in the hill regions bordering Tibet which would ultimately involve an outlay of Rs. 65.84 crore. A Central Border Roads Development Board (BRDB) was created in March 1960 to coordinate the various state construction projects with the strategic border areas. Border communications are being substantially extended. In mid 1963, the BRDB approved a programme to construct 3000 miles of new roads and improve 3000 miles of existing roads.¹ A long-deferred Rs. 25 crore project to link the Leh-Srinagar Road with another connecting Manali to Upshi and Kulu in eastern Ladakh was sanctioned in late 1963. BRDB carried out the cutting of nearly 1,600 miles of road and developed land communications of over 600 miles and surveyed and made complete connaissance of about 2700 miles for possible later roads.² The development schemes were undertaken mainly due to the following three purposes :

1. Strategic purpose
2. Economic purpose
3. The hill people satisfaction purpose.

1. Statement by Defence Minister Chavan in the Lok Sabha on 9 Sept. 1963 ; See Annual Defence Report.

2. Statement by Defence Minister Chavan in the Lok Sabha on 9 Sept. 1963, LSD 3rd series Vol. 20.

The communications and other schemes were envisaged in the Himalayan region observing the strategic importance and hill development. By these developments the hill people could also be satisfied and their economy might be strengthened. Strategically to come closer to forward areas, to provide transport facilities during war time and to prove accessibility was one of the major factors which served the need of the strategic requirement. The strategic requirement was realised by Great Britain, in response to that 'inner ring' Fence policy formulated. The acute requirement of this border attracted the attention of political elites after independence by keeping a view of Chinese distrust, apprehensions and parallel strategic communicational lines to Indian territory. Her intention was doubtful in Ladakh region, hence development schemes were undertaken to ensure the national security.

Communications were also improved along the Indo-Nepal border. Work on the 153 mile Kargil-Leh Pilot road was resumed in early 1959 by State authorities with the assistance of Army engineers. A 75-mile jeep track was completed from Leh to Chushul on the eve of the order conflict, by which time work had also begun on a jeep track from Chushul to the border post at Dungti. The 61 mile long motor road linking Leh and Baltal and the 67 miles Baltal-Kargil section were rendered suitable for three ton vehicles. New airfields were constructed in the border areas. By Jan. 1965, the first phase of the North Sikkim highway, 947 mile road linking Gangtok and Sirihik were completed by the CPWD and opened to traffic.¹ An intensive development programme was launched in U.P. and Punjab Himalayan region.

India's past 1962 defence programme was based upon four main presumptions. The people's Republic of China posed major threat to Indian security; a Pakistan threat could materialise at any time; Sino-Pak collusion against India

1. Kabir L.J.; *India's quest for Security 1967. Defence Policies 1947-1965*, page 73.

was conceivable ; and India required a credible military sanction for her diplomacy. Indian military policy was one of continual and usually unsatisfactory compromises between what was politically desirable, financially possible and militarily prudent. The army's role during 1947-65 period was consistent with its pre-world War II responsibilities of internal security, watch and ward on the frontiers. The brief war with Pakistan in Sept. 1965 did not result in any fundamental change in policies decided upon during the 1962-65 period.

After 1962 border conflict with China, Indian military planners faced predicament—an uneasy cease-fire in Ladakh and NEFA, a long and vulnerable frontier with a neighbour with sinister designs of Indian territoriality. India took the momentous decision to challenge the Chinese actions by establishing small and generally isolated out-posts in the disputed areas. By glaring awakenesses of defence on the entire Himalayan region, India adopted the 'Forward Policy' to protect the territorial integrity and sovereignty. India adopted the 'Forward Policy' to block potential lines of Chinese advance, to undermine Chinese control through the interposition of Indian posts and patrol activities between Chinese posts and thereby to threaten Chinese lines of communication and supply.

Military Proposals for Himalayan Defence

The problems of Himalayan defence are momentous. Along a 2,800 mile border broken only by the two powerless Kingdom, India faces a powerful and Militant China which is antagonistic to her social and political systems China's possession of the Aksai Chain region of Kashmir, claims to 32,000 sq. miles of NEFA and to the parts of Ladakh, the middle sector and Bhutan. Sino-Pak axis can also promote tension and fear from Himachal and U.P. Himalya. Because Pakistan has established a military base at Gilgit with the collaboration of China. As Karakoram highway has great strategic importance, as heavy transport vehicles and even medium sized tanks are able to use it, the highway will link the railway terminus at

Abbotabad (Pak) with Sinkiang province in China. China has also constructed not less than 9 airfields, 11 radar stations in the most strategic area of Tibet.¹ The presence of Pakistan along the cease-fire line and that of China along the Sinkiang side of Punjab Himalaya renders this area much more sensitive from Indian security point of view.

India was not unaware of its security needs. After 1962 High Altitude Warfare School was established for Himalayan operations.

After 1965, some Units were trained and equipped for operations in the mountainous and jungle terrain of the Himalaya region. Gen. K.S. Thimaya was permitted to make a long desired study of alpine troops, organisation and tactics in the Mount Blanc area at the invitation of the Italian Government.²

The proposal was made to raise some mountain divisions. The Himalayan defence policy from 1947 to 1965 was a considerable factor because it was a transitional period for defence development, close watch on the Himalayan border and the execution of defence policy in a changed circumstances after strategic vacuum by British rule. It was a great burden on India to protect the country's independence from a poor numerical size of armed forces. At that time the Punjab and Kumaon Himalaya became more sensitive due to undemarcated boundaries and unwilling partition of India. The borders and territorial boundaries were unsafe and unguarded. Though efforts are being made to meet the military needs of this sensitive frontier but the question of demarcation of frontier to the satisfaction of all the parties concerned yet remains unsolved and till a settlement is reached conflicts must be expected.

(D) PAKISTAN FACTOR IN INDIA'S SECURITY

India has 16,168 kms. of land frontier, 2966 kms. with Pakistan and 3862 Kms. with China, 3950 kms with Bangladesh

1. Vikrant : Defence Journal May 1976.

2. Ibid.

and 4390 kms. with Nepal. The formation of Pakistan has created a border problem for India which is of a great magnitude and complexity. It is often said that the promoters of Pakistan were not serious when they wanted the country to be divided in the manner in which it was done. The British announcement to leave India by a certain date led to the division of India in two sections. Some political scientists have given the term as 'geographical monstrosity'. Muslim league had worked up with a frenzy for the division of India on communal lines. A completely frustrated congress party had to concede the demand of the Muslim League to divide the country as a price that they had to pay for the attainment of freedom by India.

Muslim League launched a direct action inspired by Jinnah's declaration, "we will either have a divided India or a destroyed India."¹ Mr. Attlee, the British Prime Minister, gave approximate does not later than June 1947 of transferring powers to the Indians. The country was partitioned. India accepted the partition and recognised Pakistan as a sovereign neighbouring state. Pakistan has developed the stance of an adversary by extending the membership of the Military alliance blocs and now the strategic consensus set up by the U.S.A.²

India's Friendly Overtures

India has been pursuing a policy of friendliness towards Pakistan. Within a few months, Indo-Pakistan relationship came to a breaking point because of Pak's activities in Kashmir. However, India made a notable gesture of good faith and generosity. The first major conflict that India had with Pakistan was in Kashmir, a part of which was occupied by Pakistan by force. U.N. Commission passed a resolution in August 1948 "that the Government of Pakistan agrees to with-

1. Ibid.

2. The Chanakya Defence Annual, 1969,
(Chanakya Publishing House, Allahabad)

draw its troops from the State". But no such withdrawal has yet taken place.

The Kashmir Issue

There were over 562 princely states whose future had to be decided and in the years following Independence, the merger of these states with India or Pakistan became a major issue. Kashmir was one of the big states. Pakistan got an opportunity when Maharaja Hari Singh got delay in making up his mind regarding the accession of Kashmir either to India or to Pakistan. The only way to stop the raiders was to obtain help from outside and this the Maharaja asked from India. India accepted the offer of accession and promptly made arrangements for the defence of Kashmir. In the beginning Pakistan raised objections to Kashmir's merger with India. The Prime Minister of Pakistan said on 30th December 1947 that the Government of Pakistan 'emphatically repudiate' the charges of aid or any assistance to the invaders by the government. In July 1948 when the U.N. Commission visited Karachi, the Foreign Minister of Pakistan admitted that three regular Pakistani brigades had been fighting in Kashmir territory.

In response to this act, the Indian soldiers arrived at a time when Srinagar was on the point of being ransacked. The raiders were only 5 miles from Srinagar, when the Indian planes landed at the airport. On 1st January 1948 India made a complaint against Pakistan in the Security Council..... to call upon Pakistan to put an end immediately to the giving such assistance which is an act of aggression against India. The Security Council adopted two resolutions. Pakistan agreed to withdraw its troops because it wanted Kashmir. President Ayub Khan said in December, 1959 that Kashmir was 'vital for Pakistan not only politically but militarily as well. It was a matter of life and death for Pakistan.'¹ Pakistan blamed India,

1. Chatterjee, R.K. : *India's Land Borders* ; 1978, p. 132
(Sterling Publishers Pvt. Ltd.)

for going back on the idea of plebiscite. Pakistan again said that the principle of self-determination (this principle was enunciated by President Woodrow Wilson, U.S.A.) should govern the issue of Kashmir. But this demand ignores the fact that the principle of self-determination cannot apply to parts of a State.

On the other hand, Pakistan claimed the territory of Jammu and Kashmir on the ground that they must have the state to protect their grand trunk road, and the railway liens, the security of which was essential to ensure what Pakistan called its defence in depth. The problem is yet unsolved and all the efforts of India to have it solved through the United Nations or through bilateral negotiations have borne no fruit so far. During the period of Sino-Indian conflict, Pakistan entered into an agreement with China whereby about 2000 sq. kms. of Indian territory in Kashmir illegally occupied by Pakistan was gifted to China. In exchange, Pakistan has obtained guarantee of Military assistance from China in case of war with India.

In 1965, about 5,000 armed infiltrators and the trade route well trained in guerilla warfare crossed the cease-fire line from the passes all along opening into Kashmir and indulged in acts of sabotage, murder and loot. It was the second major conflict between the two countries. In 1965, after the Indo-Pakistan conflict, about 50,000 Muslims had migrated to Pakistan. Of these, 46,000 were stated to have come back to India subsequently. The cost of military operation for India in this war was Rs. 50 crores, including the value of equipment cost and stores consumed. Indian side lost about 2,800 killed and 1500 missing. Some 8,000 were wounded.¹ Under the Tashkent Agreement, the military forces of each country withdrew to positions occupied by them before 5th August 1965. Indian forces withdrew to their own side of the border and of the cease-fire line.

During 1966-67, Pakistan made vigorous efforts to increase her military strength in very possible way. Her armed

1 Khera, S.S. : India's Defence Problems 1968, page 114.

strength was to be doubled. Pakistan's military spending increased from 405.5 million dollars in 1972-73 to 16,000 million dollars in its budget for 1981-82 registering a four hundred per cent increase.¹ The military strength of Pakistan and India can be seen in Appendix-II.² Indo-Pak acrimony has so far posed the biggest challenge to the country's security and its foreign policy. We should be clear while conducting the negotiations on a 'No-war Pact'. We must seek to improve our relations on a realistic rather than sentimental basis. The idea of 'Joint Commission and Treaty of Friendship' are moves in the right direction and should be pursued patiently. The Pakistani rulers are afraid that if there is friendship with India, the success of Indian democracy may encourage the democratic elements in Pakistan to overthrow the military dictatorship there. This illusion in the minds of the Pakistani rulers is dangerous—both to Pakistan and Indian national security.

The Threats

In the realm of foreign policy, India chose to remain non-aligned while Pakistan became a participant in the cold war politics on the side of one super power. The threats from Pakistan can be considered under the following sections.³ :

- (a) Ideological threat ;
- (b) Conventional nuclear military threat ;
- (c) Interventionary threat ;
- (d) Threat of diplomatic containment ;
- (e) Threat arising out of internal instabilities.

The Pakistan factor in India's security is a considerable phenomenon. The formulation of Pakistan has really created several defence problems on the Western border. The Kashmir conflict affects the virtual sensitivity of Punjab Himalayas. The

1. *The Pioneer Paper*, 14 March 1982.

2. See Appendix II (Military strength of India and Pakistan)

3. Bajpai, S.C. : 'India's Security' 1983 ; page 72 (Lancers Publisher)

attitude of Pakistani leadership also suited the interests of Chinese leadership. It is obvious that China and U.S.A. supported this conflict and it again stresses the security sensitivity of the Himalayan border. The threat to India arises from three main quarters ; the super powers ; great powers like China and regional powers like Pakistan. India will have to resort to such measures as to insure all round defence from the hostile attitude of the nations concerned. The fact that Pakistan is militarily present on the strategic points along the cease-fire line running from Nubra Valley to Guais and further south to this region, places great constraints on Indian security measures in Punjab Himalayan sector. India is compelled to commit large forces on the entire frontier running from Punjab Himalayas to the length of cease-fire line in Kashmir. In view of Punjab and Kumaon Himalayan security Indian Government is taking practical steps to develop this region and also to ensure the security requirements since independence as pointed out earlier.

(E) CHINA'S ASPIRATIONS AND THEIR IMPLICATIONS FOR INDIA'S SECURITY

This period (1899-1914) was crucial to Sino-Indian relations. Chinese activities in Tibet at this time alarmed the British. China did not ratify the frontier of the Himalayas as decided by Simla Convention of 1914 on the basis of which the McMohan line was drawn. China held that because Tibet not being a sovereign state at the time of the Simla Convention, had no locus-standi in the determination of her frontiers by agreement, convention, treaty or otherwise. Situated between India and China, Tibet has been and will continue to be, an inevitable factor in Sino-Indian relations and will acquire an increasingly prominent position in the frontier policies of these countries.

In 1910-11, British India became conscious of the security of her. Punjab and Kumaon Frontier, and made every effort to stabilise, this border region by direct administration of the

area.¹ Indian security depended to a large extent on the status of Tibet and she became alarmed at Chinese efforts to bring Tibet within her jurisdiction. On the outbreak of the revolution in China in 1911, the Chinese Yoke was thrown off and Tibet declared her independence in 1912. The historical drama of Sino-Indian relations enacted on the stage of Tibet reached its climax at this period and for a re-appraisal of the whole situation. Britain convened the Simla Conference of 1913-14, with India, China and Tibet as participants. To bridge the conflicting claims, McMohan devised the plan of dividing Tibet into two distinct regions, that is inner Tibet and outer Tibet. The former is the part nearer China including Betang, Litang, Technienlu and a large portion of the eastern Tibet. The latter is the part nearer India, including Lhasa, Shigatse and Chamdo.² McMohan was acquainted with frontier problems, and concerned about the security of the Northern frontier of India. The idea was to keep China as far to the east of Indian frontier as possible.

The northern borders of India became alive with the emergence of the Tibetan issue in 1949. Soon after the people's Republic of China came to power, it turned its attention to Tibet. The Chinese action on Tibet was based on its claim of sovereignty over the latter. Tibet was actually under the Chinese rule in 18th century. In international relations too, Tibet had held its independent position. The Chinese troops entered Tibet on 7th Oct. 1950. Consequently, Tibetan resistance to Chinese occupation started. The Tibetans resented Chinese domination and rebelled against their suppression of their religious and cultural freedom and destruction of monasteries and temples. In 1959 the Dalai Lama left Lhasa and took refuge in India. About 35,000 Tibetan refugees also arrived in India. Pt. Jawaharlal Nehru informed the Lok Sabha in August 1950 that the government of India had suggested to

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1. Ghose, Suchita, 'Tibet Sino-Indian relations' 1899-1914, 1977 (Sterling Publishers Pvt. Ltd., Delhi.)
 2. Rose, A : 'The Chinese Frontiers of India' Geographical Journal, Vol. 39, 1912.

China that the Tibetan question should be settled peacefully. 'Trade and cultural intercourse agreement' between India and China was signed on 29th April 1954 (Panch Sheel) with a view to facilitating pilgrimages and travels. Both sides gave solemn undertaking to respect the territorial integrity and sovereignty of each other.

Chinese Invasion of India

The massive attack on India in October 1962 was the culmination of the recurrent armed intrusions by China into Indian territory, which began in 1954. The Chinese took the territory claimed by India with the occupation of the Indian checkpost at Barahoti on the U.P.-Tibet border. This was the beginning of a period of Chinese pin-pricking into our borders. Later on China claimed large parts of the Indian territory in NEFA and Ladakh as Chinese. One such map published in 1954 in a text book called 'A brief history of Modern China' showed large segments of the present day Nepal, Bhutan, India, Pakistan, Burma and Soviet Republics of Kazakhstan.¹ Chinese intrusions in to supposed Indian territory continued unabated. In 1958, Nehru drew the attention of Chou-En-Lai to those repeated border violations. He drew the specific attention of the Chinese Prime Minister to a map of China published in the magazine 'China Pictorial' and observed that the argument of the Chinese Government "having to time to revise the maps" could not hold good nine years after the establishment of the Chinese People's Republic.

Chinese Territorial Claims

Mr. Chou-En-Lai declared that the Sino-Indian border had never been formally delimited the claimed as Chinese 1,30,000 sq. km. of Indian territory, comprising 36,400 sq. km. in Ladakh, 83,200 sq. km. in NEFA and smaller areas in

1. Chatterjee R.K. : 'India's Land Borders', page 83, (Sterling Publishers Pvt. Ltd., New Delhi)

Himachal Pradesh and U.P.¹ China also repudiated regarding McMohan Line and said that Chinese does not recognise the so called McMohan Line.² In July 1959, Chinese troops intruded into the region of western Pangong Lake in Ladakh and Subansiri Division of NEFA and occupied the Indian frontier post of Longju. In November 1959, China proposed that both sides should withdraw 20 kms. from the McMohan Line in the east and actual control in the western border.³ The proposal was unacceptable to India as in effect it meant that India should withdraw its own territory in the eastern sector while in the western sector China would retain large parts of Indian territory it had occupied by force. Chou-En-Lai came to India in 1960 and both Prime Ministers failed to arrive at a settlement. In May 1961, Chinese troops intruded into the Chusul area in Ladakh. India had no longer any illusion about Chinese intentions.

India's common border with China may be divided into three sectors⁴ :

1. *Frontier of Kashmir with Tibet* : The frontier in this sector is about 100 miles long (800 miles in extreme west occupied by Pakistan). Chinese maps have been showing the boundary in this area much further west so as to include about 6,000 sq. miles in Tibet. A road was constructed by Chinese connecting Tibet with Sinkiang.

2. *Punjab-Tibet Frontier* : About 70 miles in length, in the southern part of this sector, some Chinese maps

1. Chatterjee, R.K. : 'India's Land Borders' 1978 (Sterling Publishers Pvt. Ltd., New Delhi)

2. Ibid.

3. See the map which shows the 20 kms.

4. Lall, Sohan : 'India-China Border Disputes', page 6 (Natraj Publishers 1963 Second Edition).

show the boundary four to five miles west of the traditional boundary.

3. *Boundary of Himachal Pradesh and Uttar Pradesh with Tibet* : The entire frontier is about 320 miles long, six passes on the watershed, Sipki, Mana, Niti, Kungri-Bingri Darma, and Lipu-Lekh, have been mentioned in the 1954 Sino-Indian agreement as passes between India and China.

Acceptance of Military aid by India from other countries during the Chinese aggression had been a subject of criticism, not internally but outside, particularly in Pakistan. It was stated that India's policy of non-alignment was a shame and that India was getting into the power blocs. It was entirely for self defence, to stem the tide of sudden invasion that India had to take aid temporarily. The value of the arms aid which the U.S. and Britain gave to India was of the order of Rs. 60 crores, This was roughly 20% of India's normal annual defence budget which was Rs. 311 crores in 1960-61.

Spiti

In 9th century shows that Spiti Valley was part of Ladakh, in 10th century, Spiti became a separate state. In fact, the boundary between Spiti and Tibet has always been traditional and a customary one regarding which there has never in history been any dispute. That the Spiti pass lay on the traditional boundary between Bashahr and Tibet. Article 4 of 1954 agreement between the People's Republic of China and India confirms that the area in the central sector, namely the Shipki Pass area, Nilang, Jodhang, Barahoti and Lapthal have been traditionally under Indian control also.

China's policies, strategies and tactics have exercised and continue to exercise a major impact on India's security. In the context of India, there are four basic issues involved in evaluating China's impact. These are :

- (a) China's Perception of India and the operationalization of its strategic objectives ;
- (b) India's choices in the context of China's involvement in the 'core area' of India's security along these frontiers.
- (c) China's role in the global system ; and
- (d) China's military modernisation and its impact on India.

Sino-USSR border dispute also influenced both domestic and international policies of China. With the opening this border dispute, China paid more attention to this border because of powerful presence of Soviet Union. China had to keep her continuous vigilance on south and north disputed borders.

Chinese perception of India have undergone changes in the last three decades. India shared a common border with turbulent Tibet and was in close proximity to the province of X-injiang. Thus peaceful co-existence with India became the tactical line from 1954 onwards. However, even during this phase, the real-politic aspects was not ignored. China's changing strategic goals in the late fifties, enumerated earlier, also had an impact on its perception of India. The border dispute with India, with and shifting border claims accentuated China's changed perception of India's overall strategy. Beijing was concerned that India is benefited from both blocks and subscribed to the status-quo in the international system. Soviet Union was soft to India rather than China on the border dispute. China's posture towards the Kashmir favoured the Pakistani position of self determination for Jammu and Kashmir people. The perceptive threat to open a second front against India during the Indo-Pak war of 1965 can only be attributed to give moral support to Pakistan as a check against India.

In the middle and late seventies, Beijing having realised the objective of enhancing its security by linkages with U.S., to enlarge its option in South Asia by setting aside the tactics

of confrontation, which had failed to stop India from emerging as the pre-eminent power in the sub-continent. Afghan developments, Indian linkage with Soviet Union through Indo-Soviet Treaty 1971 in the field of culture, trade and scientific development also alarmed the Beijing to reorient the relations with India. Because Soviet Union was soft to India rather than China on the border dispute. Indo-Soviet friendship added new dimensions on security environment of Himalayan region with China. China's strategic perceptions of India during the late seventies and early eighties have been geared to realize the following objectives :

1. By seeking optimum levels of normalisation with India to strengthen peace and stability in South Asia.
2. Beijing believes that normalisation of relations with India would help China play a greater role among the non-aligned countries.
3. China also hopes that closer relations in various spheres would help reduce, in long run, the Soviet presence in India.
4. China has agreed to border talks with India, it has shown no urgency in settling the issue.
5. China would not like enemies on the fronts *i.e.* India and Russia.

It is in the context of this framework that one may analyse China's bi-lateral disputes with India. The border questions as such, is related to China's occupation of about 14,500 sq. miles of Indian territory since 1958 by shifting claim lines and eventually by force of arms in 1962. In the aftermath of the war, Beijing refused to accept into even the armistice proposal, made by the Colombo powers in early 1963 and indicated that it would not surrender what it had occupied. No major progress has yet been made in resolving the border dispute. Beijing, by withdrawing behind the McMahon line after 1962 war, also validated the Indian contention. Beijing sought the strategic area of Aksai Chin which linked Xinjiang

with Tibet and kept alive the claims in the Eastern sector as a bargaining point. Sinologist who headed the border talks say that Peking will insist on keeping the 400 sq. miles Aksai Chin area offering Indian territory in another sector along the border in exchange. Aksai Chin connects Tibet with Sinkiang and Pakistan by 500 miles along Karakoram highway.

Package Deal¹

On June 21, 1980, Chinese Vice-Premier Dang Xiaoping during an interview with an Indian editor of Delhi-based journal outlining the so called 'Package deal' and "so long as both sides (India and China) are sincere, respect the present state of the border and are tolerant towards each other". Package deal consisted of the following four points :

1. China is willing to recognise the McMohan Line as a Sino-Indian border in the Eastern sector.
2. Bilateral negotiations can take place over marginal adjustment needed for the central sector.
3. India should accept the 'line of actual control' in the western sector.
4. Pending a settlement of the territorial dispute both India and China should try to normalise relations in other fields like culture, trade, science and technology.

It will be observed from 'Package Deal' that China is willing for negotiated settlement in other sectors. This proves that China considers U.P. and Punjab Himalayan frontier as occupied by her is very important and not negotiable.

Chinese Foreign Minister Hua during his visit to New Delhi in June 1981 suggested that India and China could solve the border dispute through constant bilateral talks. Hua also

1. Bhattacharya, S.S. : Article 'Border Issue—No Change in China's stand'—Feb. 4, 1982 (The Pioneer Paper).

demanding that India should legitimize all territories occupied by China before and during the war of 1962. This is indeed an unacceptable position from India's point of view. Complete normalisation of relations between the two countries cannot be achieved without a satisfactory solution to the problem.

The Karakoram High way, jointly built by Pakistan and China through the Pakistan occupied Indian territory of Kashmir, has not resulted in a dramatic increase in Sino-Pak border trade, providing China access to the Indian Ocean. In fact, Pt. Jawaharlal Nehru had observed that China's and India's interest clash in the region of South East Asia. China's self strengthening process today is the modernization of its military apparatus, as part of four modernization, industry, agriculture, science and national defence. China's military capabilities could be divided into two aspects :

- (i) Conventional
- (ii) Nuclear.

China has enhanced its room for flexible responses since the fifties. About 500,000 Chinese soldiers are stationed in Tibet besides the people's militia, according to the Tibetan Youth Congress. There were nine air fields and about 15 radar stations now in Tibet. It is reported that the Chinese were building large missile base in a mountainous area about 320 kms. north of Lhasa. The base has 90 missiles. By its completion, China will be able to hit many cities in India and also in other countries of South East Asia.¹

According to Military Balance 1976-77, China spends around 7% of its G.N. P. which is estimated to be \$ 324 bn. in 1976, Observers estimate that China is spending around 30% of its defence expenditure on nuclear weapons programme including R & D. SIPRI estimate that China is spending \$ 27,500 million towards defence expenditure. It would be 8% of G.N.P. Total strength of Chinese army in 1975 was 2.8 million. We did not

1. The Pioneer Newspaper, 15 Feb. 1982.

feel but it is proved by presence of smuggled Chinese weapons in India the Chinese have been helping anti-Indian elements to downgrade India's natural dominant position.

All this shows that India has tough negotiations ahead in Peking. The border dispute cannot be solved by military force alone, it can only be possible by political negotiations and bilateral discussions. A look at comparative statement of India—China military power will further prove the validity of the point.

However, in view of Punjab and Kumaon Himalayan security we should make effort to provide full security arrangements on those regions and pockets which are more sensitive since independence. Our defence policy should be moderate flexible to meet out the recent border developments in a changed equation and China's aspirations. Punjab Himalayan border may be affected by Chinese parallel line of communication and vertical communication through Tibet. Hence, security implications should be assessed in view of China's global strategy towards south Asia.

China¹

Population	:	975,000,000
Military service	:	Army 2-4 years, Air Force 4 years, Navy 5 years
Total regular forces	;	4,325,000

GNP & Defence Expenditure

U.S. Arms Control Disarmament Agency has estimated GNP for 1975 to be \$ 299 bn. while British estimate for 1976 was \$ 350 bn. China has not made public any budget, figures since 1960. Western estimates place Chinese defence spending at roughly 10% of GNP or about \$ 35 bn.

1. The Military Balance 1978-79.

Strategic Forces	:	1 RBM : 30—40 CSS — 2 MRBM : 30—40 CSS—1
Aircraft	:	about 80 Tu—16 med bbrs.
Army	:	3,625,000
Main forces	:	11 armed divs. 121 Inf. divs. 3 A B divs. 40 Anty divs. 150 indep. regts.
Local forces	:	73 inf. divs. 130 indep. regts.
Navy		300,000 incl. 30,000 Naval Air Force and 38,000 Marines, 23 Major surface combat ships. 1 Hau-Class nuclear-powered submarine 1 G—Class submarine (with SL BM tubes) 73 Fleet sub marines 7 Luta-class destroyers with Styx SSM (More building) 12 Frigaters 14 Patrol escorts.

Deployment

- (i) North Sea Fleet : About 300 vessels
- (ii) East Sea Fleet : About 450 vessels
- (iii) South Sea Fleet : About 300 vessels

Air Force

400,000 incl. strategic forces and 120,000 AD personnel ; about 5000 combat aircraft.

Military Forces

Public security force and a civilian militia with various elements ; the Armed Militia, upto 7 million, organised into about 75 divs. and an unknown number of regiments.

A. PUNJAB HIMALAYA

While dividing the Himalaya into small regions, geographers analyse it valley basins, such as Yamuna Valley or Alaknanda Valley and so forth. Hence such regions will be more appropriate according to altitudinal belts, with a few valleys grouped together. One can divide the Himalaya into six sections from east to west as follows.¹

- | | | |
|------------------|---|---------------------------------|
| 1. West-Central | : | (Uttarakhand) |
| 2. Western | : | (Himachal Pradesh) |
| 3. Central | : | (Nepal) |
| 4. North Eastern | : | (Arunachal Pradesh) |
| 5. Eastern | : | (Bhutan, Sikkim and Darjeeling) |
| 6. North Western | : | (Jammu and Kashmir) |

The Himalayan ranges consist of a number of parallel ranges. In the north-west in Jammu and Kashmir, these are four high ranges north of the Great Himalayan range. They are Zaskar, Kailash, Karakoram and Aghil. Apart from these longitudinal sub divisions, the Himalaya exhibit regional characteristics and as such, the following regions have been identified :

- | | | |
|---------------------|---|----------------------|
| A. Western Himalaya | : | 1. Kashmir Himalaya |
| | | 2. Himachal Himalaya |

1. Bose, S.C.: 'The Geography Himalaya'; NBTI ; New Delhi 1972.

- B. Central Himalaya : 3. Uttar Pradesh Himalaya
4. Nepal Himalaya
- C. Eastern Himalay : 5. Darjeeling, Bhutan, Assam Himalaya
6. Purvanchal.

The highest peak in Punjab Himalaya is Nanga Parbat ; no Himalayan mountain has a climbing history more dramatic. Once called the 'Devil's mountain', it has claimed over 30 lives.¹ They hey day of Himalaya climbing began after World War I and the Nanga Parbat was a main target. It is only Himalayan peak over 8000 metres that has been climbed by three different routers. Num Kun Peak, slightly over 7000 mts. high, is another famous mountain in the Punjab region.

Himachal Pradesh has always been a part and parcel of the Himalaya. Some scholars are of the opinion that the human history originated in the Himalayan mountains and intervening valleys, a part of which falls within present Himachal Pradesh.

British Period

After the downfall of Mughal Empire in India, in these Hill States Raja Sansar Chand of Kangra had earned fame as a warrior and ruler. Many nawabs and kings in different parts in India had declared their independence. Gurkhas, Sikhs and Marathas were emerging as strong powers on the political horizon of India. On the other hand, the battle of Plassey had already paved way for British control in India. Sansar Chand made efforts to expand the boundaries of his empire to the Punjab Plains. In Punjab by this time Maharaja Ranjit Singh had come to the power who made Sansar Chand turn his attention towards other hill States. After some time many chiefs of hill invited Gurkhas to invade Kanga. Gurkha invaded

1. Ibid.

Kangra State and freed some of the areas of other states annexed by Sansar Chand earlier. Sansar Chand prayed to Maharaja Ranjit Singh for help. He came to the rescue and drove away the Gurkhas. Then Maharaja proceeded further to get his hold over other hill states. Gurkhas were more interested in the loot and plunder of government treasury rather than subjugating territories. Here the Kinnaurs played guerilla tactics with the Gurkhas. Finding themselves in a very disadvantageous position, the Gurkhas withdrew and fled away.

In 1842, with the annexation of Laddakh by the Sikh General Zorawar Singh, the territory of Lahul and Spiti became a Sikh possession.¹ Zorawar Singh handed over the administration of this area to his trusted Lt. Rahim Khan. Rahim Khan was fanatic Muslim who let loose a rein of terror, loot and arson and plunder. Later on Rahim Khan was killed at the hands of Tibetans and after his death the original inhabitants of this area came back to their native place. After the Anglo-Sikh war of 1845, British got the territories of Lahul and Spiti. In accordance with Lahore Treaty of 9th March 1846, Raja Gulab Singh was recognised as an independent ruler, both by Sikh and British. The entire hilly area lying between Sutlej and Yamuna with the exception of Kulu and Manali was rewarded to Raja Gulab Singh by the British for his services rendered to the latter during Anglo-Sikh war. As Lahul and Spiti provided access to the wool producing areas of western Tibet, consequently in 1847 the areas of Lahul and Spiti were restored to Kangra district as a part of which district these territories continued under British empire. Kangra is located at a very strategic place wherefrom the hills and the Punjab plains can be kept under control.

By mid 19th century, the parts of Kangra, Kulu, Lahul-Spiti, Kotgarh, Kotkhai etc. had directly come under the British empire while other hill states were allowed to be retained under the native rulers. However, British political agents, Superin-

1. Woodman, Dorothy; 'Himalayan Frontier'; (London Barrie and Rockliff Press), page 34.

tendents and Residents were stationed in these states for overall supervision. In fact, British were the de-factor rulers of these States through their political agents, while the native rulers had only de-jure reins in their hands. These states were divided into districts, tehsils and Government officials were appointed to administer these units, whose purpose was the collection of taxes, besides maintaining law and order. Kings used to be the heads of all departments in their states. Taxes and forest products were the only sources of revenue in the States. Roads were constructed in limited but strategically important areas. Similarly some bridges were built.

Struggle in Hill States

During India's first war of independence, the hill rulers helped the British, but they were compelled by their natural environment. These ignorant hill people were no match for the shrewed diplomacy of British. But history reveals that these hill people also rose in arms against slavery and feudalism; with the passage of time. In 1859, the people of Rampur revolted against the high-handedness of Government officials. In 1862 and 1876, the people of Nalagarh rose in arms against the atrocities committed by Ghulam Qadir Khan, the Minister of that State.¹ In 1905, the people of Bbaghal State also revolted against their feudal king. This shows that in spite of ignorance, illiteracy, geographic inaccessibility and their limitations, the people of hill states have been fighting for their rights and liberation. The entire hill area from Nurpur to Ropar rose in arms against foreigners. Rajputs and Gurkhas revolted against their British officers. All these instances slowly and gradually aroused the feelings of patriotism among hill people.²

During the first World War some youth from these hills took part in Ghadar Party, which had aimed at direct military

1. Chib, S.S. : 'This Beautiful India—Himachal Pradesh'; 1977, page 11.

2. Singh, Goverdhan M : 'History of Himachal Pradesh' 1982 (Yugbodh Pub. House, Delhi).

and violent action against the British to throw them out of India. In 1939, session of All India State People's Conference was held at Ludhiana in which it was decided to form Praja Mandals in the hill states to devote special attention towards these areas. The formation of Mandal led to panic among the kings of these hill States and they started repression against the activities of Praja Mandals. However, these incidents attracted the national leaders like Mahatma Gandhi and Jawaharlal Nehru towards hills. Thereafter, the public movement gathered a momentum in these hill States.

At about the same time a Praja Mandal movement was started in Sirmur also under the leadership of Chowdhry Sher Jang. Dr Y.S. Parmar and his brother became the front rank leaders of this movement subsequently. In 1945, the National leaders like Dr Pattabhi Sitaramaiya visited Sirmur and encouraged the people for liberation movement. Thakurs and Kumihar supported this movement. Baba Kanshri Ram did a great deal for liberation movement in Kangra district. He was responsible for the liberation wake in Kangra Hills. He was given a title of "Hill Gandhi" by Jawaharlal Nehru for his work and "Bul Bule Hill" for his melodious throat by Sarojini Naidu.

On 15th April 1948, the Punjab hill states (except Nalagarh) and Punjab States of Chamba, Sirmur and Saket were merged to form a Chief Commissioner's Province of Himachal Pradesh. The States which were merged to form Himachal Pradesh are :

- (i) Punjab States of Chamba, Saket and Sirmur
- (ii) Punjab Hill States
 - (a) Bushahr Proper and its feudatories of Khomeli and Delath
 - (b) Keovthol proper and its feudatories of Koti, Theog, Ghund, Ratish and Baghal
 - (c) Jubbal proper and its feudatories of Rewin and Dhadi

- (d) Bhaghat, Kumhar, Sain, Bhajji, Mahlog, Balson, Dhani, Kuthar, Kunihar, Mangal, Bija, Darkoti, Tharoch and Saugri.

The States Re-organisation Commission decided to merge the State of Himachal Pradesh in the neighbouring State of Punjab. Finding the Himachal leaders opposing the majority decision tooth and nail, the central leaders agreed to retain Himachal Pradesh as a separate entity in the form of a Union Territory. The Union territory of Himachal Pradesh, thus come under the direct administration of the centre. Later on when the Parliament passed the 14th Constitution Amendment Bill, the Union Territory of Himachal Pradesh was provided with a Vidhan Sabha and Council of Ministers.

Consequent upon the next re-organisation of the Punjab State, the following areas of the erstwhile Punjab State were transferred to Himachal Pradesh on 1st November, 1966 :

- (a) Districts of Kangra, Kulu, Lahul Spiti and Simla
- (b) Nalagarh tehsil of Ambala district
- (c) The Kanungo circles of Lohra, Amp. Una, and Santokhgarh of the erstwhile Una Tehsil of Hosiarpur Dist.
- (d) Dhar Kalan Kanungo Circle of Pathankot Tehsil of Gurdaspur District.

The prolonged and peaceful struggle of Himachal leadership bore another fruit when it succeeded in getting Himachal Pradesh declared as the 18th full fledged State of the Indian Union on 25th January 1951.¹

Conclusion

In fact, this obvious from historical factors of Himachal Pradesh and tribal areas——the people are hardy, freedom

1. Singh R.L. : 'Regional Geography' 1971.

lover and full of national spirit. They revolted against the atrocities in 1859, 1862 and in 1876 consequently. In spite of illiteracy and geographic inaccessibility, the people of hill state were fighting for their rights and liberation. Hence this is needed to channalise their love for freedom towards national purpose and border security. If they are alienated or neglected, they can prove a dangerous to the country. On 25th July 1971, Himachal Pradesh was declared as the 18th full fledged State of the Indian Union. The Government thought to give them sense of purpose and national feeling. It is important to keep them in the main stream of Indian politics.

Chapter 3

The Area Study

CLIMATE

The average of atmospheric conditions in a certain area for a period of many years is called climate. Climate is different from weather. Weather is the condition of the atmosphere for a brief period. Climate is similar to a complete movie whereas weather is like individual picture flashes.

Situated in the north-west of Indian sub-continent, over 1600 km. away from the Bay of Bengal and between the greater Himalaya of the North and Punjab plains in the South, Himachal Pradesh experiences extremely varied climatic conditions mainly caused by altitude and aspect. The seasonal system of the weather and altitudinal zoning of the climates are two important characteristics of the climate of Himachal Pradesh. The southern sandy foot hill tracts piedmont plain experience hot and sub-humid tropical climate. The areas about 600 mts. but below 2000 mt. above sea level experience cool temperature climate. Higher up, the climate is cold temperature upto an elevation of 3000 mts. Temperature falls down rapidly till one reaches the snow line which mainly depends upon altitude. The mean temperature of Kangra town as recorded in winter is 53°, in spring 70°, in Summer 80°. The average annual fall exceeds 70'; along the side of the Dhaula Dhar it amounts to over 100'; while 10 miles off falls to about 70' and in southern parts is about 50'.¹

¹. Charak, 'History and Culture of Himalayan States' Vol. I, page 69.

On the higher ranges, at altitude of from 5000 to 20,000 ft. the summer of mild and the winter severe with heavy snow-fall. The autumn months are generally unhealthy, except on the upper ranges, the lower valleys bring malarious. In the Simla hills, the climate is cool and embracing. The winter lasts from December to February when the maximum temperature ranges between 49° to 44° while sharp frosts and heavy snow bring the mean maximum range from 56° in March to 74° in June. The annual rainfall averages 65' at Simla.¹

In the south-eastern region of Himachal Pradesh, bordering on the Yamuna, and the towns encompassed in Bilaspur district, the climate is cold. In the trans-giri tract snow fall every winter but it is rarely seen elsewhere.

Climate no doubt consists of many elements like temperature, pressure, sunshine, humidity, winds, rainfall, snow, fog, clouds etc. yet for easy comparison, the elements of temperature, humidity, winds are described here.

Temperature

The highest monthly maximum temperatures are observed in the month of June. Thereafter, the onset of rainy season brings down the temperature. The temperature continues to fall with the break of rains and the lowest monthly temperature is recorded in January. During the month of June, normal monthly maximum temperature are 28°C at Dharmsala and 15.6°C at Simla. The places like Una and Hamirpur experience 27° and 28°C temperature at this time. The annual range of temperature is 14.4°C at Simla; 17.0°C at Dharamsala 18.0°C Mandi and 19°C to 20°C at Una and Hamirpur.¹

The absolute temperature in the farflung areas of Kinnaur, Lahul-Spiti and Chamba go very much down during normal years, but unfortunately no records exist.

1. Lall, J.S.: 'The Himalaya—Aspects of Change'; 1981, page 5.

2. Ibid.

Humidity

The amount of water vapour present in a given mass of air at a certain time is called absolute humidity or humidity. The ratio between the amount of water vapour in a given mass of wind at a particular temperature and time and the amount of water vapour it can carry under that specific environment is called 'relative humidity'. But during the winter months, relative humidity is comparatively higher in land locked basins situated at the river banks as the towns of Mandi and Rampur.

Winds

Besides summer and winter, monsoons blowing in this region, the blowing of gravity winds is a special phenomena in many parts of Himachal Pradesh. Monsoon winds are not felt in Lahul Spiti. Arabian Sea Branch and Bay of Bengal Branch reach Himachal Pradesh. With more or less a northern direction, the winter monsoons blow with great velocity in the regions over 3000 to 5000 mt. high. It blows with a very high speed through mountain passes through which it finds escape. This wind which is well known in the Rohitang pass blows away men and sheep crossing the pass, and rattles down the Beas Valley shocking even the rafters of the Koti Rest House.¹ With the advance of day, the change in temperature causes the vertical movement of the air. This is called as a gravity wind. As the day advances, temperature rises.

STRUCTURE

Himachal Pradesh is located in $32^{\circ} 22'40'' - 33^{\circ} 12' 40''$ N and $75^{\circ} 47'55'' - 70^{\circ} 4' 20''$ E the Himalaya. It is bounded on the north by Jammu & Kashmir, by Tibet in east, by the Punjab in the South West, by Haryana in the South and by Uttar Pradesh in south east. The area as a whole is hilly and mountainous but major part of the State is inaccessible. The portion of the Himalayas that lies in Himachal Pradesh and Punjab is known

1. Bose, S.C. : Op. cit.

as Punjab Himalayas It covers 45,000 sq. km.¹ Except the Indus and the Jhelum, all the other rivers that have made the plains of Punjab agriculturally productive rise from this part of the Himalaya. The Siwalik hills separate this land of varied landforms from the monotonous plains of the Punjab. The attitude in this State varies from 450 mts. to 6500 mts. above sea level.

Of the five Punjab rivers, the Sutlej is the largest and it is the only one that has its source beyond the Indian frontier. Rising from near the Darma Pass on Zaskar Range, it joins another's branch (Langchhen Khabab) coming from the east through the Mansarovar and Rakas lake. It then flows through the Nagari Khorsum plateau of Tibet for about 250 km. the last 50 km of this course being a veritable canyon.

The Pirpangal Range of Kashmir enters Himachal Pradesh a little north of the headwaters of Ravi and runs eastwards for 120 km. forming the watershed between the Chenab on the North and Ravi and Beas rivers on the south. The highest summits rise to over 5000 m. and remain snow covered. The upper Beas is known as the Kulu Valley. It is connected by the Rohtang Pass with Lahul and Spiti Valley, two other important physiographic sub-sections of the Punjab Himalaya. From Manali in the Kulu Valley the two highest mountains of Kulu, Deo Tibba (6,000 m) and Indrasan (6,220 m) can be easily approached. The Chandra valley in Lahul is uninhabited except for the visit of nomadic shepherds in summer. The Himalaya still acts as a natural defence line.

Structurally, the region falls into four sub-divisions *viz* :

- (a) Outer Himalaya
- (b) Lower Himalaya
- (c) Higher Himalaya
- (d) Tibet Himalaya

(a) *Outer Himalaya* : The north-west to south-east

1. Ibid.

Siwaliks also known as outer Himalaya are the foot-hills of the Himalayan mountains. These foothills are composed of territory rocks like sand-stone, clays.

(b) *Lower Himalaya* : The lower Himalaya is located between central Himalayan and the Siwaliks. The Krol Belt which starts from Simla towards the east separate, the lower Himalayas from the Siwaliks. In this zone, most of the rocks found belong to granites and crystalline group of rocks.

(c) *Higher Himalaya* : This zone can be recognised only in the eastern part of Himachal Pradesh and covers the southern portion of Spiti area. Granites and gneisses outcrop here and there within the metamorphic rocks. The crystalline rocks in southern Spiti have been turned into crystalline Klippen because of sectonic movements.

(d) *Tibetan Himalaya* : Tibetan Himalaya cover the Spiti valley. The oldest beds which have yielded fossils occur in the Spiti Valley and belong to the combrian system. The archean geneses are found under this combrian system. The richness in fossils and the nearly continuous well exposed sections have made Spiti region world famous anthropologically but surprisingly this region remains unstudied so far by the geologists.

The Zaskar Range

Towards the northern portion of the Himachal lie the inner Himalaya or the Zaskar Range, which is the most direct continuation of the main Himalaya axis. After leaving the Sutlej in the north-eastern corner of the Himachal, it runs in a north-western direction dividing Ladakh from Spiti and Lahul. It then touches the Chamba district for a short distance along its northern border, separating Chamba-Lahul from Zaskar and farther west forms the Northern boundary of the Kashmir Valley.

The mean altitude is about 18,000' and some of the peaks rise to about 20,000'. The passes in Pangi and Poddar are

17,000 to 18,000', and are thus higher than those of Pangi Range and are also more difficult owing to the size of the permanent glacier.¹

To the south of Dhaula Dhar Range of the outer Himalaya lies the Kangra proper, which consists of an irregular triangle. The Kangra valley lies between the Dhaula Dhar and the long irregular mass of lower hills which runs almost parallel to the Dhaula Dhar from North west to South east. The second valley runs between these hills and the Sola Singhi Range, and thus lies parallel to the Kangra Valley. The Kangra valley is for its beauty.

Fewer routes are open from outer Himalaya to Tibetan Himalaya. The gentle slope of hills favour the defence accessibility to this strategic sectors. Punjab Himalaya is touched with Tibet on one side and Ladakh on other side. The region is very important for strategic view point.

TRADE AND COMMUNICATION

On account of remoteness of location and hilly terrain, Himachal has remained practically isolated. The hilly terrain ranging from 244 m to 6791 m and rapid streams have been formidable barriers in the development of modern means of communication. The area remained backward economically and socially due to meagre means of transport. The area, though rich in resources, is backward for the only reason that it has lacked terribly in proper transport system from times immemorial. Roads are essential antecedent to all round progress. During the first three plans, over 30% of the plan allocation of Himachal were diverted towards road construction.

Trade, travel and transport are inter-dependent. A brisk trade means improved means of transport, while a backward and primitive economy holds no incentive for providing better

1. Charak; 'History and Culture of Himalayan States' Vol. I, page 58.

facilities of transport. At the same time, lack of transport facilities in any region leads to its economic isolation and backwardness. Owing to landslides which damage the track, there is a great dearth of transport in interior side of the State.

The goods are transported by mules, horses and the people as well. The transported by mules, horses and the people as well. The tribals are the owners of these animals but many outsiders are also engaged in this profession. When an animal is used to carry load, two jute bags are slung on each side of it. The desired weight is packed into both the bags and is sewn together. Every nomad whether he is a man or woman, old or young, possesses stamina of carrying loads on the back. Wooden sleepers are carried by water down the streams and villages. People drop these sleepers into water for floating down.

From Lahul, in the Kangra district of the Punjab, traders visit Rudok by means of a pass between Haule and Damchok. Kangra traders of the Kangra district pass through Spiti. The Simla route follows the Sutlej river and goes over the Shipki and Sirang passes; principal road for traders of Bashahr and it is hoped that in future there will be a great increase of other Indian trade.

“Himalayas were considered by the British and even by earlier rulers, as an impregnable line of defence and as such development of roads and other communication facilities in its areas was not considered by any importance. Consequently, isolated pockets were developed as hill stations leaving the surrounding areas untouched for preservation of natural conditions and for assuring continued supply of unskilled labours.¹ The first railway line between Pathankot and Jogindernagar and second was opened which connects Kalka with Simla and passes through more than 100 tunnels, the biggest one being

1. Parmar, Y.S. : 'Strategy of Hill Area Development' in Symposium on S... and Economic Problems, 1973.

Barog tunnel, more than a kilometer long. Air services is quite limited; seasoned and insufficient in the State. Presently, there is only one air route linking Kulu with Delhi via Chandigarh. There is one other helipad at Anandale (Simla) which is mostly used for VIP landings.

In the year 1948 when Himachal Pradesh came into being she had only 426 km. road length out of which only 288 km. road length was motorable. Surprisingly, enough at a time when a century of road development (1848-1947) had been completed in India, Himachal Pradesh had only 0.98 km. of road length for every 100 sq. metre of its territory. In a conference attended by Chief Engineers of all the States in 1956, it was decided to have 32 km. road per 100 sq. mt. of area by 1981. It was also decided to double this figure for hilly areas on account of circuitous and winding nature of roads. But on the other hand road construction is a very expensive affair in hills. The cost of construction per km. of road in Himachal Pradesh varies from Rs. 1,30,000 in valley tracts and foothills, to Rs. 2,00,000 on lofty hills. In spite of all hurdles. Government extended top priority to road communication as an infrastructure. The following table shows the grim determination of the Government in this field :¹

<i>Type of Road</i>	<i>1968</i>	<i>1970</i>	<i>1972</i>	<i>1974</i>
Motorable double lane	1,378	1,493	1,557	1,982
Motorable single Lane	2,927	5,200	6,428	7,723
Jeepable	942	550	620	676
Less tbgn Jeepable	2,085	2,200	2,635	3,326

The rising strategic importance of our Tibet border (Dist. Kunnaur and Lahul Spiti have common borders with Western Tibet) and our strained relations with China resulted in a phenomenal development of roads in Himachal Pradesh. State Government gave top priority to interlinking all the

1. Source—P.W.D., Himachal Pradesh, Simla.

district headquarters by roads. In the year 1949, the State had two transport bodies, namely Himachal Government Transport and Mandi Kulu Road Transport Corporation. The latter body had share capitals of Himachal, Punjab and Union Governments with effect from 15th Sept. 1973, the Corporation had 80% share capital of Himachal, and 20% of the Union Government. All efforts are being made to extend trouble free service to the public.

A central Border Roads Development Board construction projects with the Army's own highly conceived road plan was to construct 2500 miles of new roads and improve 1500 miles of existing roads at an estimated cost of Rs. 120 crores over a three year period. From its inception upto June 1963, the BRDB carried out the cutting of nearly 1600 miles of Road, developed land communications over 600 miles and surveyed and made a complete reconnaissance of about 2700 miles for possible later roads. The main road connecting Manali to Keylong across Rohitang Pass has been widened for use by trucks and a new motorable road to link Leh and Chushul has been built some distance back from the old lateral road, which though still in use, is vulnerable to Chinese activity in the event of renewed hostilities.¹ New air fields are being constructed in the border areas and specially in those areas which are most sensitive for operation purposes. The entire Punjab Himalayan border is now more considerable from security point of view. Centre and State Government must give top priority to resolve the strategic requirement to border areas. Adequate trade facilities can only be undertaken when communications are proper and sufficient to hilly people.

India's post 1962 defence programme was based upon four main presumptions: The People's Republic of China posed the major threat to Indian security; a Pakistan threat could materialise at any time; Sino-Pakistan collusion against

1. Statement by Defence Minister, Y.B. Chavan, in Lok Sabha 9th Sept. 1973. 1 SD 3rd series, Vol. 20 Nos. 16-20, Col. 5097.

India was conceivable; and India required a credible military sanction for her diplomacy.

Conclusions

The Punjab Himalaya has its own strategic importance and defence bearing from British period to present day. The strategic passes, roads and local inhabitants influenced the culture and social distinct system. On account of border location and various other geographical and historical factors, the region has remained under-developed. The most striking feature of the economy is its virtual dependence on a single activity—agriculture 83.4% of the working force is engaged in primary production. The strategy for development will have to be guided by the physico-economic conditions of the region. This calls for change in the land use pattern on scientifically and economically and provisions of electricity and transport system. By developing new routes of transportation, intensive rural electrification programme, small-scale and cottage industries, the Region will attain its goal to a better way of life and to contribute its share to national economy. Technical education, horticulture programme, training for industrial sector will also add new dimension of thinking in this area. Hence it is sincerely proposed by elites to frame the new orientation programme to enhance the prosperity and contention of these border areas. It will strengthen the security environment on these sensitive areas.

B. KUMAON HIMALAYA

The U.P. Himalaya is now a well recognised regional entity—a geographical as well as a socio-cultural unit. From physiographic and geotectonic view point, the region includes the part of the Himalaya lying in the State of U.P., as its very name rightly indicates. The region thus defined and understood, covers the districts of Uttar Kashi, Chamoli, Tehri Garhwal, Pauri Garhwal, Dehradun, Pithoragarh and Almora, parts of Nainital district lying just north of Tanakpur—Chorgalya—Kathgodam—Kaladhung—Ramnagar and part of the Siwalik range extending in northern most part of Saharan-

pur district in about 4 to 10 km. width. The Kumaon region covers about one-sixth area of the U.P. State. The region is also popularly known as Kumaon Himalaya, but this term has been originally used to cover a wider and natural area unit extending between Sutlej river in the west and Kali river in the east having about 320 km.¹

From Himachal Pradesh, proceeding south and south-east, one enters the Kumaon Himalaya comprising the border areas of Uttar Kashi to Almora. The topography of the area consists of a tangled series of mountains radiating from the boundary watershed and varying in heights of 18,000 ft. to 20,000 ft. Glaciers abound in this area and the sources of Ganga, Yamuna and Alaknanda are here. The principal mountain ranges are Nanda Devi, Badri Nath Range, Panchsuli, Nandkot and Trisul. Kumaon is a derivation from Kurmachal which recalls the second incarnation of Vishnu. In ancient times Kumaon and Garhwal used to be ruled by the Katyuria dynasty who continued their sway several centuries. After the fall of Katyurias, Kumaon passed under the rule of Chand dynasty, the first ruler being Atma Chand, a Rajput adventurer of the 11th century. The Chand dynasty ruled the State till Gurkha occupation in the early 19th century. Thereafter, the British ruled over the area by defeating the Gurkhas. The Kumaon Kings were of Kateur clan and their capital was at Joshimath. Later they shifted the capital to Baijnath. In Garhwal the Pal dynasty of Dhanpur established its separate and independent kingdom. Raja Rudra Chand (1560-1597) was the first Kumaon King who made the kingdom strong. He was the contemporary of Akbar. Rudra Chand was succeeded by his son Lakshmi Chand who was a saint. Thus Praduman (1779-1786) became the undisputed King of Garhwal and Kumaon.

During Rudra Chand's time (1560-1597) another Rajput chief, Ajaypal by name of Panwar clan from the plains reached

1. Singh O.P.: 'The Himalaya: Nature, Man & Culture', page 1, Rajesh Publications, New Delhi 1983.

Garhwal and secured service under the Chief of Dhanpur. After some time Ajaypal killed his master and usurped the throne. After some time, Fateh Sah considerably extended his territory to the North when penetrating into Tibet along the Niti Pass. The last prince succeeded the throne. During his reign Amar Singh Thapa with 3000 Gurkha soldiers attacked Garhwal and conquered it. Sudershan and his brothers retired to the plains. Later he raised money and equipped a small army. He fought the Gurkhas. Later the Paramount Power, the British, recognised Sudershan Sah as the King of Tehri Garhwal. Ravian was also restored to the Tehri State. Later the re-organisation of the hill districts followed. The eastern part was named the 'British Garhwal' and the western the 'Tehri State', the Mandakni and Alaknanda forming the boundary between the two districts (the Tehri district) and the Uttar Kashi district.

Uttarkhand—The cradle of Rigvedic Aryans

The whole region of U.P. Himalaya is called 'Garhwal Kumaon (Garh-Kum) Himalaya'.¹ Being situated centrally in the long sweep of the Himalayas, the region looks like the 'crown of U.P.' and stands guard to the upper Ganga plain. In spite of similarities in the general economic patterns, Garhwal and Kumaon have developed distinct personalities on the basis of separate dialect, history, culture and more rugged or milder topography. About three-fourth of the U.P. Himalaya is included in the Garhwal region. The Himalaya youngest but loftiest mountain chain of the world presents an attractive field to the earth scientists.

The compilers of Rigveda, the oldest book of human race, and later the author of Avesta, have described the land of 'Sapta-Sindhu' as the nursery of the human race. The Rigveda 'Sindhu' is the term mainly used for a river to which the other streams join. The name 'Sapta-Sindhu' in Rigveda

1. U.P. Himalaya-India : A regional Geography Edt. R.L. Singh 1971.

itself shows that it means seven rivers or the land of seven rivers.¹ The central part of the celestial land of Uttrakhand is drained entirely by the seven main streams of the sacred Ganga (1) the Vishnu Ganga (2) the Dhauli Ganga (3) the Nandakimi (4) Pinder which meets Alaknanda at Karan Prayag (5) Mandakini (rises near Kedarnath and meets Alaknanda at Rudra Prayag) (6) Bhagirathi, it meets Alaknanda Dev Prayag; (7) Nayer or Sani which joins Ganga to Vyas Ghat which is described as Sapta Samudrik Tearth in Kedarnath of Skand Puran.

Samudrika in Vedic language means having a collection of water, the name Sapta Samudrika Tearth was, therefore, correctly adopted in the Purans for the place where the seventh river, the Nayar, joins the main stream of Ganga. We have a river Saraswati in Uttarakhand which separates the massed peaks of Gangotri, Kedarnath and Badrinath from the group of peaks to the east. It rises nearly from the crest of Mana Pass in the glaciers at 18000' above sea level.

LOCATION

Uttarakhand, which lies in the Central Himalaya between the Kali and Sutlej Rivers, broder upon Nepal in the East, the plains of U.P. in the South, Kinnaur District of Himachal Pradesh in the West and Ngari region of Tibet in the North. Byans, Chandans, Darma, Johat, Niti, Mana and Nelang are the only valleys where human habitation is possible. The height of few passes like 16,628 ft Niti, the 11,400 ft. Mana (Dungri La) and 17,480 ft. Jelu Khaga which provide passage from Uttarakhand through the great Himalaya to Tibet. There are several high peaks, such as the 25,645 ft. Nanda Levi, the 25,447 ft. Kamet, the 23,360 ft. Trisuli etc.²

Several great rivers like the Kali, the Bhagirathi and their tributaries drain Uttarakhand. Alaknanda and the Bhagirathi are the most important head streams of the Ganga.

1. The description given in Rigveda (10/75/2,3,7,8 & 9)

2. Rahul, Ram : 'Himalayan Borderland', page 37.

The Ganga enters the plains at Hardwar, Uttarakhand experiences every grade of climate. The first, the outermost zone has a tropical climate, the second one has mild and wet summers and long and severe winters. The third zone comprises high snowy peaks. The people of northern fringes have two sets of houses, one for permanent residence and the other for temporary settlement. Uttarakhand has various types of vegetation. There is luxuriant growth of bamboos, chirs, kails, oaks and silver firs between 5000 ft. and 11000 ft., where the climate is temperate.

Geographic Dimension

The region (U.P. Himalaya) looks like the "Crown of U.P." and stands guard to the upper Ganga plain. In spite of similarities in the general economic patterns, Garhwal and Kumaon have developed distinct personalities on the basis of separate, dialect, history, culture and more rugged or milder topography. The Garhwal Himalaya lies between the latitudes $27^{\circ} 26'31''$ 28N and longitudes $77^{\circ} 49'-80^{\circ}6''$ E with a total area of about 30,000 sq. km. The tons separates it from the Himachal Pradesh in the west and the district boundaries of Naini Tal, Almora and Pithoragarh separate it from the Kumaon in the east. Politically the region incorporates the districts of Uttarkashi, Chamoli, Tehri, Pauri and Dehra Dun; the first two being border districts.

Kumaon comprises the three eastern districts of the U.P. Himalaya ; Pithoragarh, Almora and Naini Tal. The region encomposes an area of 21,032 sq-km. and has a unique geographic location between the Plateau of Tibet on the north and the Ganga plains to the south. Towards west lie the Himalayan district of Garhwal while on the east it is bounded by Nepal. Tharu and Boksha tribes who claim to be the original inhabitants of this zone. Ram Nagar, Haldwani and Tanakpur have developed along the foothills which serve as gateways to the entire mountainous region of Kumaon providing transport and commercial facilities. The Siwaliks also have a dense forest

cover and consequently habitants are not numerous. The maximum altitude of these ranges exceeds 1200 mts.

Furtherwards, Siwaliks give way to the Lesser Himalaya which, on an average extends upto elevations of 2500 mts. and borders the snow-covered peaks to the north. Eighty percent population living in the mountainous part of Kumaon depends on agriculture. The region is traversed by a number of snow-fed rivers either in the north-south or north-south-eastern direction; the principal ones from west to east include Ramganga (Western), Gangas, Gomti, Saryu and Upper and Lower sections of Kosi account for some of the best cultivated tracts in Kumaon. Still in certain areas, forest patches of many temperate species, mainly pine, deodar, oak and other miscellaneous varieties may be found sporadically.

This zone, with average altitude of more than 2500 mts. is known as the 'Greater Himalaya' and besides being the highest, is characterised by numerous high altitude species of vegetation mainly spruce, silver, fir, blue pine, oak etc. in lower elevations and ultimately beyond the tree line it gives way to alpine pastures and stunted growth of trees. The majestic height of this mountain chain has undoubtedly rendered many geographic advantages and besides attracting precipitation and acting as a huge reserve of water and natural barrier on the frontiers and create distinct climate conditions north and south of it. Due to increasing requirements of wood and timber, the fellings have been excessive. Deforestation has led to micro-climatic changes, loss of wild life, landslips causing loss of property and communications, erosion, lowering of sub-soil water and irregular river regimes. It is said that decline of Roman empire is a story of deforestation, soil-exhaustion and soil erosion¹.

In Kumaon, the three valleys, Gori, Dhauli and Kutiyangti rivers, which are snow-fed and tributaries to the

1. Jacks, C.V. & R.O. Whyte : 'The Rape of the Earth' (London 1939) page 23.

Kali river. In altitude, it is somewhat higher than the Lesser Himalaya—the altitudes varying usually between 2000–4000 mts. but the climate is very cold and dry. Since agriculture faces severe constraints, these people supplement their economy either with trade or cottage industries. Being deprived of trade facilities with China after the aggression in 1962, however, these people are now facing problems of economic rehabilitation.

The geographic significance of Kumaon is thereafter in many ways. Primarily due to its location, most of Nepal and South of Tibet and the entire northern and eastern borders being international, Kumaon is a politically sensitive area on the northern frontiers of India. From defence view point, this region was strategically considered the most sensitive. The region thus has provided easy access to Tibet or Nepal since ancient times through traditional routes and mountain passes either for cultural contact and commerce or for religious voyages.

There has been a marked regional disparity between Garhwal and Kumaon cultures. The Bhotiyas have developed their own trade route, connecting the great plains with Tibet. From the Tibetan side, Khamas (Lomicas) reciprocated and settled here in the higher villages. The important passes through which the trades are practised are Mana (5611 mt), Niti (5068 mt) and Lipulekh (5453 mt)¹ Kumaon region has gentler topography and early trade routes; free access from all the sides. All these factors have been responsible for the development of the Kumaon region. On the other hand, it contains some very unique geographical features—principally Nanda Devi—the highest peak in India outside Kashmir Pindari—the most accessible glacier of the Himalaya, Milar Glacier, the world famous Corbett Park and the luxurious vegetation of the foothills, water falls, natural scenery and many more areas hitherto unexplored and unknown to man. On one hand the geographic

1. These strategic points and heights can be seen in the base map.

environment sets rigorous limits for different economic pursuits in Kumaon.

To conclude, it may not be incorrect to say that the varied types of physical and cultural diversities that the region embraces invariably have a deep rooted geographic foundation. The geographic dimension has valuable significance on security horizon of Punjab and Kumaon strategic border areas.

CLIMATE

Kumaon comprises three administration districts of Almora, Naini Tal and Pithoragrah lying in the north-east of Himalayan districts of U.P. Kumaon covers an area of 21,032 sq. km. comprising about seven percent of the total geographical area of Uttar Pradesh.

Lying between $28^{\circ}43'24''$ and $30^{\circ}48'29''$ north latitudes and $78^{\circ}43'28''$ and $81^{\circ}2'22''$ east longitudes, Kumaon is bounded by Chamoli, Pauri and Binnor dist. on the north-west and west while in the south and south-west lie the districts of Pilibhit, Bareilly, Moradabad and Rampur¹. Thus the northern and western boundaries of Kumaon (*i.e.* those with China and Nepal) are natural ones, while the southern extremity of Tarai and Western boundary are partly artificial and partly natural, The region has two major surface features *i.e.* the Himalaya in the North and the foothill belt of Tarai and Bhabar to the South, the heights varying from over 7000 mts along the snow covered peaks in the north to about 180 mt. and more along foot-hill belts of Tarai and Bhabar. The terrain is highly rugged especially in areas above 2300 mts, where the surface slope is greater except along the under valleys. The mountainous region of Kumaon offers great diversities of relief, land use, climate and human occupancy of land.

The climatic conditions of Kumaon present a most intricate pattern. The climate of Kumaon varies from tropical hot

1. Himalayan Gazetteer Vol. I, Part I, page 61, Vol. II Part II page 403.

to Arctic cold. Stamp (Stamp 1944) includes this region in 'continental' India.¹ According to Koppen's classification, the region is dominated by warm winter dry warm summer dry and moist temperate types of climate. On the basis of varying climatic conditions of different heights and valleys of the mountainous region of Kumaon, Naithani (Naithani 1970) has classified these into two broad types, which is more or less applicable to the entire mountainous region :

- (i) The moderate climate zone
- (ii) The alpine climate zone

These have further been sub-divided into the following types :

- (i) The moderate climate zone
 - (a) The outer hills
 - (b) The inner hills
 - (c) The valleys
- (ii) The Alpine climate zone
 - (a) Alpine hills
 - (b) Alpine valleys

On the basis of the above classification, there appears to be a sharp contrast between the major types, *i.e.* moderate and alpine climate. The zone of moderate climate pertains to elevation below 3000 mts. The outer hills present best climatic conditions while the inner hills are characterised by cold winters: The Alpine climate zone refers to areas usually above 3000 mts. while the only inhabited parts are the Alpine Valleys where the large tracts are covered with snow during winters. The climate of Kumaon is exceedingly diversified due to marked differences in altitude, rain fall, temperature, winds and configuration of land. Hence micro-climatic study is more important for true appreciation of local climatic conditions.

1. Soils & Men, USDA Year Book of Agriculture, USA, Washington.

The climate varies from Arctic to polar as altitude rises. In general, pressure and temperature both are affected by the altitude.

Seasons

Although Kumaon is a region of diverse relief and shows therefore a great variation in the distribution of temperature, rainfall, pressure and humidity, but a certain uniformity is observed due to monsoonal features, most of which are common not only in these parts but throughout North India.

The climate of this region is influenced by the south-west and north-east monsoon winds. The winds are oceanic and blow from east to west in general. The season of north-east monsoon can be divided into two periods and the season of south-west monsoon can also be divided into two periods as follows¹ :

1. The cold weather season (from Nov. to Feb.)
2. The hot weather season (from March to Mid June)
3. The Rainy season (from Mid June to October)

The distribution of temperature in the month of October shows a slight fluctuation. The temperature conditions show that though there is a definite increase in the mean maximum temperature in the month of October, the mean temperature is less than that of September. The distribution of rainfall shows a decreasing trend from east to west, though it is not well marked. The average annual rainfall in the mountainous region ranges between 17.0 cms to 371 cms in the Bhabar ; 49 cms to 216 cms and in the Tarai 125 cms to 153 cms. The climatic conditions always influenced the tactical, operational actions of defence personnels. The armed forces are kept on forwarded

1. Singh, O.P. : *The Himalayan : Nature, Man & Culture* Page 73, Rajesh Publications, New Delhi 1983.

areas hence they are trained in different climatic conditions and natural fluctuations. The victory of military operations depend upon healthy surroundings and favourable climate.

Average Annual Rainfall in Kumaon¹

<i>Sl. No.</i>	<i>Name of Place</i>	<i>Average year rainfall (in cms)</i>
1.	Nainital	270.0
2.	Mukteshwar	113.4
3.	Raniket	129.00
4.	Almora	104.0
5.	Champawat	162.8
6.	Khatima	142.2
7.	Kichha	140.3
8.	Bazpur	143.4
9.	Kashipur	140.3
10.	Kathgodam	208.0
11.	Ram Nagar	149.5

Strategic importance of the northern frontiers has accelerated the development of transportaion in this region after 1962. Still the region remains poorly developed in the means of transport and communications. Rishikesh and Ketdwara, located at the rail head, serve as 'gates' to the region from the south. Eastern Garhwal is also linked by roads to Ramnagar rail head. The famous road from Rishikesh to Badrinath is motorable upto Mana (5 kms beyond Badrinath). The road to Niti bifurcates at Joshimath and is motorable upto Malari.

1. Naithani, R.C. : (1970), Water Resources of Kumaon.

The Passes to Western Tibet

Following passes leading from India into Western Tibet :

- (1) There is a route from Srinagar in Kashmir which goes through Leh and up the valley of the Indus to Gartok.
- (2) From Lahul in the Kangra district of the Punjab, traders visit Rudok by means of a pass between Haule and Demchok.
- (3) Kulu traders of the Kangra district pass through Spiti.
- (4) The single route follows the Sutlej river and goes over the Shipki and Sirang passes ; principal road for traders of Bashahr and it is hoped that in future there will be a great increase of other Indian trade.
- (5) For the native State of Tehri Garhwal, there is the Lilang pass ; this route connects with Champrang in Tibet and Mussoorie in British territory.
- (6) In British Garhwal, there are two passes ; the Mana, 19,890 ft and the Niti 16,750 ft ; divided by the giant mountain Kamet, 25,445 ft ; these routes unite and traverse Garhwal and find their exit at Kotdwara where there is a railway.
- (7) The Johar Bhotias use the Untadhura Pass, 17,590 ft. which is, however, only a preliminary to the other passes. It is impossible to enter Tibet from Johar without passing over three passes, the country being like a spread-out fan, with the Untadhura as the handle. The eastern being the Janti, 17,000 ft. which leads to the Kungri Bingri, 18,300 ft.
- (8) The Darma Bhotias use the Darma Pass or Neo Dhura, called by the Tibetans Nooi La or Shekhu La 18,510 ft. which leads to Gyanema.

1. 'Western Tibet and British Borderland'; page 340.

- (9) The Byans Bhotias use the Lankpya Lekh Pass 18,150 ft. it leads to Gyanema.
- (10) The Byans and Chandans Bhotias use the Lipu Lekh Pass 16,780 ft. called by the Tibetans Jang Lhauila and also the Tinkar Pass in Nepal of the same height.
- (11) The Humlis use a pass in the extreme North-Western corner of Nepal when they visit Toklakot.

Travellers are often anxious to enter Garhwal from Milam by a quick route and there is a track along the Girthi river through Topidunga to Niti in Garhwal which is very short, but it is only feasible for coolies and unladen animals. The Bhotias linking at the mouth of the Untadhwa Pass in the Milam Valley are known as Rawats. The Niti Valley is inhabited by Marchas and Tolchas and Mana Valley by Morchas only.

Mana Pass

A Village on the Saraswati, an affluent of the Vishnuganga in the parganah Painkhanda is situate at an elevation of 10,560 ft. above the level of the sea close to the pass of the same name, also called Chirbitiya-la and Dungni-La, which has an elevation of 18,650 ft. and lies in north latitude $30^{\circ}45'27''$ and east longitude $70^{\circ}27'40''$. Mana Pass is one of the most difficult in this part of the Himalaya. In actual elevation too, it exceeds that of any other pass in these districts which lead into Tibet. There is no extensive view to be seen from the pass in any direction. To north the plain of Hundes is hidden by base brown hilis with rounded outlines, and on the three other sides, nothing can be seen but the overhanging snowy peaks and precipices of the Indian Himalaya on the southern side near the pass there is a much greater quantity of snow. No other peak in this tract attains an equal height except Nanda Devi.

Capt. Montgomery's pandit travelled on 26th July 1867, he left Badrinath and on 28th passed Mana (10510 ft), Kamet on the right, passed by Tara Sundo (16,587 ft) and the

Chirbitiya La or Bungri La pass¹ (18,576 ft) and reached the Lamarti camp on 29th (16,317 ft).

Mana is the only purely Bhotia Village in the valley. Its inhabitants are called Marchas, a name also given to the Bhotiyas of the Niti Valley. The people of other villages are not Bhotiyas and do not differ from inhabitants of the parganalis to the south. In 1872, the population of Mana was 658. The houses are of stone two stories high, and covered with deal planks, the inhabitants are of the Mongolian type, middle sized, stout well made with olive complexions. The dresses of the men consists of trousers and over them a loose frock; girt round the waist with a cord and on the head a cap all of wool. The woman instead of trousers, wear a loose undergarment and gayer colours. The following table shows the exports and imports for five years by the Garhwal passes (in rupees)² :

	1878-79	1879-80	1980-81	1881-82	1882-83
	<i>Export</i>	<i>Exp.</i>	<i>Imp.</i>	<i>Exp.</i>	<i>Imp.</i>
Mana	—	11256	14215	12278	15566
Niti,		45037	101133	35491	104724
Total	124778	56293	115348	47769	120290
				50075	119538
					55722
					10855

Niti

A village of patti Painkhaad in Garhwal, is situated 13 miles to the south of the pass of the same name which lies in north latitude 30°57'59" and east longitude 79°55'3" at an elevation of 16,628 ft. above the level of the sea.

1. Atkinson, E.T. : The Himalayan Gazettier, Vol, III, part II, page 582.
2. The Himalayan Gazettier. Vol. III, Part II, page 585.

The village is built at an elevation of 11,464 ft. on the left bank of the Dhauli and at the foot of a ridge which sweeping round defends it on the north and north-west from the violent storms which blow from these quarters. Moorecraft found the temperature in the middle of June to vary from 40° to 50° at sunrise and at mid day from 70° to 80°.

The Niti Pass is esteemed and easiest and safest from Garhwal into Tibet and is open from the latter end of June until the second week in October. The table land near the pass is very stormy and barren, producing only mosses.

Milam, a village of Kumaon district is situated near the confluence of the Gori and the Gunka rivers, 170 miles north of Almora and 13 miles south of the Untra Dhusa pass. Milam is a strategic and important glacier point to India. The border land communities are influencing the local trade and hilly human aspect. The houses are built of large stones laid without cement and covered with heavy slates overlaid with a compact coat of clay. The Juhar Bhotiyas have the privilege of trading with all markets in Tibet and are the most influential and numerous of all the Bhtoyas.

Unta—Dhura : (Ute-Dhura)

Unta-Dhura is a pass into Hundes from Patti Malla Juhar of parganah Juhar in Kumaon, lies to the north-east of Milam in latitude 30°35'0" and longitude 80°12'20", with an elevation of 17,800 ft. above sea level, 156 miles north of Almora¹. It lies over a ridge which is the north of the main chain of the Himalaya and at right angles west from the dividing range between Kumaon and Tibet. The crest of the ridge forms the boundary between Patti Malla Painkhanda of Garhwal and Patti Malla Juhar of Kumaon, and also the water parting between the streams flowing westward by the Alaknanda into the Kali as the Sarada or Ghagra is called in the upper portion of its

1. Gazatteer of India Uttar Pradesh 1979 (Published by Government of Uttar Pradesh).

course. There are five small ridges of stone on the crest which look like pillows from below.

Lipu-Lekh

The most eastern pass from Kumaon into Hundes, is situate in 'Patti' Byans in north latitude $30^{\circ}13'49''$ at an elevation of 16,780 ft. above the level of the sea.

Administrative Structure and Development

The U.P. Himalaya form the establishment part of the Western Himalaya, and are separated by the Tons river from Himachal Pradesh in the west from Nepal by the Kali river in the east. The Great Himalayan ranges occupy the highest position in this region and run along the Indian border. Environmental constraints are manifest in the shaping of the economic structure of the region. The frontier character of the Himalaya has always conditioned the system of administration whether in Bhutan, Sikkim and Nepal or in the border areas of India.

Administrative Structure

The British made basic changes in the administrative structure in those parts of the Himalaya which they gradually absorbed in the first quarter of the nineteenth century. The claims made by China from time to time in certain parts of the Himalaya border land on the basis of their cultural and ethnic associations with Tibet had alerted the Government of India in this regard. In summer of 1950, China announced its intention to liberate Tibet. Government of India felt so deeply concerned about what this liberation might mean, especially about its impact on the defence security of the 2500 miles Himalayan border, that on December 1950 it appointed a Special Committee under the Chairmanship of Maj. Gen. Himmatsinghi to study the matter.

Uttarakhand, the northern most part of the former administrative division of Kumaon in Uttar Pradesh was

conquered by the British from the Gorkhas in the spring of 1815¹. Kumaon (including Garhwal), as the first mountainous possession of the East India Company and the sole channel of the British trade with Tibet, was accorded the special status of a non-regulation province although it was officially a part of the North-western Provinces of the Company's dominion in India. The administration of Kumaon was entrusted to the Commissioner of Kumaon and Garhwal. Garhwal was separated from Kumaon and formed into a separate district with Pauri as its headquarters, under an Asstt. Commissioner in 1839. After 1891, Kumaon was re-organised several times. Early in 1960, when the last re-organisation took place, the northern border areas of the division were reconstituted into the separate administrative unit of Uttarakhand, comprising the three border districts of Pithoragarh, Chamoli and Uttarkashi. The process of re-organising the area in line with history and tradition was completed towards the end of 1968 when the Garhwal and Kumaon divisions were turned into separate units under two separate Commissioners.

The present administrative set up of Uttarakhand makes the Chief Minister of Uttar Pradesh responsible for its administration. The Chief Secretary to the Government of Uttar Pradesh maintains liaison between the Chief Minister and the district administration.

Lahul and Spiti which now constitute one district are in fact, two separate units historically. After British occupation, Lahul and Spiti were made part of the Kangra District and placed under the jurisdiction of the Asst. Commissioner of Kulu. Now Lahul-Spiti is a separate district under the administration of I.A.S. (Dy. Commissioner).

Development

The British Empire kept the area undeveloped as a matter of policy². The policy of British Empire was 'divide and rule'.

1. Rahul Ram, 'Himalayan Borderland' (1970), page 115.

2. Shening, C.A. : 'Western Tibet and the British Borderland' London, 1906.

The Britishers always alienated the States, Kings, Nawabs and other administrator of his policy. Before independence they were against the indigenous defence development, industrial progress as a matter of policy. They kept artificial administration on hill areas using Tibet as a buffer State. Main thrust was expected from Kingdom China that time. After independence in 1947, Govt. of India found that it could no longer afford to leave large tracts on the strategic Himalayan border backward while the rest of the country marched towards economic development and progress. The constitution, 1950, therefore, provided for special administrative arrangements and legislative safeguards for all border districts, with wide powers for local officers. Several important regulations have been enacted to protect tribal rights in land and forest, scheduled casts and scheduled tribes. Tribal Advisory Board in each Border State started to function as watch dogs to ensure the development and welfare of the tribes.

During the British period, Kumaon was one of the most developed areas in the Himalayas. After Independence, however, the Government of U.P. tended to ignore the hill districts on the border, now reconstituted as Uttarkhand. In the British period, it was British power that secured India's position in the Himalaya. In years ahead, only India's economic and social advancement will secure it. The wealth of the people generally consists of cattle. 1962 invasion brought out the importance of these districts. Kumaon and Uttarakhand Zamindari Abolition and Land Reforms Act of 1960, the rights, titles and interests of the hissedars (partners) with respect to cultivators were terminated and vested in the State.

Owing to defence requirements, stress is being placed on the development of transportation and communication in Uttarakhand. Agriculture, industry and education also are developing rapidly. The Government has already set up several herb farmers in Pithoragarh and Uttarkashi Districts. The wool industry is one of the considerable importance in Uttarakhand, suffered a set back after the stoppage of trade with Tibet in 1962. Kumaon University, Garhwal University, Srinagar

and U.P. Agricultural University at Pantnagar are working on comprehensive socio-economic survey of this border area, for Planning Commission of the Government of India in 1963-65, has borne this responsibility so far. As separate development board for eight hill districts was set up in 1967 under the Chairmanship of the Chief Minister of Uttar Pradesh. Education has a special role in the development and defence of Western Himalaya.

The shortage of man-power is a major obstacle especially in the implementation of the development projects in this region. But the people of the area are determined to put the Himalaya in line with the trend of developments in the world around. The Himalayan borderland also abounds in mineral resources like borax, coal, copper sulphur, precious stones etc¹. Now there are several Govt. agencies which encourage handicrafts and village industries, specially by providing help for the manufacture of articles of daily need so that the people develop their own economy instead of depending on others.

This study of the geography, people and history and administration of the southern segment of the Himalaya borderland shows how the essential elements of the present confrontation between India and China have always been present historically. The geographical and ethnic anomalies and traditions of India and China have prevented the establishment of the Himalaya borderland, including its northern segment (Tibet) as a buffer.

The hill people took active part in 1942 freedom movement. Some of these areas during these movement almost paralysed the British administration in their areas. Therefore, it would have been folly to neglect such potential human power and give them any feeling of isolation. The wiser thing obviously is to try and bring them closer to rest of India by

1. Thomas Thomson, *Western Himalaya and Tibet* ;
The Mountains of North India during 1947-48, London 1852.

increasing means of communication, diversification of occupation and education. Such human power will be helpful and potential resources during any war eventuality. It cannot be debated that the Government is taking the necessary steps through administration and development plans in this region.

C. STRUCTURE AND CHANGES IN THE BORDER LAND AREAS

The structure and its type : agriculture, industrial structure, economic structure and defence structure adds the changes in the border land areas. The communities of borderland areas are very sensitive towards their traditions, conventions and economy. The far off valleys, villages and other remote areas should be undertaken for intensive and extensive development. We are mainly concerned with defence structure of this region. The depth of passes, height of peaks and topographic rugged terrain decides the pattern of warfare in Punjab and Kumaon Himalayan security.

The description of structure and changes in the border land areas are presented of Kumaon Himalaya. The border land communities of U.P. Himalaya, also known as Kumaon Himalaya. The U.P. Himalaya from easternmost part of the western Himalaya and are separated by the Tons river from Himachal Pradesh in the west and from Nepal by the Kali river in the east. The Great Himalayan region is about 50 km. in width with mountain ranges between 4800 m and 6000 m high. This region is completely uninhabited. The main valleys are the Tons, the Yamuna, the Bhagirathi, the Mandakini, the eastern Dhauliganga and the Kali. The valleys are inhabited by the Bhotiyas and other communities.

The traditional Kumaon society has evolved a very effective system to determine social relations, status and like to maintain a stable social organisation. The political structure was monarchical and powers were centralized in the King or a few individuals. People had the faith in the traditional pre-destination, karma, dharma and moksha. The traditional

Kumaon society had the congruence between economic and social gratification through jajmani system. A more compact feudal structure of elites emerged with the establishment and consolidation of the Chand dynasty. The social structure of traditional Kumaon society the authoritarian. The social structure of the nationalist elite which grew in spite of British policy was fundamentally different. The form of elite structure changed further after Independence.

Environmental constraints are manifest in the shaping of the economic structure of the region. These regions are not suitable for agriculture or other settled economy because the people have to move from higher regions to the lower ones during the winter, and move back during the summer. The northernmost part of Uttarakhand is also called the Bhot region and comprises five valleys bordering Tibet. The main concentration of the Bhotiyas is in Mana on the Kishangange and Niti on the western Dhauliganga in Chamoli district.

The Uttarakhand Bhotiyas have developed and adjusted differently in their respective areas due to distinctive cultural streams that obtain in these regions. Thus the Bhotiyas of Pithoragarh districts and the Bhotiyas of Chamoli district are quite distinct due to dominant Kumaoni and Garhwali cultures which they are confined. Similarly, the Jadhs of Uttarkashi are quite different from both the Bhotiya groups. The terrain that is inhabited by the Jadhs is characterised by high mountain ranges and glacial valleys. It was only the Jadhs who inhabited this area, living in the two villages of Nelang and Jadhg at a height of 3400 m. The Jadhs are totally dependent now on their sheep and goats from which they get wool which is either sold directed or marketed as finished products.

Following are the border communities which is residing on borderland in Kumaon Himalaya :

1. The Jadhs of Uttarkashi
2. The Marchas of Chamoli (Garhwal)
3. The Marchas of Niti and Mana valleys

4. The Bhotiyas of Pithoragarh
5. The Bhotiyas of Johar Valley
6. The Bhotiyas of Dharchula.

Munsiari

Munsiari sub-division adjoins the Tibetan region of China to the north. The sub-division of Munsiari and Dharchuia are predominantly inhabited by the Bhotiya tribes. The sub-divisions consist of four valleys, namely, Johar, Darma, Byams and Chandans, which are the home of the Bhotiyas. The population who have to depend on food supplies from the lower regions. The main live-stock consists of goats, sheep horses and yaks.

Economic Structure

The new elites are facing great difficulties in restructuring the society due to resistances to the adoption of new innovations. These resistances are governed by :

- (1) Economic and cultural factors
- (2) Socio-structural factors, and
- (3) Threats to the power and prestige of the local oligarchy.

The economic backwardness in this area is rooted in the semi-feudal structure and unless it is destroyed, efforts at socio-economic transformation cannot earn any dividends. The benefit of government sponsored measures have gone only to the upper strata people. The inequalities in wealth, income and status between persons and groups have not been reduced. Prof. Myrdal has pointed out that poverty not only inhibits the accumulation of capital but also perpetuates value and institutions which obstruct progress (Myrdal 1968).

The ecological influences on economic structure are clearly discernible in Bhotiya Society. Large portion of Munsiari and Dharchula sub-division are snow bound for

almost half the year and the mountainous terrain is consequently unfit for agriculture. The Bhotiyas have been traders for generations, developing a highly complex system which involved buying Tibetan goods and selling Indian goods in Tibetan markets. The Bhotiyas established a monopoly of transborder trade developing a keen business sense and acquiring very considerable wealth and prosperous in the entire border districts. Up to 1962, these villages became hives of activity on the eve of the trading expeditions across the border to Tibet. During these three or four summer months, only women, children, old men and servants were left in villages, the menfold driving their loaded animals over the passes to Tibetan mandis. As summer receded, they moved down to intermediate villages to spend both autumn and spring. In midwinter they moved to the lowest villages. Thus Bhotiyas completed three seasonal migrations from permanent house to the next.

Changes

Mountains want change in different fields. These areas suffer from continuous exploitation and have remained cut-off from the main stream of national life. The mountains of Punjab and Kumaon Himalaya have still remained 'under the coffin of mists, disorder, legends, mystery of romance and misinformations'.

The Chinese occupation of Tibet did not immediately have an adverse effect on the trans-border trade. The Bhotiyas persisted with it and adopted themselves to the changed conditions. The Sino-Indian hostilities of 1962 brought the trans-border trade to a complete stop and the border has remained sealed since then.

The villages of Malla Johar, Malla in Pithornagarh and Nalang and Jadhong in Uttarkashi and Niti and Mana which were all about 3500 m above sea level, were abandoned altogether because they lost their utility as trading outpost¹. In

1. Atkinson, E.T. 1886, op. cit.

the circumstances, the only resource available to the Bhotiyas was agriculture. While they were engaged in responding to the new conditions, they were struck by a second calamity which made this adaptation immensely were difficult.

In 1962, the Hill Zamindari Abolition Act of U.P. converted their tenancy in these fertile areas into landowners after payment of a factor of the rent. The Bhotiyas, being hissedar passed their land into the hands of their tenants. Money was central to the Bhotiya economy ; it enabled them to buy their necessities from outside the region and they were only partly dependent on local resources. This dependence has been greatly accentuated since the stoppage of the trans-border trade.

Conclusion

In previous chapter, I have highlighted the concept of administrative structure and development of border areas. The political structure, economic structure, traditional structure and defence structure have significant role in restructuring the all walks of hill life. The reality pertaining to the integrated rural area development, specially in hill environment has revealed that in spite of several efforts of modernization, westernisation and concentration of investment in different sectors, the vast hill areas still remain in a condition of stagnation ; even also the situation is similar in the case of economic development. In spite of constitutional guraantees given to the tribals and hill people (vide Article 46 of the Constitution) and post-independence effort for developments of depressed classes, tribals and hill people have not in a position to capitalise the gains of socio-economic development.

A sound planning policy for hill aræas should be built up in order to achieve integrated rural area development. In hill environment. For the speedy systematic and scientific development, a sound infrastructure has to built. Road development in fact, is indispensable infra structure to bring the changes in the fields of agriculture, mining, tourism and especially in the field of national defenceand security. No country can uphold

the potentiality without controlling the above-mentioned factors. Motivating power is also needed for various purposes in the field of development.

The basic factors influencing defence structure will depend upon :

- (i) favourable time and space factor *i.e.* the area should be such that forces operating in the area are capable of rapid movement of man and material at maximum speed in minimum time. This will be possible on the nature and type of the means of communication in the area.
- (ii) Availability of local support and material. This will depend on the sympathetic outlook of the people towards army, the level of national feeling and the local availability of material.
- (iii) Dependable base of operation without fear of fifth column activities. This again is a situation which can only be attained through the satisfied people behind the front line and by self-sacrificing spirit of the people residing in the area.

Through their development activity the Government by implication is also developing these basic conditions for a sound defence structure. In my survey of the hill area and conversation with the people and development authorities I found that this implication of their activity was not their concern. It would be of greater help of both the administrators, development officers and the people of the area clearly understood the linkage between different development schemes and defence preparedness.

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D. RESOURCES OF KUMAON HIMALAYA

Resources and their exploitation constitutes the strength of a nation. U.S.A. and Russia are today the greatest powers in the World. The natural resources of a country are the source of its economic strength and military success depends on arms and equipment which can be obtained or manufactured by countries which are economically sound. Natural resources not only ensure food and essential commodities but also raw materials for industrial production and strategic material necessary for defence. The different factors which give power to a nation can be stated as follows¹ :

- (a) Natural resources and manpower.
- (b) Strong armed forces
- (c) Cultural and social unity
- (d) Advanced technology
- (e) Sound economy
- (f) Political stability
- (g) Friendly relationship with countries.

The full utilisation of the above factors will, however, depend on the State policy, planning and economic mobility. The resources which have a bearing on the defence are mineral resources, forestry, power resources, agriculture, industry

1. Bulletin, Military Geography, O.T.S. Kamptee.

animal husbandry and manpower. National power depends secondarily on resources, wealth, stockpile of ammunitions at hand, capacity to manufacture ammunitions, access to all raw materials. National power evaluated by some intangible factors such as will to fight, sense of social cohesion of political responsibility and capacity to resist privation and discouragement not by the mathematical formula.

India has adequate range of useful products for her industrial development. Coal, iron, ore, mica, manganese, bauxite and lime stone are available in sufficient quantities but copper, petroleum, lead, zinc etc. are in short supply, During 1966 alone about two crore tonnes of iron ore was extracted. India ranks third in the world in respect of manganese deposits. India is one of the largest producers of mica which is available in three belts in Bihar, Rajasthan and Andhra Pradesh. Other minerals like copper, lead, zinc, bauxite, gypsum, limestone are also mined in various parts of the country. The value of mineral production (excluding petroleum, minor minerals and atomic minerals) in India during 1966 was about 245 crores.

Kumaon is rich in its mineral wealth. Recent surveys by various government organisations and universities have proved that these mineral deposits, if properly utilised and assessed, can bring about an economic revolution for the region. Kumaon has been explored by the earth scientists for one and a half century. The early studies were mainly devoted to regional structure and stratigraphy of this vast mountain belt (Heim and Gausser 1939). For the last three decades, much work has been done on mineral exploration. However, a large part of this area still remains uninvestigated in detail.

The pioneer workers, who described various mineral occurrences in Kumaon are Herbert (1842); Medlicot (1864); Auden (1935); Nautinyal (1942, 1953); Muktinath (1949); Valdia (1968, 1969 and 1972).

Sulphur is found both Kumaon and Garhwal. There are also some sulphureous springs, as those at Naini Tal, Nargoli

and Kathgodam. Sulphur is also found in the galleries of the lead mines at Maiyar, on the Tons in Jaunsar. Between the years 1815 and 1840, the revenue derived from mines averages as follows¹ :

	<i>Kumaon</i>	<i>Garhwal</i>	<i>Total</i>
Copper	801	2,086	2,887
Iron	1,905	226	2,131
	<u>2,706</u>	<u>2,312</u>	<u>5,018</u>

Magnesite

The gangolihat Dolomite of Cale zone of Pithoragarh consists of course grained magnesite. The magnesite deposits stretch between the river Kali in the east and Alaknanda Valley in the west (Valdia 1968). Magnesite is found associated with stromatolitic delimites.

About 4 million tonnes of magnesite reserve have been proved in Jhiroli area. Based on the Jhiroli magnesite a dead burnt magnesite plant has been established near Jhiroli producing about 80 tonnes per day. In the following table reserves of the important deposits are given (Valdiya 1976).²

<i>Magnesite Deposit/Locality</i>	<i>Estimated Reserve (Million Tonnes)</i>
Amthal Kholi	52.65
Dewalthal	32.06
Chandaak—Basti	45.00
Jhiroli--Dewaldhar	7.90
Kanda	86.70
Pungar Valley	12.20
Lahore Valley	12.90

1. Atkinson, E.T., The Himalayan Gazetteer, Vol. I Part I Page 274.

2. Charu C. Pant and Misra Dileep ; Article on 'Mineral Resources of Kumaon Himalaya'.

The magnesite deposits of Kumaon are one of the biggest deposits in India. Magnesite is used in steel and cement industry for making refractory bricks. It is also used in manufacture of magnesium chemicals.

Tale

Survey have indicated high grade tale occurrences in Almora, Pithoragarh and Chamoli districts. The Pungar and Lahor valley deposits are estimated to have 4.1 million tonnes of tale. In the Pithoragarh district near Malajhula, about 4 km long and 60 mt. thick tale band has been discovered recently (Valdia 1976).

Tale is used in various industries *e.g.* in manufacture of cosmetics and as a filler in paper, textile, rubber, plastic, soap and paints industry.

Limestone

In Pithoragarh district, three distinct belts of limestone are recognizable. Another marmarised limestone belt is found north of Naini Tal, extending from Betalghat—Jaurasi to Nathuakhan. Limestone is also recorded from Mandansu area of Dehra Dun district. The limestone extends for a strike length of 3 to 5 kms with the thickness varying between 137—152 metres. Kumaon has rich limestone deposits. Detailed investigations are still be carried out. There are three distinct ranges of limestone hills in Garhwal ; the first north of the Alaknanda in Nagpur, the second running from Lohba Patti to the Pinder and again to the Alaknanda in Patti Bacchanshun, third running parallel to the plains and south of the Nayar River.

Mineral production during the year 1980-81 was : Limestone (Major mineral—292,545 tonnes, Limestone (minor mineral) 83647 tonnes and marble 113,402 tonnes and rock phosphate 25860 tonnes valued at more than Rs. 2 crores at the prevailing pits mouth value. A royalty of Rs. 36,37,172 accrued

to the Government.¹ The U.P. State Mineral Development Corporation is establishing a plant for the production of calcium carbide in Dehra Dun district.

Dolomite

Dolomite is found in many parts of Kumaon. The Gangolihat Dalmoite Formation of eastern Kumaon Himalaya is predominantly made up of dolomite. It is an important mineral used in refractory, and as flux material in steel, glass, paper, and sugar industries.

Slate and Paving Stone

Slate has been used since olden times as roofing the materials. The Gangolihat Formation also contains slaty horizons. In the central Kumaon, the Almora crystallines at places are made up of very high quality slates and paving stone.

Copper and Associated Base Metals

A polymetallic copper deposit has been found near Askat. The Askat copper is the only copper occurrence in Kumaon Himalaya, of any significance. Traces of old workings are also known from Pokhri—Dhanpur area, district Chamoli. Rare accumences of copper are known from Khiroli, Fadyali in Almora and Ganai in Pithoragarh.

Graphite

The occurrences of graphite schist and graphite modules near Almora have been mentioned by various workers, viz. Medhiccott (1864), Thimand Gansser (1939) Nantiyal (1942) etc. The carbon content of the deposits ranges between 5.88% to 37.11%.²

1. *The Pioneer* ; Mineral wealth in Doon Valley ; 22 March 1983.

2. *Ibid.*

Gypsum

Small deposits of gypsum are known to occur in the districts of Dehra Dun, Tehri Garhwal, Pauri and Naini Tal. In Dehra Dun District, gypsum is confined mainly in the southern limb of Mussoorie synclines, extending from west of Mussoorie through Jharipani, Mayhare to Kalighat and beyond in the Tehri Garhwal district. Gypsum is also recorded from Khurpatal area ; Naini Tal district. These deposits are confined in the valley of Nihar Nadi between Bhapila and Joginda. A total reserve of about 353,490 tonnes have been estimated from the U.P. Himalaya.

Barite

Veins of Barite are recorded in the golden occurrence of Satpuli area (Pauri Garhwal).

Asbestos

Occurrences of asbestos is known from Chandrapuri along the course of Mandakini Nadi. The asbestos is of low grade.

Conclusion

Thus we see that Kumaon Himalaya has a very favourable situation so far as its resources are concerned. With better exploitation of the existing potential, this region can certainly develop in future into an economically sound region.

If minerals are extracted in the Himalayan region, then hilly people of this region will come to closer to the people of plain areas; development and technological know-how will also be beneficial to far off people. Economically people of this region will be prosperous and self-contented. By opening new development programmes, the people will get employment and opportunities to build up strong nation. It is accepted that U.P. Himalaya is full of natural resources and minerals; only technology requires to fulfil their wishes and ambitions. Most of the minerals are needed for military purposes.

Kumaon region is rich in mineral deposits. The rich mineral wealth of Kumaon has not yet been fully explored and exploited. There is an urgent need to make the fullest use of these valuable resources for the welfare of the country in general and of the people of Kumaon in particular. An integrated project to utilise the sources of water, energy, natural wealth and minerals of this area should be taken up on a priority basis. Mineral resources and its proper exploitation will certainly strengthen the defence capability and war economy. Defence potentiality of any country rests upon availability of natural resources and advanced technology. India is trying to get self-sufficiency in this field. The defence development and its expenditure decade to decade is an open example before us. The exploitation of resources decreases the foreign dependency and increases the self-sufficiency. Through this process, we open door to the rest of India. Still the vast area of Himalayan region, especially Punjab and U.P. Himalaya remains to be surveyed.

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Chapter 4

The People and Pattern of Life

A. HIMALAYAN ENVIRONMENT

Environmental problems in the Himalaya have received attention from scientists of varying fields—Zoologists, Botanists, Geographers, Geologists—for quite some time, and the literature on mountain ecosystems is now quite copious. In this chapter, we will employ a rather more systematic approach in our attempt to describe the process of environmental destruction in the Punjab and Kumaon Himalaya. Environment is a basic dimension of development, especially in the hills. Development must take into account the fact that mountain regions are ecologically among the most fragile of terrestrial systems and on the other, that soil conservation land use, water resources, energy resources from both water and forests are all interdependent, and of vital importance in integrated planning in hill areas. Without environment oriented development of these basic ecological factors, there will be a continuous and rapid drain of the three major flows in any eco-system, i.e. nutrients, water and energy ; and without these, financial and physical inputs will be sheer waste.

The spread of environmental consciousness, an awareness had been dawning that the mountain ranges of the world, the Himalaya and Andes in particular, are in a state of jeopardy, and that their biospheric problems begin with the impact of man on the mountains.¹

1. Singh, T.V.; 'Studies in Himalayan Ecology and Development Strategies' (1980), page 10.

Past Attitudes

True, the Himalaya being the highest and most majestic mountain range of the world, has an authentic and spiritual quality which calls to the spirit of man, and makes it almost a symbol of the super conscious; but it is more than altar to worship at, an arena for human sublimation by Yogi or mountaineer. It is the weather maker of Asia. The interaction of the annual monsoon and the eternal Himalaya makes the weather for the whole of South Asia, and it also influences the continental climate of the whole of Central Asia.

The tragedy is that the Himalaya have not been looked upon as reservoirs of resources but as remote retreats, barren, wild and resourceless. In fact, the Himalaya has been a barrier to movement for her own people due to difficult geographic terrain, inaccessibility and strategic vulnerability. A more important reason, perhaps, has been the political consciousness of the Himalayan regions for making up of regional disparities to which tourism was found an answer. Tourism is now forging its way into grand Himalayan environment, par-excellence as nature products. The hilly voice is warning the world against the imminent dangers following the indiscriminate destruction of Himalayan ecology. This voice is raised by men, simple women and even children of Himalayan villages. In Garhwal Himalaya, over the years, indiscriminate cutting of trees and an oppressive forestry system which neglected the needs of the local villagers has given birth to this people's movement for saving trees from the contractor's axe.

The three enemies of the Himalayan forests are : digging of motor roads, indiscriminate grazing and the commercial exploitation. Commercial exploitation is the most destructive of the three enemies. It is said that forest exploitation is carried out according to scientific working plans, but the basic principles of these plans are about a century old. The pressure of the local population for fuel and fodder on the forests has increased many times since then. The Chipko movement had

launched a campaign to protect the wounded pine trees.¹ Chipko movement demands an end to the eventually exploitative attitude towards forests which has so far guided the country's forestry policy in spite of claims to the contrary on paper and on the public platform. It is not only a regional movement, it seeks to protect the entire sub-continent from destructive floods and protect multimillion dollar reservoirs from getting filled up by silt. Similarly fodder species should, of course, also have the value of improving and protecting the soil and conserving the water.

Eco-System in U.P. Himalaya

Streams are dried up, hills are denuded and desert is spreading fast in Kumaon and Garhwal region of the Himalayas in Uttar Pradesh causing serious ecological imbalance. Besides, there are frequent landslides, soil erosion in the catchment of Himalayan rivers, rapid silting up of reservoirs and lakes and repeated flooding with barren sediments of fertile fields in the plains.

Prof. K.S. Valdia, an eminent expert on Himalayas, said the major cause of accelerated erosion was the loss of protective green cover which is now only 35 per cent against the optimum of 60%. He cited several causes of deforestation including overgrazing of forces, felling of trees for timber and industries and the topping of plants for fuel and fodder. The construction of 44000 km. long roads in the hill region generated 2650 million cubic metres of debris. These roads produced 550 cubic metres of debris by landslides and rockfalls every year. Prof. Valdia said the sediment yield of the Brahmaputra is the highest in the world and the deforested areas in the central sector of the mountain are losing the ground at the rate of 120 mts. sq. per km. sq. per year.

The Alaknanda in Kumaon in one flood on July 20, 1972 carried \$ 3.1 million cubic metres of sediments, largely from

1. Bhuguna, S.L.; 'Article on "People's Involvement in Himalayan Ecology"' published in the Daily Himachal Times; Feb. 28, 1978.

the landslide ravaged catchment area of the streams. In Punjab he said the extent of seriously degraded land has increased from 19.5 thousand hectares in 1952 to 20.5 million hectares in 1981. Mr. Sundar Lal Bahuguna, Chipko movement leader, said construction of big dams, roads for heavy vehicles and other developmental activities in hill region should be stopped forthwith as they were causing extensive damage to the nation's environment.¹ Dr. A.K. Sharma, of Kumaon University said that the degradation of slopes in Naini Tal hills is responsible for the siltation of local lake, the rate of sedimentation being .022 million cubic metres per year.

The forest department sources warned that if the State Government failed to implement afforestation programmes in the immediate future, soil erosion would become a serious problem and result in silting of rivers. The Bhagirathi dam in the region had also destructed ecological climate.

Demographic Threat

Much of the western Himalayan region from Afghanistan through Ladakh to Lahul and Spiti has been mountain desert for centuries; but the cancer is spreading eastward fast, and the carrier is man, Himalayan and non-Himalayan man. Mounting population in the inhabited hill regions upto 3000 m. have in many cases multiplied as fast or faster than the population of the gangestic plains on the coastal plains of India.

There will be widespread consequences of this deleterious impact of multiplying man and his multiplying livestock on the Central Himalaya, in Garhwal, Kumaon and Nepal, in the next stage of the extension of the western mountain desert, unless immediate and massive remedial steps are taken. This disastrous phenomenon is not confined to the Central Himalaya alone. Everywhere the tree line is receding and the hills are browning. The brown disease is spreading fast within one generation.

1. *The Pioneer*; Nov. 12, 1983

Technological Threat

Man from plains equipped with higher technology and larger resources, is fast invading these remote and serene highlands. There are also alarming reports of the impact of mountaineers and trekkers on the very scarce natural vegetation above 3000 m. in many parts of the Himalaya. Huge dams have been built in India at enormous cost-averaging between Rs. 2000 million each-with life expectancies of between a hundred and two hundred years.¹ There has been enormous expenditure on major dams, the benefits of irrigation have gone entirely to the downstream command areas. The preservation of hill springs is a matter of the first priority in any ecological planning of the hill areas.

Forestry practices have been a major ecological threat to Himalayan environments and forestry policies have not yet been able to cope with the situation. Himalayan forestry has, by and large, suffered from a century of mistakes, neglect and shortsightedness. The policy of government was to give priority to commercial forestry in heavily-forested areas yielding the maximum revenue for the department.

Forestry education might be given to the local people to understand the hill ecology. 8000 sq. km. of civil forest lands in the U.P. hill areas are now virtually treeless. Inadequate technology in road building has led to similar results, less dramatic but as wide spread. The Alaknanda valley, dividing Garhwal and Kumaon, is in an advanced state of ecological degradation. Himalayan environment has also lasting impact upon defence personnels. Himalayan environment will act as a considerable factor in tactical operations. The defence mechanism should also be discussed in the light of environmental constraints.

1. Lall, J.S. : 'The Himalaya Aspects of Change' 1981, page 345.

B. PUNJAB HIMALAYA

Population and Society

The Himalaya is the youngest mountain range of the world, and attained its full growth only in lower pleistocene period. It is suspected to be the primeval cradle of mankind; the Siwalik system, starting from near Dehra Dun, contains 15 generation of *anthropoid* apes, the highest mammals in the world, some of which are believed to form links in the line of human ancestors (Wadia, 1965, P. 146).

The total population of Himachal Pradesh stood at 34,60,434 on the sunrise of April 1971. It constituted 17,66,957 males and 16,93,477 females giving a sex ratio of 958 females for 1000 males. During the decade 1961-71, the population of Himachal Pradesh registered an increase of 23.04 per cent, meaning thereby that year about 72,000 heads are added to the population of the State. On the basis of this growth rate, the estimated population of the State in 1976 stands at about 37.50 lakhs. The decrease in population during that decade was caused by the natural calamities such as Kangra earth-quake (1905), epidemics etc. Beyond 1921, the population curve shows an upward trend with a sharp and steep gradient during the decade 1931-41 when population increased at an unprecedented rate of 11.54 per cent. In the decade 1951-61 population exhibited a steep growth because of "further improvement in communications and commerce leading to greater influx of people from the plains, development of irrigational facilities, influx of Tibetan population and better enumeration of population."¹ During 1961-71, inspite of family planning drive, population showed a much steeper and rise because of merger or new areas, road construction, agro-based industries, mineral exploitation, eradication of diseases, decreased rate of mortality.

Lahul-Spiti occupies the lowest position with merely 0.68 per cent of State's population whereas according to area it is the

1. Kayastha, S.L., op.cit.

largest district of the State. Kinnaur is yet another very sparsely populated district of the State with 1.44 percent of the total population of Himachal Pradesh. Lahul-Spiti and Kinnaur districts are surrounded by area inspiring mountains with peaks, limited agricultural tracts, have very hard, severe and prolonged winters and till recently isolated from not only other parts of the country but the State itself for want of means of transport and communications. The trans-Himalayan tracts of Kinnaur and Lahul-Spiti are semi arid highland zones, In this tract, population is practically found along the river valleys. Densely populated areas are Kangra, Kulu, Suket, Lower Rani and Sutlej Valley. Beas basin is the area of highest concentration in the entire State.

In terms of growth rate, Mandi district comes at the top having registered an increase of 34.07%. After 1971, during earlier decade the district of Lahul-Spiti had the highest growth rate of 60.69 percent. This high growth rate in fact was due to influx of workers who were engaged in road construction.

Table 1

District-wise Population of Himachal Pradesh in 1971

<i>District</i>	<i>Population</i>	<i>Percentage to total population</i>
Chamba	2,55,233	7.38
Kangra	19,27,211	38.35
Mandi	5,15,180	14.89
Kulu	1,92,371	5.56
Lahul-Spiti	23,538	0.68
Bilaspur	1,94,786	5.63
Mahasu	4,40,118	12.72
Simla	2,17,229	6.27
Sirmur	2,45,033	7.08
Kinnaur	49,835	1.44

Table 2
District-wise Comparative Growth Rates 1951-61 to 1961-71

<i>District</i>	<i>1951-61</i>	<i>1961-71</i>
Chamba	23.72	16.46
Kangra	15.17	20.19
Mandi	23.70	34.07
Kulu	4.97	25.79
Lahul-Spiti	60.69	15.08
Bilaspur	25.94	22.65
Mahasu	21.22	22.61
Simla	10.66	24.01
Sirmur	18.95	24.04
Kinnaur	18.87	21.61

Settlement Pattern

(a) Rural Settlement

Most of the population resides in 12,690 rural habitations varying in size from isolated hamlets to agglomerated settlements. The average population per village is about 208 in Himachal and varies from 1475 in Kangra to 57 in Simla.¹ In the dry and high Lahul-Spiti ; settlements are restricted to a few favourable areas and the average size of the village is about 1000. For revenue purposes, small areas are grouped fiscal units called manza. Out of the varying conditions of habitant have developed different types of habitations.

- (1) Hill Village Hamlets
- (2) Rural House
- (3) Kulu House
- (4) Daulatpur

1. Census of India, 1961 : Punjab, XIII-11-A, 19 and 29 and Himachal Pradesh, XX-II-A 51-52.

(b) Urban Settlement

There are only 29 towns, mostly ones. Of these 1 in Class III, 4 in Class IV, 8 in Class V and 16 in Class VI. The smallest town is Naina devi with a population of only 328 and the largest is Simla with 42,579 persons.¹ The total population of 16 Class VI is less than the population of Simla. Urban population forms only 6.34% of the total population. Urbanity is an index to the development of non-agricultural activities which are limited here. About 94% of the population is rural and 83.4% of the population is engaged in primary production. Most of the towns are district or tehsil H.O. or the H.O. of erstwhile princely states.

Simla the '*Mountain City of India*' is also the largest hill resort.² It has magnificent public buildings, several first class hotels, shopping centres and recreational facilities. The town has a linear pattern. It lies in an elongated manner from about Rashtrapati Niwas on observatory hill to Jakhu hill. The main road runs all through. The occupational structure of Simla shows that out of 18,334 workers, 10,719 are in other services, industry, manufacturing and construction employ 3,335 trade and commerce, 2,081, transport and communication 1,072 and primary production 479 only. Houses are generally two storeyed with a compound. The town has banking, water supply and electric supply facilities.

The settlement pattern affected the people and their pattern of life. In most of the high altitude regions rural settlement established and few settled villages were converted into urban settlement. Now Central Government needs to develop these far off settled village life into urban life. Settlement pattern also influenced the motivation and their aptitude for national security. It is true that local habitants and tribal life of borderland areas will play most dominating role to provide

1. Ibid.

2. Singh, R.L. : *India A Regional Geography* : National Geographical Society of India, Varanasi 1971, page 419.

the comprehensive security arrangements to Himalayan sensitive border. Fundamentally this is to stress that Punjab Himalayan border specially from Lahul-Spiti to Kinnaur or touching line of U.P. Himalaya (north-west) will not be ignored for future eventualities.

Human Resource

The region is inhabited by numerous hill peoples and tribes who lead simple lives in the lap of nature. It is said that Himachal has been granted Statehood not because of the size of population nor because of its area but because of the need to preserve the distinctive cultural entity of its people.¹ The people of hills differ from those of the adjoining plains, culturally, linguistically and economically. The Himachalis are essentially peace-loving and hard-working people. The percentage of workers (55.2) is amongst the highest in India. Literacy is low (21.2%) and more education and training will increase the efficiency and production potential of the people. In the 1971, the literacy rate has risen to 31.95 percent, but it is still lower than the average national rate of literacy. More stress is given on technical and specialised education and now the State has its own University since 1975.

Backward tribal population which are particularly concentrated in more inaccessible areas like Chamba, Kulu, Kinnaur and Lahul-Spiti have not received adequate attention so far. It is necessary to realise that these border people must be educated and uplifted so that they may play a healthy role in the maintenance of the strategic border areas. In past they have memorable traditions in the defence of motherland. Educated and dedicated society pattern always serve the nation with their all human power. Human resources are better and more dynamic to assure the security of borderland areas.

1. Lal, M.B. ; 'Transition to Statehood without Agitation or Violence' ; *The Statesman* (New Delhi) 20-8-70

Future growth of Population

For the successful implementation of the socio-economic plans it is very essential to keep an eye on the dynamics of population growth. Registrar General of India through sample registration had reported the birth rate and death rate for the first half of the year 1971 were 36.7 and 14.9 respectively for entire Himachal Pradesh.

In the first projection, it has been assumed that the population would grow at the rate of 2.1 per cent constantly upto 2001. In the second projection it is assumed that population would increase at a rate of 2.2 percent per annum during 1971-76. It is assumed that natural rate would fall 0.2 percent after every five years. It means that during the periods 1981-86, 1986-91 and beyond, there shall be no fall in the growth rate. It is summarised that during the period 1986-91, the population would increase at the rate of 1.8% per annum and beyond that the rate would be constant at 1.6% per annum till 2001.

Cultural Heritage

Himachal Pradesh though backward economically preserves a rich cultural heritage through traditional life of its honest and laborious men and women folk. Many historic races, cultures and religions found refuge in lofty mountains of the world and Himalaya are no exception.

The villages have generally been built up on slopes and houses are not systematically planned. The houses are generally two or three storeyed although a few of the houses have 4 storeys. The people of Kinnaur and Lahul-Spiti take mostly millets. For the tribals, wine is a nectar which must be taken on all social, cultural and religious ceremonies. Similar to their foods, the dress of men and women of this hilly state differs from place to place. Smoking is prevalent even among teenagers and is not objected to by the elders. The material wealth of the folk people is generally, Khatia, Chair, Table, Almirah, Torch, Umbrella, Watch, Patromax, Transistor etc.

The simple artists and craftsmen worked peacefully in an unmolested atmosphere. The artistic talent of pahari people of Himachal Pradesh is a many sided reality with them. Himachal Pradesh have exhibited high artistic sense through crafts of daily use. In the more accessible parts of Kinnaur and Lahul-Spiti, the people have developed carvings and paintings on the metal wares, jewellery and utensils. Embroidery is another craft widely practised in this State. Wooden vessels are also prepared in the interior parts of Himachal Pradesh.

The only charm in their life is of attending a fair, participating in songs and dances in hope of finding good recreation there.¹ Sui fair is held to commemorate the sacrifice of Rani Naina Devi who laid up her own life and became instrumental for bringing water to the Chamba town. The people of this region also attended Durga ; Shivratri fair. Kulu Dussehra is famous throughout the country. Nearly 90% of the people of Himachal Pradesh speak "Western Pahari" known as Pahari. This language has many peculiar characteristics of its own.

Education

The standard of literacy in Himachal Pradesh is low only about 11 percent of the population being able to read and write. Before 1951, there were only 369 schools in the State, now it has 4,822 and 18 colleges and one University and more than 60,000 students are on rolls. The Government is making every effort to increase educational facilities.

The new State set before it two objectives in regard to education, namely,

1. Expansion and improvement of educational facilities in keeping with the people's needs ;
 2. Development of an integrated system of education.
- In pursuit of these objectives, new schools have been opened at all levels. Training centres have been established and are being

1. Shashi, S.S. ; op.cit.

expanded to meet the growing demands. The main emphasis has been on the provision of free and compulsory primary education and during the Third Plan period 2800 primary schools were opened. A regional centre for post graduate studies is being run by the Punjab University in collaboration with Himachal Government. A campaign for the eradication of illiteracy is underway and by end of 1968 more than 21,000 adults had been given elementary education.

In the 1971 the literacy rate has risen to 31.95% but it is still lower than the average national rate of literacy. Low rate of literacy has partly been responsible for the backwardness of this area for a pretty long time.

Economy

Cultivation is widely carried on into most of the valley of the State. About 94% of the population depends directly or indirectly on agriculture. The soils of the region vary according to aspect, altitude and climate. The agriculture department of Himachal has classified the soils into five types, taking into consideration climate and altitude¹—(1) Low Hill Soil Zone (2) Mid-Hill Soil Zone (3) High Hill Soil Zone (4) Mountainous Soil Zone (5) Dry Hill Soil Zone. The cultivated area is divided into fields, generally open and unenclosed, but in some parts surrounded by hedges, stone walls about four feet high. A vast majority of people are agriculturists cultivating their own lands. In most of the parts of the State, the women participate in agricultural work. In certain ilaqs, Brahmins and Rajputs do not generally cultivate land themselves. Main crops are wheat, barley, masur, musturd seed, onion in Ravi ; in Khraif maize, rice, kodo, mash, kulthi and turmeric etc.

The height and climate of the State is quite suitable for growing apples and other fruit trees. The people are handicapped for want of adequate land which is already insufficient for growing foodgrains. We hope several areas in the State

1. Himesh, Rattan ; 'Forming Guide' ; Deptt. of Agriculture, H.P. (Simla 1970)

can be converted into fine apple producing areas. The Development Minister of Himachal Pradesh, Shri Sukh Ram says : 'Horticulture is the hope of Himachal Pradesh as the present and future of the three million people living here is closely connected with it'.

In 1950-51, (before First Plan), there was hardly 400 hectares of land under fruits and the Pradesh produced hardly 2,000 tonnes of fruits. In the year 1965-66 (end of Third Plan) the area under fruits rose to 22,000 hectares and the production to 1.09 lakh tonnes. By the year 1980-81, Pradesh Government took the decision to achieve the goal that if all the previously planted area of 58,000 hectares comes to the bearing stage, to produce fruits worth Rs. 44.50 crores, thus giving an increase per capita income of Rs. 130 from these.¹ All the development in the hills depends on the development of roads and communications. The exploitation of natural resources mineral and hydel power depends on an efficient communication system. Animal husbandry is envisaged as an integral part of a sound system of diversified agriculture. There is growing tendency among the farmers to take up poultry farming as a subsidiary occupation but this suffers due to lack of cheap poultry feed.

Extensive, efficient and economical means of transport and communication are a sine qua non for economic, social and cultural development particularly in the hilly areas. Roads are, therefore, essential antecedent to all round progress. Strained relations with China produced a new awareness for the rapid construction of roads for strategic reasons. Since then a number of roads were strengthened to meet the requirements of defence for plying of heavy military vehicles besides undertaking construction of other vital links.

At last it can be deduced that sound economy of any country will lead the nation as a strong power in developing countries. Adequate education and economic stability both are

1. Sashi, S.S. : 'Himachal', An ISSD Pub., 1971, page 251.

co-related ; most striking feature of the economy is its virtual dependence on a single activity—agriculture. The strategy for development will have to be guided by the physico-economic conditions of the region.

The administration needs of hill areas need special attention and the creation of Hill Administration Service is necessary to provide officers who are familiar with the special problems of the hills. The border areas of Lahul-spiti and Kinnaur need special and sympathetic attention, but the development should be such as not to lead to compulsive annihilation of the socio-economic moves of the people.

B. KUMAON HIMALAYA

Population and Society

“In 1821. Mr Traill established the population of Kumaon at 6.5 per house, to amount to 164,000 souls. The next enumeration took place in 1852, when the population was shown as 360,011 souls (169,808 females), of whom 81,796 were boys. Next comes the enumeration at settlement during 1863-68, which shows the population number 394,922 souls of whom 118,943 were men, 89,935 were boys and 186,044 were females, giving an increase of 9.2 percent over the enumeration of the previous decade.”¹

In 1881 the population of the whole Kumaon numbered 493,641 souls of whom 232,587 were females, According to religion distribution was such ; there were 479,948 Hindus (228,268 females), 11,261 musalmans (3750 females) 2,646 christians (663 females); Budhists 87 (43 females), and Garhwal (345,629) number 839,270 souls and of these 823,134 are Hindus, 13,338 are musalmans and 2798 are christians.² They may be further sub-divided into :

1. Atkinson, E.T. : *The Himalayan Gazettier* Vol. III part II, page 420.

2. *Ibid.*

- (i) The aboriginal or at least long settled tribes of Khasiya.
- (ii) The Hindu immigrants from the plains belonging to all classes.
- (iii) The Tibetan immigrants in the Bhotiya Tracts;
- (iv) Mixed classes,

U.P. Himalaya has been reflected in patterning of cultural landscape through human adaptation and resource utilization. There is strong differentiation and marked social individuality from one district to other and from one valley to the next, despite prevailing similarity of local geographic condition. A mountain region gets its population from diverse sources (Sample 1947). The Kols, Kirats and the Khasas are the pre-vedic inhabitants of this region. Kals represented scheduled caste population during present time. The Kirats and the later races of Mongoloid origin, represented by Khasa Rajputs and Brahmins. The Gorkha Domain (1790-1815) is a unique feature in the history of the region and is characterized by depopulation.

The geographical analysis of population of the U.P. Himalaya is likely to bring out the general relationship between man and habitat, which is quite important in understanding the sparsely but over populated (economically) mountainous region with predominantly rural economy.

The U.P. Himalaya, with an area of 469.73 km. and population of 32.84 million in 1971 represents 1.43% area and 0.59% population of India. The comparative arithmetic densities per sq. Km. are 70 and 177 while rural densities are 60 and 148 respectively. The above population is concentrated in 13939 villages and 34 urban centres of different order. The percentage of urban population is 14.9 but varies considerably from district to district.

Factors affecting Distribution of Population

Large part of Himalaya can be traced as uneven distribution of population. There are areas which are crowded with humanity, while on the other hand, there are almost empty lands. Altitude, slope, climate, vegetation and availability of water are the factors of physical environment which have influenced the distribution of the population. Social factors have also been effective locally.

Altitude is the only independent factor of geographical environment in the Himalaya. Changes in altitude have influenced the distribution of population also through climate, vegetation and water. Climate is the most immediate response to any change of altitude. Human responses to vegetations are of both social and economic in nature. Forest communities are socially and culturally distinct from the peasant agricultural communities. Unevenness in the distribution of population in a mountainous region is also a function of slope. Most of population is distributed upto 24° slope. In Kumaon 14—18° represents a considerable area, while in Garhwal, area below 17° slope is insignificant.

Aspects becomes important at higher altitude and in the proximity of forests. Below 1800 mt. aspect has very limited role in the patterning of population distribution. The impact of lithology on population distribution is observed through soils. The influence of structure on the distribution is viewed through the symmetry of valleys. Even distribution of population may be expected in the symmetrical valleys. Availability of water, drinking and irrigation, plays a vital role in the location of settlements in the Himalaya. Other factors which are also contributing to the preference of settlement over spurs are climatic. Most of the settlements within valley bottoms are relatively recent. The reason behind it are security conditions during past extreme climate and availability of water for irrigation. Now construction of highways along the main rivers is attracting people for business and living. There is a tendency of intra-valley migration during last few decades.

Growth of Population

Earliest estimates of population for some parts of this region are available in the Gazetteer of Himalayan Districts since 1821, but due to non-availability of information on Tehri Garhwal State - present Tehri and Uttarkashi districts, analysis of the growth of population has been done only since 1901. Table 3 presents the districtwise growth of total population for last seven decades. The growth figure for the U.P. Himalaya is quite comparable with the national average, but it has been higher than the State. During 1941-51, the growth has been slightly lower than the previous decade, which is also reflected in the State and national figures. The more important aspect of population growth of the U.P. Himalaya is relatively higher growth during 1901-11 ; about 2.5 times that of India. Population of this region has never registered negative growth. On account of its geographic environment which has minimized the impact of famines and epidemics.

Table 3 gives clear picture of low growth (below 12%) in Uttarkashi, Chamoli, Pauri and Tehri districts, while Dehra Dun, Pithoragarh, Almora and Nainital have registered higher growth (above 15%). In the crucial decade of 1911-21, the population growth has been highest in Tehri and Uttarkashi districts, just because these were constituents of Tehri Garhwal State and impact of wars has been minimum.

The population growth has yielded definite patterns during 60s. The growth can be grouped into 3 types. First is Sub-Himalayan Type, which includes Dehra Dun, Naini Tal districts, reflected in the highest growth of population. The colonial development of the Dum and Terai has improved the prospects of agriculture and industry. The second is Kumaon type, including Uttarkashi, Pithoragarh and Almora districts, with population growth above 18%. First two are the border districts where developmental activities have been geared up after 1962, in wake of Chinese aggression. The third type is referred as Garhwal type, includes Chamoli, Pauri and Tehri districts. This characterised by lowest growth 13.5 to 15.6%. Throughout the recorded history, these districts have never

Table 3
¹Population Growth (Table) in the U.P. Himalaya
1901-71 (in%)

S. No.	District	1901-71	1901-11	1911-21	1921-31	1931-41	1941-51	1951-61	1961-71
1.	Dehradun	225.0	15.3	3.6	8.5	15.6	36.1	18.6	34.6
2.	Uttarkashi	114.0	11.9	5.8	9.8	13.7	3.7	15.9	20.3
3.	Chamoli	101.0	11.7	1.2	10.0	12.8	6.2	16.7	15.6
4.	Pauri	95.0	11.7	1.2	10.0	12.5	6.2	14.1	14.7
5.	Tehri	99.4	11.9	5.8	9.8	13.7	8.7	13.5	14.3
6.	Pithoragarh	140.0	16.7	0.9	10.0	17.8	12.5	18.5	19.0
7.	Almora	132.0	15.9	0.9	10.0	17.8	12.5	15.1	18.4
8.	Naini Tal	205.0	16.4	4.9	9.8	19.5	19.9	22.3	29.6
9.	U.P. Himalaya	130.0	13.8	2.5	9.6	15.4	12.5	16.2	20.4
10.	U.P.	81.7	-10.0	-3.1	6.7	13.6	11.8	16.7	19.9
11.	India	129.6	5.7	0.3	11.0	14.2	13.3	21.5	24.8

1. Source : Census of India, 1971, Vol XV, U.P. Part II-A Census Handbooks, 1971.

shown high growth of population. The spatial patterns of population growth reveal that the Sub-Himalayan belt has registered highest growth which is followed by the Great Himalaya represented by border districts. The middle Himalaya has lowest growth due to high pressure of population on land resulting in emigration. In the coming future, the same trend is likely to continue, unless the process of resource utilisation is completely revolutionized,

Table 4

**¹Growth of Sex-ratio (Rural) in the U.P. Himalaya
1872-1971**

<i>S. No.</i>	<i>Sub-region</i>	<i>1872</i>	<i>1971</i>	<i>Growth</i>
1.	Kumaon	892	1065	173
2.	Garhwal	992	1134	142
3.	Dun	684	826	142
4.	Jaunsar	733	824	91

Table 5

²2.2 Population Growth of Hill Region in Decades

<i>Year</i>	<i>Total Population (In lakhs)</i>	<i>Density of Population (per sq. km)</i>	<i>Percentage of growth in decades</i>
1901	16.50	32	—
1911	18.31	36	10.97
1921	18.20	36	(-) 0.60
1931	19.71	32	8.30
1941	22.21	14	13.70
1951	25.18	19	12.36
1961	31.06	21	23.35
1971	36.22	15	23.05
1981	48.36	15	26.53

1. *Gazateers of Himalaya Dist., Vol. III. Historical and Statistical Memoir of Dun, Census Handbook, 1971.*
2. *Source : Indian Census 1971 and 1981.*

Settlement Pattern¹

Bose (1972, p. 96-7) gives an admirable account of the distribution of rural and urban settlements in various altitudinal zones, which is summarised here :

1. 0 to 1000 metres : There are deep gorges and sharp water partings and the area is covered with tropical forests infested with wild animals. The climate is also warm and humid.
2. 1000 to 2500 metres : This may be called the optimum belt in the Himalaya and the majority of people live in this belt. Here the climate is cool and the river terraces well developed.
3. 2500 to 3000 metres : Here the river gorges are deep and one often comes across U-shaped cliffs and thundering waterfalls. The climate is cool and the land covered with coniferous forests.
4. 3000 to 5000 metres : There are alpine meadows and much grazing. One frequently comes across semi-nomadic shepherds and traders. These are also temporary summer dwellings.
5. 4000 to 5000 metres : This belt is cold, rocky and snowy. There are some pastures on favourable spots which semi-nomeds visit now and then.
6. Above 5000 metres : There are rugged empty region of rock, ice and glaciers.

The settlement was formed by Mr Traill in 1817 at Rs. 89537 with the padhans or head man for their respective villages. The mode of collection was new to the people and as the power and responsibilities of the padhans remained and the leases were restricted to one year. According to Traill's last report, written in 1833, the total revenue had risen from Rs.

1. Bose S.C., *Geography of Himalaya*, 1972, NBTI.

1,17,730, exclusive of transit dues in 1815 to Rs. 2,34,410 in 1833 over the united districts of Kumaon and Garhwal.¹

Migration

Migration is the chief characteristic of the U.P. Himalaya's population. It is reflected in each aspect of population composition. Here range of migration is spread from intra-regional, seasonal, pastoral migration to periodic and permanent intra and intra-State migration.

Pastoral migrations are ecologically well adjusted to the mountain economy while emigrations to other States or regions are motivated by economic reasons. The 1971 census has enumerated migrants but the published information is not available.² Sex ratio and age structure give some information about the mobility pattern. According to the single yearage returns of 1851 census, sex-ratio at zero age for the region was 1004 females/1000 males. A detailed investigation of migration in Garhwal Himalaya where net migration is 9% of the rural population. The following table of villages gives some idea about emigration from different districts.³

Table 6
Migration

Sl. No.	Village	District	Population (1979)	Migration (1979)	Migration (X)
1.	Gairsari	Pauri	233	33	14.2
2.	Onalgaon	Tehri	383	62	16.2
3.	Trijugi				
	Narain	Chamoli	535	22	4.1
4.	Smailkot	Pithoragarh	492	55	11.2
5.	Chahroti	Almora	351	62	17.7

1. Ibid.

2. Singh, O.P., The Himalaya, Nature, Man and Culture, 1982, page 139.

3. Singh, O.P., The Himalaya, Nature, Man and Culture 1983, page 138.

4. Singh O.P., The Himalaya, Nature, Man and Culture 1983, page 139.

During summer about 60% of the population migrates to the higher slopes where they have to harvest their rabi crops and graze their cattle. After sowing rabi crops, they migrate to lower levels in winters. The winter settlement is compact and the houses are double-storeyed. Summer residences are scattered and are mostly single-storeyed in Garhwal Himalaya. Agriculture is the main occupation but at least one person from each family is in service. Towns occupy five types of site in this region :

- (1) Ridges
- (2) Valleye
- (3) River Terraces
- (4) Confluences
- (5) Gate Towns

Religions and administrative functions play a vital role in the process of urbanization in this region. The dun of Dehra is one of the most highly urbanised tracts of India with 54% of its population classed as urban.

The population structure of the U.P. Himalaya is the result of centuries old physical and cultural milieu now crystallised into distinct social groups. Population density appears to be closely related with the type of environment. The growth of population has inverse relationship with the density of population. Age-sex structure is one of the important aspects of population composition of the region. Occupational structure of the rural population is characterized by higher ratio of workers and high female participation in primary activities. Migration is the chief characteristic of the population dynamics of the region and has influenced the age, sex, literacy, growth and occupational structure.

Chinese aggression (1962) attracted the attention of the administrators and politicians on account of its strategic importance. Population, settlement pattern and society of borderland areas can play most determinating role to provide the security of this region. Since 1962 Kumaon Himalayan region and its strategic passes are well covered, check-posts and airfields have been constructed to visualise the border developments and enemy's activities.

Education

The region had an average literacy of 26.7% in 1971 which is about 5% higher than the corresponding figure of the State. Among districts of the region. Tehri district has the lowest total literacy of 18.1 % while Naini Tal represents the highest literacy with 34.6% of total population. Table 8 depicts the the literacy on sex-basis. The average male literacy of the region is 43.5% and it is 13% higher than the State average. Tehri, Uttarkashi, and Dehra Dun districts represent lowest male literacy of 35 %. Pauri, Chamoli and Pithoragarh districts have higher male literacy, above 47% and Nainital marks the highest figure of 51.2%.

The female literacy of the region is quite close to the State average. Dehradun district has highest female literacy of 16.8% which is closely followed by Naini Tal (16.7) and Pauri (15.2) districts. Almora (10.4) and Pithoragarh (11.8) districts lie quite close to the regional average. Uttarkashi (4.1) and Tehri (4.2) districts have lowest female literacy. Low literacy in these districts is on account of the rule of Tehri State, where there was a strong control over the educational institutions. Along the boundary of Garhwal and Kumaon, literacy is low. Moderate literacy of 25-30% is associated with 21 blocks. Three out of border tehsils share moderate literacy ratio and most of these occupy upper and middle basin of river valleys. High literacy of 33—35% is represented by 23 blocks. Literacy is generally higher in these areas where means of communication are quite old and urban centres are in close proximity. With a rural literacy rate of 18.3%, Uttarkhand has an urban literacy of 43.63% ; on the other hand Arunachal with a rural literacy of 9.79% has an urban literacy of 50.46%. It is equally obvious that urban literacy has not grown by drawing upon the rural base or the reverse, urban literacy has not influenced the surrounding rural areas in the same manner everywhere.¹

Four sets of factors seem to be important in the patterning of literacy rates. First is accessibility associated with

1. *Ibid.*,

social resistances as in case of Jaunsar. Second is the administrative set up, prohibitory practices and political representation, as illustrated by Tehri and Pauri districts. Third is means of transport and urbanization. The last factor is economic condition and socio-economic awareness as in case of the Bhotiyas of Alpine Valleys.

Economy

About 16.5% of the total area lies under snow and 52.5% under forests. Only 10.3% of the total area in Garhwal Himalaya under cultivation whereas in Kumaon Himalaya this percentage is higher (16%). From ecological point of view, the distribution of crops follows some sort of vertical zonation as well.¹ Wheat is widely distributed (even in the cold zone 2400 – 3600 mt. where it grows as a summer crop) whereas rice remains confined only to lower and middle zones (300 – 1800 m). Millets are highly diffused except in the cold zone. The cropping pattern in Kumaon is quite similar to that of Garhwal. There is only one deviation from the Garhwal pattern in the case of rice which occupies second rank in Kumaon. Horticulture occupies a significant place in certain favourable areas of the region. Climate and soils in the altitudinal zones of 1200 – 2400 m. are suitable for the cultivation of apples, pears, citrus fruits, plums, apricots. The State Government has set up some horticulture centres in different places to promote the economic condition of hill people. Gorkhun region derives its industrial resources from forests, livestock, agriculture including horticulture and minerals to permit industrial development. The industrialisation of the hill areas can lead to their prosperity. If research is carried on, I am confident that this will be possible and a reasonably good pottery and crockery industry will be established. There is a tree known as 'Chewa' which is found in Pithoragarh district. Its fruit gives a milky juice which can be converted and utilised for making squash and confectionery. A large number of

1. Kaushik, S.D., 'Agriculture in the Himalayas' Nat. Geog. Jour. India VIII (1962) 270-83.

minerals are available in the hill areas, but the areas in which they are located have not been properly surveyed. The region has great attractions for pilgrims tourists and mountaineers. Here pilgrimage can be combined with tourism and adventurous sports and recreations. More than two lacs people visit the holy shrines every year and spend between 10 to 20 million rupees.

Though strategic importance of the northern frontiers has accelerated the development of transportation and communication in this region since 1962, yet the isolation in most parts is not broken. Actually the region reflects all the problems of under-development in an acute form. The potential of resources, both human and physical, have not been developed, rather they have suffered from utter neglect till 1962.

Cultural Heritage

Culture, briefly defined, is that which is learned, shared and transmitted in society. It is learned rather than innate, it is shared rather than idiosyncratic, it is transmitted rather than hoarded privately. A culture refers to a distinctive way of life—a specific set of learned, shared, transmitted ideas and behaviour. But a culture is not an absolutely discrete, distinct bounded phenomenon. Social and political movements have been generated seeking self-respect and self determination for Himalayan peoples. Political parties seek to gain power and influence by using these movements as their vehicles. 'Uttarakhand' and 'Chipko' are examples of words of hope which have become rallying cries for mobilization of action of Himalayan people of Uttar Pradesh.

The people of Himalayan region are known collectively 'Pahari'. They acknowledge this appellation, distinguishing other Indians from themselves as Desi (of the country) and the Tibeto-Burmese mountain people as Bhotiya. High caste Paharis—those who claim Brahmin and Rajput status—are dominant economically. They have long been known as Khasa or Khasiya, and are thought by scholars to be the descendants of

Aryan-speaking immigrants from Central Asia. Among distinguishing Pahari characteristics are :

1. Distinctive caste structure exists as low caste and big caste. The range of castes found in the hills is smaller than in the plains. Occupational variability within castes is considerable in the hills.
2. A number of rules pertaining to marriage which would be unacceptable to many plains. These include brideprice marriage with no necessity for a Sanskritic marriage ceremony, polyandry, divorce by mutual consent, toleration of inter-caste marriage within the high or low caste group.
3. No seclusion of women and free participation of women in most aspects of life than on the plains.
4. A number of religions and ritual features are in the hills. Animal sacrifice is a part of most Pahari ceremonies and buffalo sacrifice is found in some areas.
5. Distinctive folklore, songs, dances and festivals.
6. Consumption of meat and liquor by all castes.
7. Greater flexibility of inter-caste relations and freer inter-caste interaction than on the plains.
8. Terrace agriculture with primary dependence on millets wheat and barley. Water is scarce but wherever possible is used for irrigated rice cultivation.
9. Distinctive women's dress and ornamentation, including fall skirt, fitted jacket and several types of gold and silver jewellery.

The people of Uttarakhan, commonly known as Khasas, are mentioned in the Mahabharata. The Doms, perhaps the earliest indigenous group, represent the first, whereas the

Rajputs represent the second. The Khasas originally a nomadic tribe of Central Asia. Now they are spread from Kashmir to Nepal. The Bhotiyas of Uttarkhand claim descent from those Rajput who came from Kumaon or Garhwal and settled in the upper valleys. The Jads of the Bhagirathi valley claim to have come from Kinnaur in the West. The Bhotiyas have always migrated alongwith their livestock to the Central parts of Kumaon and Garhwal in the cold months.

Agriculture, supplemented by animal husbandary, is the main occupation of the people of Uttarakhand. Trade with Wertern Tibet played a vital role in their economy. Their trade relations with their neighbours in the plains are still flourishing ; Tanakpur, Haldwani and Ram Nagar are the most important among the markets, where they buy and sell. The padhan (Pradhan) maintained law and order in the village. He collected land revenue as well. The Bhotiya religion is a mixture of Budhsm and Hinduism. The present thrend among the western Bhotiyas, who are partly Hinduized, is to become Hindu to achieve better social status. To speak of the culture of region is to speak not only of unity and diversity, but also of stability and change, of satisfaction and frustration, of hope and despair. As the fate of the Himalaya is that of their people, so the fate of one of their peoples is the fate of all. To imperil them is to imperil India.

Himalayan Institute for Research and Management Practices will be set up in U.P. this year, according to Union Environment Dy. Minister. Shri Digvijay Singh. The site for Institute would be decided shortly. Regional Branches of the Institute would be set up in H.P., J & K and Arunachal Pradesh in a phased manner. For the next financial year, he said Rs. 50 lakhs had been kept aside for the Institute Planning Minister, Mr S.B. Chavan, told the Lok Sabha (April 7, 1983) that Rs. 85 crores had been allocated as Special Centrol Assistance to the eight hill districts of U.P. for 1983-84. In addition Rs. 55 crores would be available from State plan funds thus bringing the size of the U.P. Hill areas sub-plan for 1983-84 to Rs. 140 crores.

The people their pattern of life, culture, religion ideology and their aptitude also influence the strategic thinking of defence of the nation. Govt. can take initiative to persuade the tribals, hilly people for the security of Himalay in future.

C. TRIBAL LIFE IN BORDER AREAS

Himachal Pradesh

In accordance with the census of 1971, there were 141,610 members of the Scheduled tribes living in Himachal Pradesh. It means that about 4.09 per cent of the total population of Himachal Pradesh consists of Scheduled Tribes or tribals. The tribes are simple, straight-forward and frank. They lead a hard life and have numerous problems of their own. The hill tribes generally have their homesteads in the upper and middle level of the hill slopes. Dhola, in fact, is the home of tribals. Major occupations of the tribals are mainly agriculture, horticulture and manual labour.

Following are the main tribes to be found in Himachal Pradesh :

1. Gaddis
2. Gujjars
3. Kinners
4. Jads (Lambas, Khampas, Bhots or Bhohs)
5. Lahualis
6. Pangwalas
7. Swangla

Here I am describing only those tribes who live in the region of Punjab Himalaya mainly districts Lahul-Spiti and Kunnaur.

Gaddies

The Gaddies are amongst the most striking tribals. They live mostly in the Chamba and Kinners Districts of Himachal Pradesh. They migrated from some other place due to Muslim

persecution. One Gaddi Kind, Meru Nermdar, who was styled as a great Suryavansi, had built up a sizeable Kingdom extending over the entire Ravi Valley and beyond. Gaddies live on high hills where the winters are severe. Mountainous environment often forces people to move up and down the hills in summer and winter. A great variety of practices are observed among the Himalayan semi-nomads, who live under varying physical conditions in different valleys. The environment had made them self-reliant, sturdy, simple and gay¹: During winter, Gaddies migrate to the low altitudes of Chamba and Kangra districts, alongwith their flocks of sheep and goats. Those who visit this region get the impression that the Gaddies are nomadic shepherds, flanked by their fierce-looking dogs who are really legendary. They look simple but powerful, stalwart like most hill shepherds. The man wears a coat with thick folds of cotton padding or other clothing running down to the knees, with a black woollen cord tying up the pyjame, which are tight at the legs. The women wear something similar but wear in addition, an overall coat called Cholu, coming right down to the ankles and fastened around the waist with a thin rope.

The Gaddie spend the summer in the mountains grazing their animals, winter in the plains cultivating food and other crops. The shepherd also sells his sheep and goats if he is in need of money. Being God-fearing and superstitious, he sacrifices a goat on certain difficult passes. He covers five to seven miles a day. Every shepherd invariably carries a flute with him and plays a folk tone, the hill echo and the hill girl suspends her work under its influence.

Religious Belief

Religion indeed has played a very important role in the life of our country. It is the centre around which the whole of Indian social life rotates. The Gaddis are worshippers of Lord Shiva. They are entirely Hindus, both in their religion and in

1. Bose, S. C.; Op. Cit.

their social organisation. As one of their saying goes.¹

The Gaddi was gazing his flock
 The Gaddan offered incense to Shiva
 To the Gaddi he gave sheep
 And to the Gaddan beauty.

Their most holy spot of pilgrimage is Manimahesh, a lake situated near Mount Kailash. The Gaddis also have faith in spioits whom they seek to propitiate by sacrifices. Kaily Bir is supposed to be the spirit of one who died childless, and therefore likely to harm a pregnant woman. Gunga is an equally menacing spirit, but attacks only animals. Sacrifices are offered on particular occasions like prior to ploughing, laying a foundation stone, raising the central beam in a structure, at birth, marriage and death. In Brahmaur proper, they have temples of Rama and Krishna and people observe Janmashtmi and to a certain extent Ram Navmi too. The Gaddis also believe in wagic and take recourse to it through usual rites. They strongly beleve that magical force makes a person appear a pale shadow of his or her realself.

‘Their cast system modified by their hard environments throws a great deal of light on the fundamental nature of Indian castes’.² The entire Gadharan is also known as Shiv Bhoomi, They associate their migration to the mythical migration of Lord Shiva and Kailash Parvat to Chamba. Now of course many them do no like the practice of migration and number of Gaddis are declining to adopt the new programmes of Government and other development schemes.

Gujjars

Majority of the scholars are of the view that these people migrated to India somewhere during sixth century from Central Asia from where communication with India was a regular

1. Chattopadhyya, K. Devi; ‘Tribalism in India’; Vikas Pub. 1978 page 126.

2. Dbir, D.N.; Tribes of the N.W. Border of India: Paper read in Seminar.

feature on well established trade routes,¹ They live in jungles or in valleys for temporary period. Gujjars mostly pastoral are beautiful tribe of Himachal Pradesh. Camarigham says that the Gujjars existed even before the birth of Christ. Their homeland is Gujarat. Gujjar leader came to power and ruled Peshawar, Kabul and even Multan for a considerable period. Most of the historian believe that the Gujjars were a Rajput community. The word 'Gujjar' appears to have been derived from 'Gujjar' which means a warrior class of Rajputs.

In winter they prefer to come to valley bottoms and plain areas. A Gujjar is recognised by his typical turban and beard. The Gujjar women wear Kurta and Chudidar pajama, like a muslim woman of Kashmir. While Gujjars graze his bufallow, arranges the fodder and looks after his cattle, his woman folk milks the cattle, prepares butter, ghee etc. Like Gaddi women, Gujjar women also live through thick and thin with their husbands.

The Gujjars in Himachal Pradesh are mainly a pastoral tribe. It is surprising that they never use any beverages nor any stimulants.

Kinners or Kinauras—(Ashvamakhas)

The active generous, frank kinners are the inhabitants of the border district of Kinnaur. In Sanskrit literature, Kinners have been shown as Yakshas and Gandharvas. Some are of the view that the name Kinner was given to that tribe which like Tibetans had a very thin growth of moustaches and beard. In Sanskrit means 'Are you a man' asked in a satirical way from those who grow a very thin beard. Kinners had age old relations with Western Tibet. "There was time when the district bore homogeneity, with the neighbouring Tibet with which they had not only a flourishing trade but marital relationship, particularly of the people inhabiting the valley of Hangrang"²

1. Ibid.

2. Himachal Pradesh District Gazetteer, Kinnaur, 1971.

Kinauras are primarily agriculturists and their subsidiary occupation are grazing, weaving, spinning, silver smithy, wood carving. The people believe that 'Shukla Paksh' is an auspicious occasion for agricultural operations. Every village has its own Devta who in cases of annoyance is said to shower wrath in so many forms. In this region Hinduism as well as Buddhism are practised. The people living in international border of Tibet are purely Budhists with Mongoloid features. Their customs and traditions are more akin to Tibet.

Kinner Pradesh is eminently suited for growing fruits, viz. grapes, apples, peaches and Chilgoji. The government has realised the need to grow more fruits in this area by plantation and providing new implements for horticulture. The Panchayats have inspired the people to work for the welfare of their region. Khasia or Chamang, Rajput and Koli, both are Kinners and both have a common overall similarity and identity in social patterns, in dress and other modes of living in custom and in faiths, worship, folklore, traditions, etc. and this common bond is so strong that both fit completely into the same tribal picture entitled Kinner.¹

Lahulas and Spitians

The district of Lahul Spiti is another border district of Himachal Pradesh. The spiti division of the districts borders with Westren Tibet. This also entirely tribal district. The two divisions of this district namely Lahul and Spiti stand entirely different in terms of physical and geographic factors and socio-economic characteristics. Both are separated from each other by the great Himalayan range. The Spiti area drains through Spiti river and its tributaries to the Sutlej, whereas rivers Chandra and Bhaga alongwith their tributaries drain the Lahul area to the Beas.

The honest, peace Loving and hospitable Lahuls are quite healthy and robust. They are agriculturists and do the work of

1. Negi T.S.; Op. Cit.

spinning and weaving. The Morahion missionaries introduced many good things among them. 'The missionaries gave much to Lahul-internal heating. ventilation with windowglass panes, growing vegetables and knitting of socks' ¹.

Lahulas have very rigidly followed the practice of polyandry since very old. The reason behind this system again is economic. Now the young educated youth are ashamed of their such social set up. Polyandry is a partial solution to the economic problem of the area, it is also the cause of considerable human suffering. Because of the system a large number of girls remain unmarried.

Well-built and hardly Spitians live in the Spiti division of the Lahul Spiti district. They consist of many tribes like Jads, Khampas, Bhots, Swanglas etc. Spitians follow Buddhism as their religion. The men wear a pattu coat reaching amongst to the knees and usually of dark colour. The dress of the women is similar to that of the men with some personal adornment in the way of ornaments on head and neck.

The Lahulis inhabit the Lahul Spiti region of Himachal Pradesh. They include following castes which can be placed into two categories.²

Upper Class

1. Brahmins
2. Rajputs
3. Thakurs
4. Rathis.

Lower Class

1. Halis
2. Lohars
3. Bhots (A separate cast which does not have any communication with other of Lahulis)

1. Gill, M. S. : Himalayan Wonderland. Vikae Pub. House: Ddlhi 1972.

2. Shashi, S.S. : Himachal; An ISSD Publication 1971 page 126

KUMAON TRIBAL LIFE

The Kumaon Himalaya lies in the fact that the rivers Ganga and Yamuna have their sources here. This mountain tract covers about 38000 km. and contains the type of areas of all the three Himalayan sections, the Siwalik, Himachal (the lesser Himalaya) the Himdari (the Great Himalaya)¹. Population distribution in a mountain region like the Himalaya is determined to a great extent by its climate and topography. Environmental constraints are manifest in the shaping of the economic structure of the region.

The Bhotiyas and Jadhhs have had a distinct socio-economic position in this area, constituting a buffer between the Buddhist community of Tibet and the Hindu communities in India. The Bhotiyas of Uttarakhand identify themselves as Shanka in Johar, Darma and Byans (Pithoragarh District), Marcha in Niti and Mana (Chamoli Dist) and as Jadhhs in Uttarkashi district². The Bhotiyas of the U.P. Hills have absolutely no connection with the communities in the Eastern Himalaya. The Uttarakhand Bhotiyas have developed and adjusted differently in their respective areas due to the distinctive cultural streams that obtain in these areas. Thus the Bhotiyas of Pithoragarh district and the Bhotiyas of Chamoli district are quite distinct due to the dominant Kumaoni and Garhwali cultures within which they are confined. Some commentators have characterized the peoples of the entire Himalayan region as tribal with the result that the very term 'Pahari' has come to carry such connotations in the minds of many people. In census record in 1881 give 24 Gujjars in Kumaon and 1056 in Tarai, all are occupied intending cattle, and have a bad reputation here as a cattle stealers. The same returns show 66 Jats in Kumaon and 1438 in the Tarai, chiefly occupied in agriculture and cattle grazing. Kachhis number 54 in Kumaon and 968 in Tarai and Kahar number 363 in

1. The Gazetteer of India ; Kumaon Himalaya.

2. Rahul, Ram ; The Himalayan Borderland ; Vikas Pub. 1970.

Kumaon and 8722 in the Tarai. The former are cultivators and the latter are both cultivators and the service¹.

The Jadhs of Uttarkashi

The Jadhs constitute a small but distinctive ethnic community in the northern parts of Uttarkashi. They originally inhabited the valley of the Jadhganga—also called the Jauhui one of the most important tributaries of the Bhagirathi which it joins near Bhaironghati. To the west of this valley lies the Bespa valley of Himachal Pradesh and to its east is the boundary of district Chamoli. The northern border is bounded by the international border with Tibet. The average elevation of this region is between 3000 m and 6500 m.

The Jadhs have mongoloid features and they speak a Tibetan dialect. The Jadhs claim that they have migrated to their present habitat from Bashahr in Himachal Pradesh, and in fact have many links with the people of Bashahr. However, it may be that originally they migrated from the Tibetan side. The valley receives very heavy snowfall during winter which starts in October and ends in April. In this inhospitable terrain, Jadhs who inhabited this area, living in the two villages of Nelang and Jodhang, at a height of 3400 m. The only crops that can be grown in this area are potatoes and for alternative economic pursuits they raise sheep and goats and trading. The imports from Tibet were salt, wool and borax. These commodities were sold in the market on the Indian side. The trade route was through the passes of Theng la (5050) and Tsang Chok la (5400 m).

Each Jadha family owns 200–400 head on an average of sheep and goats. Chorpani which is 10 km. from Rishikesh is a forestclearing, where the Jodhs have been camping during the winter months for generations. The pastoral economy of the Jadhs have developed a well defined division of labour between the men and women. They claim to be Rajputs and

1. Atkinson, E.T. ; *The Himalayan Districts of N.W.P, of India*
Page 450.

adopted surnames. They are, however, not treated at par by local Rajputs.

The Jadhs have maintained a distinct identity of their own and do marry the border people of Bashahr. The Jadhs, however, even after the disruption of trade with the Tibetans have been able to maintain themselves because of their alternative economic pursuits. The total population of the Jadhs is about 400 persons.

The Marchas of Chamoli (Garhwal)

Unlike the Jodhs of Uttarkashi, the Marchas of Chamoli are a cognate branch of the Bhotiyas of Pithoragarh. The Marchas of Chamoli inhabit the revenue circle of Painkhanda, which occupies the extreme nor-eastern portion of the district. Painkhanda is bounded by Tibet on north, on the west by Uttarkashi and on the east by Johar in Pithoragarh District¹.

The Marchas of Chamoli inhabit the Mana and Niti valleys both of which are also known as the Vishnuganga Valley : Marcha Village in the Mana Valley is Mana, situated at a height of 3400 m above sea level. Mana pass, which is about 6000 m high and leads to Tibet is one of the most difficult passes in this part of Himalaya. The Marchas of Niti Valley inhabit the village of Niti. This is the highest village in the valley (3600 m) and is situated only 18 km to the south of the pass also called Niti Pass (5800 m). The non-Marcha inhabitants of the villages are called Duryal in Mana and Tolchas in Niti Valley. The only crop that are grown by the Morchas during summer are barley, amaranath and buchwheat. The high mountain regions are covered by snow during the winter months and the marchas then migrate to the lower regions.

Environmental constraints have a determining effect on the economy of the Marchas. The Marchas of the Niti and

1. Lall, J S.; 'The Himalaya Aspects of Change'; Oxford University Press, 1981, Page 207.

the Mana valleys had trading relations with the Tibetans until 1962, during which they earned sizeable profits by exporting Indian goods to the Tibetan market and importing wool, salt etc. from Tibet. Manufacturing items from the wool of their own sheep and goats is still very common, but is becoming less profitable due to the declining pasture lands.

The Bhotiyas of Pithoragarh

The Pithoragarh district was carved out of Almora dist. in 1960. It includes such celebrated peaks as Trisul (7160 m) Nand Kot (6850 m) and Panchachuli (6910 m). The district slopes abruptly towards the Nepal border, which is formed by the deep gorges of the Kali and Sarda rivers. The sub-divisions of Munsiri and Dharchula are predominantly inhabited by the Bhotiya tribes. The Johar Valley is in Munsiri sub-division while the Dama, Bayans and Chandans are in Dharchula. The Bhotiyas of the Pithoragarh District are known as Byansis, Chandansis and Darmawals after the names of the sub-divisions they live in. Those of the Chamoli and Uttarkashi districts are known as Joharis, Tolchas, Marchos and Jadhs. The Bhotiyas of Chamoli and Uttarkashi in Garhwal are known as western Bhotiyas.

The Bhotiyas and their distinction

Geographically, the habitants of the Bhotiya can be divided into three regions :

- (1) the high mountain ranges which remain snow-bound for about six months¹
- (2) lower mountain ranges with rich flora and ample rain fall ;
- (3) The river valleys.

The Bhotiyas have always migrated along with their live stock to the central parts of Kumaon and Garhwal in the cold

1. Lall, J.S. ; *The Himalaya Aspects of Change* ; Oxford University Press, 1981, Page 210.

months. Ethnically and culturally, the Bhotiyas of these valleys are fairly homogeneous and live in a common ecological environment. All along the history, till the stoppage of trade with Western Tibet in 1962, the Bhotiyas occupied a key position in the commercial intercourse between North India and Western Tibet. Trade played a vital role in their economy. The trade relations with their neighbours in the plains are still flourishing. Thanakpur, Haldwani, Ramnagar are the most important among the markets, where they buy and sell. The present trend among the western Bhotiyas who are partly Hinduized, is to become Hindu to achieve better social status.

The Bhotiyas of the Johar Valley

The Bhotiyas of Johar are composed of many immigrant strains, but are mostly from the neighbouring district of Chamoli, where there is a sizeable population of Bhotiyas known locally as Marcha. The Bhotiyas of each village were identified by their village name. Bhotiya society thus allowed clans to split into two or more subclans which permitted inter-marriage when the clans became larger and generally more extended, the ties of clanship became tenuous.

Demographic factors have thus clearly influenced the rules of marriage among the Johari Bhotiyas. In the long run it resulted in the evolution of Bhotiya society as one single endogamous community with smaller exogamous groups. Each sub-group is today settled in a few villages scattered in different parts of Munsiri sub-divisions¹.

Besides the Bhotiyas, there are certain other endogamous groups of a lower category of which the wider Bhotiya society is composed. Another distinct Bhotiya group is that of the Nitwal immigrants from the Niti valley in Chamoli (Garhwal). Marriage of the Johari Bhotiya with the Bhotiyas of Darma

1. Ibid.

Byans and Chandans is also rare. The total population of the Johari Bhotiya was 6529 according to the Census of 1971.

The Bhotiyas of Dharchula

The Bhotiyas of Dharchula differ linguistically, culturally and socially, hardly any link between them and Johari Bhotiyas. The Dharchula Bhotiyas identify themselves as Shanka. The 1971 census put their population at 9520¹.

Marriage between the Darmis, Byansis and Chandansis is common and is socially approved. These three valleys are separated from each other by high mountain ranges and deep gorges with few facilities for transport and communication. The people of most high-altitude villages in these valleys migrate to Dharchula in the lower hills during the winter and they come into close contact with each other. Temporary encampments have been a traditional practice for all the Bhotiya groups of the Dharchula region. Many of the villages which do not migrate also lie on the migration routes and marriage relationships are established with such villages by the migratory populations.

This establishes a clear link between environmental conditions and the institutional responses in the Dharchula region. The structural relationship is directly related to the ecological conditions of the region.

The Economic Structure

The present day Bhotiya is facing great difficulty and his economic condition is bad. He has lost his trade with Tibet, including the wool that he brought from there and sold at lucrative prices to the woollen mills in the plains. The ecological influences on economic structure are clearly discernible in Bhotiya society. Agriculture is very poor due to snow-bound

1. Atkinson. E.T. 1886 ; *The Himalayan Districts of the North Western provinces of India*, Vol. 3, Allahabad, N.W.F.P. Govt. Press.

region; by and large Bhotiya are categorised as non-agricultural. A large quantities of foodgrains have to be imported from the plains. Their flocks consist mostly of sheep and goats, while weaving and the sale of woollen items in local market are significant adjuncts. The Bhotiyas are traders for generations. They had imported wool, borax and salt from Tibet. They became the most prosperous and forward-looking community in the entire border district. Climatic conditions and the nature of their trading practices induced a high degree of mobility. Upto 1962, these villages became hives of activity on the eve of the trading expeditions across the border to Tibet. The fact of ownership gave the Bhotiyas a higher social status and enabled them to exert political and economic pressure on the other communities of the area. In Pithoragarh district, the land ownership and proprietary rights are of three categories :

1. Hissedar (cultivators of land)
2. Khaiker (those who cultivate, land but owned by Hissedar)
3. Sirtan (They are tenants)

Changes

The Hill areas of U.P. require special attention because of their backwardness. It was with this in mind that the Uttarkhand Division was formed in 1960, consisting of the districts of Pithoragarh, Chamoli and Uttarkashi. The Commissioner of this division was given the power of a Head of Department of all departments concerned and he was the sole co-ordinating authority for all development work. For development, it is necessary to formulate plans for the whole area.

The Chinese occupation of Tibet did not immediately have an adverse effect on the trans-border trade. The Bhotiyas persisted with it and adapted themselves to the changed conditions. The Sino-Indian hostilities of 1962 brought the trans-border trade to a complete stop, and the border has remained

sealed since then. The entire social organisation of the Bhotiyas revolved around it and radical changes in the pattern of life succeeded the stoppage. The villages of Malla Johar, Malla Darma in Pithoragarh and Nelang and Jadhong in Uttarkashi and Niti and Mana which were all about 3500 m above sea level, were abandoned altogether because they lost their utility as trading post¹. In the circumstances, the only resource available to the Bhotiyas was agriculture. Since environmental conditions in the higher regions were unfavourable to this now principal occupation, the population was forced to shift to more fertile lands in the lower regions. The Bhotiyas are an industrious and intelligent people, who will go a long way to make the hill areas prosperous.

In 1962, the Hill Zamindari Abolition Act of U.P. converted their tenants in these fertile areas into land-owners after payment of a factor of rent². In course of time, this occupational diversity is bound to stimulate the evolution of radical changes in the economic and social system of Bhotiya society. Based as it was on trade, money was central to the Bhotiya economy ; it enabled them to buy their necessities from outside the region and they are only partly dependent on local resources. Agriculture and other non-agriculture occupation thus deeply affect their own social structure and relationship among the local groups.

The effort of all planners should be to see that in these inaccessible areas, the village community not only becomes self-sufficient, so that all local needs are met, but they also produce goods which can bring them prosperity. There is no doubt at all that horticulture has to be developed on a large scale in the hill areas. The marketing of fruit is now being done on a systematic basis. They have produced 77,000 tonnes of apples during 1972³. The Animal Husbandry Department

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1. Pant, S.D. 1935 ; *The social Economy of the Himalaya*, New Delhi (Allen and Unwin)
 2. Waddell, L.A. ; '*Among the Himalaya*' (Mittal Publications 1979)
 3. Hill Development Corporation Report 1972.

carried out various experiments. The industrialisation of the hill areas can lead to their prosperity. With the power available, small machines were operated to manufacture articles like needles, buttons. Small-scale industries can be established. The wool industry, which is as traditional industry in the hill areas, has to be encouraged to the largest extent possible. The Hill Development Corporation was formed in March 1971, managed by a Board of Directors and it has an authorised capital of Rs. 2 crores, with a paid-up capital of Rs. 50 lakhs. The Corporation has created two divisions (i) Division of Tourism and Transport, and (2) Storage, Supply and Marketing Division.

In Almora district, an Indo German Project has been started. It has become a part of economic collaboration between India and Germany for the promotion of agriculture. The strategy is to increase yield from agricultural operations by intelligent planning. The tempo of development in the hill areas is fast and I feel confident that since the vitality of the people is so great, it will always take them forward, and give the incentives they need.

It is also important that China's occupation in Tibet the tribal life of borderland communities have shifted their views of thinking and following and Indian Government national policy. Since the border sensitivity after 1962 were assumed, by that time the tribals are trained and provided all needy necessities to units and also to face the challenge of hostile country. From defence view point tribal life and other borderland communities can play most significant role to ensure the comprehensive security environment on Punjab and Kumaun Himalayan region.

D. SECURITY IMPLICATIONS

India's defence policy aims at promoting and sustaining durable peace in the sub-continent by means of negotiations and co-operation among the various countries in the region and at the same time equipping the forces against aggression. India, being the seventh largest and the second most populous country of

the world, is pursuing a middle course of non-alignment, keeping away from power blocs, but developing her own defence machinery to catch up with the most modern national armies of the world with the aid of countries of both the two most important power blocs.

In the dynamic world of today, any country that wishes to make its policy effective has to be realistic and keep on reviewing and reassessing its policies to respond to changing circumstances. Defence policy cannot be frozen rigid once and for all. In this concluding chapter, the area study of Punjab and Kumaon Himalaya and their people and pattern of life has been analysed under the present defence policy. The security implications to this region had been realised since Crown rule in India, before this rule the border trade, cultural affinities and pilgrimage was prevalent faactor in this region. As far the security sensitivity of Himalayan region got impetus, the defence policy took new frame. The foreign policy of the British was directed towards securing the alliance, integrity or neutralisation of the borderlands. 'Ring Fence' policy was framed as the details discussed in second Chapter¹. Lord Curzon created a North-West Frontier Province in 1901 and substituted 'a policy of frontier garrisons' drawn from the people themselves. These policies were maintained during a century of intense rivalries among the great powers. Great power rivalries, skilful British manipulation of the balance of power minimised the possibility of a senior threat to India. But the diversity of the Indian people posed a constant threat to internal security. Half-civilised and militant tribes in the north west were a serious ann continuing danger to the settled areas. After 1920, military planning proceeded on the basis of meeting the 'major danger' of internal security and frontier defence. Hindu-Muslim animosity renewed turbulance on the North-West Frontier.

It will be noticed that the tribals never owned the Britishers and always remained a problems to Britishers. In

1. *Ibid*

British plans the mood and loyalty of the tribals was kept in mind.

With the withdrawal of British power from the sub-continent, India inherited the Punjab and Kumaon Himalayan region in ill-developed, ill-connected and loosely administered State. Therefore, the first security requirement was to set right these state of affairs. But this did not catch the attention of national leaders till late Pt. Nehru concluded his views on defence that no danger threatens India from any direction and even if there is any danger, we shall be able to cope with it.¹

The conflict with China came as a jolt and awoke up to military dangers in this area. Since Chinese occupation of Tibet, India became fully aware of its strategic implications. A vigorous programme of Himalayan security measures were undertaken. The measures taken by India in the Himalayan region were strategic road building, diplomatic, administrative and police measures. The BRDB was created in March 1960 to co-ordinate the various state construction projects with the Army's own hastily conceived road building programme in the strategic border areas. The police patrolling on the Indo-Tibetan border in the middle sector was placed under overall military control in late 1959.

Before road building and other security steps could be completed, 1962 Chinese attack took place. In this sector almost whole border from Lahul-Spiti to Leipu-lekh (450 kms) came under the strategic influence. Few strategic and sensitive pockets (Shipki la; Imisla) of Himachal specially enrage the security implications in this sensitive region, The above-mentioned strategic points revealed the significance and sensitivity of this border. The Punjab and Kumaon Himalaya had remained ignored after independence due to Pakistan's strategic manoeuvring.

1. Jagat, S. Bright (ed): Important speeches of Jawaharlal Nehru (Lahore : Indian Printing Work, n.d.) pp 138 and 153.

It was fortunate that the local inhabitants of Punjab and Kumaon Himalayan region were not indifferent to Chinese offensive. They were full of zeal, invariably said, "Sahib, give us rifle and ammunitions and they will look after themselves".¹ This was the mood of the people observed by Mr. Krishna Prakash on Taklakot front. This type of human material with proper training and assistance can be of immense value to defence forces operating in the region.

In Chapter 3, the Study Area has been discussed in detail. The climate, structure, trade and communication, administrative structure and changes in the borderland areas are channalised with the new security implications of Punjab and Kumaon Himalaya. These factors influence the strategic requirement and defence structure of any border area. The exploitation and exploration of minerals also adds the sound defence potentiality and war economy.

In Chapter 4, the people, tribal life, their cultural heritage, population, settlement pattern, education and economy are interpreted in a broad spectrum. The life of the people and its pattern is always a considerable factor for national security. The people of this region are freedom lovers, patriotic and are having a sense of nationalism proved through history and political conditions from time to time. All that is required is vigorous action in implementing the various development plans by the government. The urgency of defence and security needs of the region should be clearly understood by the officers implementing the plans. They should realise the direct object of the Plan; they are responsible to implement, may be economic, industrial, education development, etc. But the implications of the achievement of these objects is vitally related to defence or security preparedness. Therefore speedy and full implementation of the plan will go a long way to meet the security sensitivity of this area.

1. Prakash, Krishan; *The Broad Spectrum*; 1973 Page 78 (Mr Prakash was an Army Officer in 1942; in 1961 became Commissioner, successor of Sir Henry Ramsay of Kumaon).

CHAPTER 5

Emergence of Power Pattern and its Implications

A. POWER RIVALRIES AND ITS IMPACT ON THIS AREA

The strategic sensitivity of the geographical location assumes greater or bigger sensitivity according to the power equation converging in that area. The convergence of power brings conflict of political, economic and territorial interests. The struggle is always to create a favourable power balance by one power for the other. The action of one power create reactions in other power that be and thus continuous process of stability and instability continues in the area with the change of power equation. The Himalayan frontier of Punjab and Kumaon is no exception,

The Himalayas have dominated the life, the culture, the religion and the security of northern frontier. In 1847 Britain and China were neighbours. Their frontier was not demarcated but throughout the centuries, village people and traders had known the extent of Chinese influence ; and armed guard. The limits of Russian or British control were as familiar. As British imperialism consolidated its power in India and the East India Company saw the opportunities for extending their trade beyond the Karokoram.

Central Asia has a long history as the centre of chronic turbulence from which violent explosions have periodically erupted and spread disaster—either directly or by Chain reaction over enormous distances. The remainder nineteenth century

was period of comparative stability and amicability in Ladakh's relations with Tibet, virtually was devoid of complications over boundaries or trade.

Therefore, in Article XII of the Treaty of Lahore, signed on March 9, 1846, Gulab Singh recognised as an independent ruler by both the Lahore and British Government. Gulab Singh at last saw the fulfilment of his ambition for an independent Dogra State.

By 1860, interest in Ladakh centred around new and critical developments in Turkestan which threatened the precarious balance of power between the British, Russian and Chinese empires. The situation became acute in the mid-1860s with the collapse of Chinese rule in Eastern Turkestan.¹ To restore power balance favourable to the British, the Viceroy, Lord Mayo, encouraged in India-Yarkand trade route. He expected most of the trade would go through Leh and then via either the Chang Chenmo or Karakoram routes to Turkestan. Eventually, a Central Asian Trading Company was established but its success was not spectacular. Both British and Russian, were content to have an independent Eastern Turkestan as a buffer. While all this was taking place, Ranbir Singh, saw fit to take advantage of the disturbances in Turkestan to expand the boundaries to Kashmir. In 1863, a Kashmiri garrison was set up at Shahidulla to expand the boundaries of Kashmir. Ranbir Singh's 'forward policy' had only a brief life. In 1866, Yakub Beg conquered Khotan and unified Eastern Turkestan.

Ladakh was contiguous not to Russian but to Chinese held territory. This was an important factor in the formulation of British policy in this area. British policy on the frontier area was generally determined by their attitude towards Russia. British were also willing to leave the Dard states north of Kashmir and most of Ladakh in the charge of the Dogras. British felt that lofty Hindu K̄ush and Pamir ranges made the

1. Fisher, W.: *Himalayan Battle Ground*, 1963; Page 61 (Praeger Publisher, New York).

area safe from Russian invasion. Their feeling of security was reinforced by complacent reports of British agents.

In 1885, however, continued Russian advances in Central Asia alerted the British to the possibility of a Russian invasion of their dominions via Kashmir.¹ The main purpose of Durand's journey was to work out a plan for the defence of the Hindu Kush that would utilise the projected Kashmir Imperial Service Troops. Durand contended that "as the Suzzarian power, the responsibilities became ours and it was recognised that the Hindu Kush for these hundreds of miles must be our natural frontier". In 1890, another Russian delegation visited Hunza against the British but confidently fore saw the eventual absorption of Hunza by the Czer. Mir of Hunza was well pleased with the visit and sent a mission with presents to Russia to counteract the growing British influence in the Pamirs. The northern frontier of Kashmir did not cause the British any real problems after the 1890. The British were satisfied with the Karakoram frontier, and the danger of a collision between Russia and Britain was lessened by a number of factors ; friendly rule established on the throne of Hunza, north-eastern extension of Afghan territory in 1893 as a buffer zone and the defeat of Russia in the war with Japan. The question of the border between Hunza and Sinkiang remained unsettled.

The Aksai Chin appeared to be a little commercial or strategic significance and was rarely visited. A bleak and uninhabited area whose salt deposits were regularly exploited by both Ladakh and Turki traders. Its strategic importance lies in the fact that there the frontiers of Tibet, Sinkiang and Ladakh march together. Aksai Chin was a general name for all ill-defined and very elevated table land as the north-east of Ladakh and it was probably the case that part was in Chinese and part in British territory.² Aksai Chin (a white stone alkaline desert plateau, about 17000 ft. above sea level, the northern

1. Woodman, Doroth ; *Himalayan Frontiers*, 1969 (Page 69).

2. *The Sino-Indian Boundaay Question* (Peking ; Foreign Languages Press, 1962) Page 55.

extension of the Lingzi Tang. Its present importance lay in its position in a gap between the glacier of the Great Karakoram and the high peaks of the Kunlun range). The fact was that Aksai Chin was too cold, too high and too inhospitable to tempt anyone but the most hardened explorer and the most enthusiastic hunter¹.

The first four decades of the 20th century were marked by comparatively amicable relations between Kashmir and neighbouring States. There were minor eruptions occasionally. Although Central Asia became an arena for intense rivalry among the major powers, Ladakh, on O.P. remained outside the actual field of conflict. In short, Aksai Chin was expendable had the Chinese accepted the Macdonald proposals, the Aksai Chin would have been within their jurisdiction.

Later this very area to become a bone of contention between Communist China and India. The Anglo-Chinese treaty of 1906, Lord Curzon urged the British Government to secure a de-jure international recognition of Tibet as a sovereign State. Chinese suzerainty over Tibet was always nebulous and nominal. It was a clash of interest and manoeuvring of power in that sensitive area. Tibet had been independent for long periods up to the 18th century. Curzon's policy was to recognise both Chinese suzerainty and Great British's special interest in the maintenance of the status-quo in the external relations of Tibet under the Anglo-Russian connection of 1907. The Chinese government tried to recapture Tibet but were prevented from doing so. This time British Government claimed that any attempt to recapture Tibet would be violation of the Anglo-Chinese Treaty of 1906. In 1913, the Tibetans proclaimed their independence. In the same year, Simla Convention held in April 1914, in which Tibet was divided into two regions, *i.e.* Inner and Outer Tibet.

It undertook not to recognise the suzerainty of China over Tibet unless the Chinese gave a substantial quid-pro-quo

1. *Ibid.*

by admitting the autonomy of Tibet and fixing a frontier. China did not ratify the Simla Agreement on the grounds. The Russian revolution in 1917 caused another shift in British policy, though no new agreements were made either with her or with China. The Oxford Atlas showed the Aksai Chin as British territory. From 1917 to 1933, this boundary was never challenged by China. Therefore, the boundaries remained unsettled.

During World War II, Tibet claimed the neutrality and resisted Chinese pressure for opening up communications through Tibet. Tibet was thus never a full fledged Chinese province. Mr. Jayaprakash Narayan cited from history to prove that "China has not exercised suzerainty, sovereignty or any other form of control over Tibet any time. From 1912 to 1950 when Chinese Communist forces invaded the country and compelled the Dalai Lama to accept the 17 point Agreement. The Simla conference was unable to conciliate the divergent Chinese and Tibetan positions on the boundary question". Kashmir's relations with Sinkiang never proved particularly troublesome in this period. The real centre of conflict lay in the northern and western section of Sinkiang, in the districts bordering on the Soviet Union and outer Mongolia. The survey was extended to the border area between Gilget and Sinkiang. No detailed survey was made of the border areas now in dispute between India and China.

The most significant development was British withdrawal from South Asia and the partition of the British Indian empire. India accepted the Chinese suzerainty over to Tibet and China granted the autonomy to Tibet. Later events proved that China never intended to honour their commitment and Chinese entered in Tibet. The strategic situation that now developed in this sensitive area seal by British General Lentaigne, Commandant of Defence Services Staff College, Wellington, South India "India's backdoor had been opened and the Himalaya had become the boundary with large powerful expansionist China¹".

1. Dalvi, J.P. : *Himalayan Blunder*, 1969, Page 15 (Thacher and Co. Ltd., Bombay).

As per his perception the danger he advised that roads and strategic line of communication would have to be raised. He reminded us that the Indian Air Force and Navy would have to be modernised at considerable cost. Chinese encroachment on Ladakh near the Karakoram pass have reopened the dispute on Aksai Chin in acute form, involving all three powers (India, China and Pakistan) in complexities. On uneasy division of Kashmir between India and Pakistan created the conflict in this region. The power rivalries again started in the entire Himalayan region. By 1954, China had been linked by two major roads with Tibet. A railway line to Lhasa was contemplated and detailed survey operations had commenced, The Sino-Indian Agreement on Tibet of April 29, 1954 (Punch Shila) agreed after some discussions that both sides will adopt the following routes for traders and pilgrims by these passes... (1) Shipkila Pass ; (2) Mana Pass ; (3) Niti Pass ; (4) Kungri Bingri Pass (5) Darma Pass and (6) Lipco Lekh Pass"¹.

On July 17, 1954, the Chinese protested to New Delhi against the stationing the Indian troops at Wu-Je (known to the Indians as Barahoti) an area south east of the Niti Pass on the U.P. Himalaya and Tibet Border². Thus the whole Kumaon and Garhwal Himalaya once again got involved in power rivalry, complexities that time. The Chinese intention appeared sinister. A strong China has already been an expansionist China. Tibet had exercised ecclesiastical authority over a large portion of NEFA, Bhutan and Nepal. For centuries, India and Tibet had lived by custom, usage, tradition and without a surveyed boundary. A ruthless and expansionist China create tension. The fact was that we would sooner or later have to be prepared to defend our Sovereignty and territorial integrity in the northern regions.

Impact on Himalayan Region

It is obvious that the emergence after 1950 of a new

1. Fisher, W. Margeret : *Himalayan Battle ground*, 1963, Page 85.

2. *Ibid.*

pattern of inter-regional relations in Central Asia was bound to have a direct impact upon Ladakh. The Chinese initially argued that Ladakhi residents were Chinese nationals. Chao-En-Lai also stated that the "so called Mc Mohan Line was absolutely unacceptable to China". The relations between China and India were severely strained. The sensitivity of the entire Himalayan frontier from Kashmir to Assam was discussed by political thinkers and intellectuals. It was felt that emergence of mighty China and Pakistan create a new dimension in this region. It is seen that 1949 onwards, the Punjab and U.P. Himalaya got increasingly entangled in the power rivalries between the powers meeting in this sensitive area. Historically mountain crests and watersheds have been regarded as especially significant. According to J.B. Moore "where a boundary follows mountains or hills, the water divide constitutes this frontier"¹. It would have been so in case of Indo-China frontier along Tibetan border. If the Chinese had accepted the boundary laid by Simla convention. Since the Chinese refused to accept it, the entire frontier remains disputed frontier and increases the security sensitivity of entire region.

The Chinese claim 50,000 square miles of Indian territory in Ladakh and NEFA added a clear cut enemical attitude towards India's sovereignty². Initially, the main focus was on the Indo-Tibetan border in Ladakh where China was bent upon establishing her claim to and keeping the Aksai Chin plateau. So that she could built the Tibetan-Sinkiang highway through Aksai Chin. One convincing explanation for the Chinese behaviour on the Indian border was that they intended to dominate the whole Himalayan belt stretching from Ladakh through Nepal to Sikkim and Tibet to India's NEFA³. The observers are of the opinion that the continued violation and occupation of Indian territory was an essential part of Chinese long term policy. The whole Himalayan frontier have become alive and

1. Moore, J.B. ; *Digest of International Law* 616 (1906).

2. Dalvi, J.P. ; 'Himalayan Blunder' 1969, Page 42.

3. *White Paper II*, P. 43 and IV p. 100.

volatile. It was now essential that the whole disputed frontier must be guarded and keep the Indian presence in strategic places like Daulet Beg Oldi, Murgo, Chushul, Damchok and Spiki pass. This required the deployment of huge forces. The problem was of space and force available. In 1952, Gen. Kulwant Singh submitted a lengthy report on these alive problems. On the recommendations Indo-Tibetan Border Force under the Home Ministry was raised in 1952 to vitalize the frontier along with the armed forces. A step which later proved to be adequate. By 1959, India-China relation had reached a point of no return.

Conclusion

As will be seen from the aforesaid description of events, it can be emphasized with all certainty that the Himalayan region was always sensitive from security view point since 1845 to date. The sensitivity of the area always increased or decreased according to the power equation existing between the powers converging on this area. The power equation after 1947 had dramatically changed. The historic power equation after had been triangular *i.e.* British, China and Russia. The weakest point of power lay in China and strongest with the British. After 1947, the weakest power point was India and strongest Russia. Thus the sensitivity in case of India had acquired new dimensions. The security environment of this region compelled the Indian elites to restructure and remodel the security considerations in present conditions. The power rivalries and security complexities took a new turn after 1950. The emergence of China's defence policy towards Central and South Asia alarmed the powers which were conflicting on border claims. We see that politico-military, importance of Himalayan region.

The significance of the time factor relates to the sequence of events in the total context. The continued concentration of Chinese troops along the border and her reluctance to negotiate the settlement of the dispute do not rule out the possibility of future attacks by China. However, India's China policy has

been undergoing significant change. India is adopting a flexible approach to normalise relations with China after 1947. There are indications of China softening its policy towards India, in the wake of her recovery during the same period from the cultural revolution. These raise a hope that reasonable settlement of boundary dispute may be possible. India has also built up an impressive defence structure and is in a position to negotiate from comparatively better position of power than before.

B. NEW DEVELOPMENT AND EMERGING TRENDS

In previous chapter, the power rivalries and its impact on this area has been discussed in detail. The Chinese policy and border claims proved that Himalayan region especially Punjab and Kumaon was more sensitive since British rule in India. Before British rule, the invaders came in India through the strategic passes of Western frontier. The object of Great Britain in concluding the Lhasa Convention of 1904, the Anglo-Chinese Convention of 1906, the Anglo-Russian Convention of 1907 and the revised Trades Regulation of 1908 was to assure the territorial integrity of Tibet and to safeguard her existence as a peaceful autonomous buffer State between the three great Empires, Russia, British India and China in the interest of the Indian border and of transfrontier trade.

In 1947, British power withdrew from this Continent and India became independent sovereign power. In 1949, the civil war in China ended and China emerged as a Communist Republic. Now it was for India to establish relationship with new power. It will be noticed at the withdrawal of British, the traditional equation in this region had changed. India was first to recognise the Republic of China in 1949 when the border dispute over Himalaya emerged. By 1960 all hopes of finding a basis for the settlement of border dispute had vanished. The Chinese new map of additional 2,000 sq. miles of Ladakh altered the boundary previously shown between Ladakh and Sinkiang in the important Karakoram Pass area.

Prime Minister, Jawahar Lal Nehru conceded 'his government's early frontier policy had rested in past upon a basic miscalculation'¹. Preparations for the security of the northern border had been largely concentrated on its eastern border, on the assumption of Chinese threat to India. The far western sector, guarded by the lofty and difficult Karakoram pass, was considered relatively secure and therefore, in no need of high priority in the allocation of India's limited resources. India had striven to bring these tribal areas under effective administrative control — a task the British had never carried to completion. By mid 1962, 43 new Indian posts were established within the border area. Most of them were located within the territory claimed by China on the 1960 map². The detailed information can be known from the map attached in which the Chinese claims are illustrated. The effectiveness of the posts was considerably enhanced by the establishment of year round barracks near the border. China and India appeared to operate on the assumption that the adversary was either unable or unwilling directly to challenge established military positions in Ladakh. But as their rival posts came closer together, competing for control over surrounding areas and as patrol activities were extended more widely into the disputed areas. A protracted contest on their common frontier imposed serious economic burdens. The initial Chinese advantage — including their possession of high ground and the relative ease with which they can build roads — are staggering. It is not that Indian authorities did not realise the danger developing on the border.

It will be cleared from Nehru's statement in the parliament that "since 1950, the picture of the two powerful States coming face to face with each other on a tremendous border had been before the government"³. He also referred in 1959

1. P.M.'s remark during parliamentary debate No. 28, 1961.

2. Fisher, W.; 'Himalayan Battleground': 1962; page 13.

(Frederick A. Praeger, Publisher, New York)

3. P.M. on Sino-Indian Relations. Lok Sabha debates; 1959 Vol. XXXV, pp 2186-2214.

to the Border Committee which was appointed in 1951. They might have differed as to the timings in our minds as to when that would happen; whether in five years, ten years; fifteen years or thirty years. These confirm Mullick's version that from the beginning Nehru "had his reservations about China. It is an area where correct and full information is rather difficult to come by. The records for the period 1947-64 have not yet been made available to the Public". December 2, 1961 was a significant date in the calendar of Sino-Indian relations, marking the deadline for any request to extend their 1954 trade agreement. The agreement was due to expire on June 2, 1962 eight years after ratification. On Dec 4, however, a Chinese note was received in New Delhi suggesting that the two powers consider terms of a new trade treaty. In replying to the various Chinese notes, the Indian Government consistently maintained that a new trade treaty could not be separated from border issues.

The full extent of Chinese aims may not be known for some time. Her major objectives remained unchanged since at least 1956 unchallenged possession of vital Aksai Chin link between Sinkiang and Tibet. Chinese attempted in a variety of ways to obtain Indian acquiescence in Chinese claims to it; by force, by threat of greater force and by offering to renounce claims in the NEFA, in return for India's cession of Aksai Chin. On the other hand, China and Pakistan signed an agreement for developing their commercial, strategic and political interests. An agreement signed on Oct. 21, 1967, though the text was kept secret, arranged for the opening of a Sinkiang-Gilgit link road. By May 1968 the Chinese had completed their road north of the 15,000 ft. Mintake Pass.¹ On the Kashmir side a fair weather road between Gilgit and Pasu was improved and Pakistan also started on new jeepable road from Pasu to Mintake pass. Thus Sinkiang was linked with Kashmir on the Pakistan side of the cease-fire line. India has protested to both countries, firstly on the grounds that the agreement seeks to interfere with Indian sovereignty in Kashmir and secondly that

1. Woodman, Dorothy : 'Himalayan Frontiers', 1969, page 310.

it should have been kept secret. China supplied substantial amounts as interest free loans for the setting up of heavy industries and exports from Pakistan to China, which were valued at Rs. 160 million in 1964 reached the Rs. 220 million mark in 1967.¹

In a wider context, the border dispute has become inextricably entangled with the most serious political problems facing the world today. The complexity of the Sino-Indian dispute is the fact that the vital interests of a third power, Pakistan are directly concerned, not only because of its long standing dispute with India over Kashmir but also because of Chinese claims to sections of Kashmir both sides of the cease-fire line. The precise extent of Chinese claims west of the Karakoram Pass can not be determined from the small scale maps so far published in Peking but the discrepancy between Chinese and Pakistan maps may be as much as 6,000 sq. miles.² There are, therefore, three governments with three different concepts of the disputed border. In the face of Chinese threat, responsible quarters in both Pakistan and India stressed the necessity for the co-operation in the defence of the sub-continent. Probably in view of it, President Ayub Khan proposed the 'joint defence policy' in 1959 but India preferred informal arrangement including 'no war declaration' as far as their mutual dispute over Kashmir was concerned. For India, the joint defence proposal suffered from a number of glaring defects. The joint defence policy with Pakistan would tantamount to India's adherence to Western Military pacts unless, of course, Pakistan withdrew from SEATO and CENTO. Possibly, Pakistan feared that China and India would reach an agreement on the border dispute that ignored Pakistan's interests in Kashmir, and hoped the Security Council would provide an effective forum for the expression of Pakistan's views.

There was some basis for assuming that China would agree to concessions west of the Karakoram Pass if, in the

1. Woodman, Dorothy; 'Himalayan Frontiers', 1968, p. 311.

2. *Ibid.*

process, its position in the much more important Aksai Chin were strengthened. Pakistani publication confirmed reports that Chinese maps showed 46,000 sq. miles of Pakistani controlled territory as part of China.¹ Originally the initiative for border talks had come from Pakistan and it was China that was reluctant to assent to them. It was clear that India was not only refusing to concede control of the Aksai Chin but was challenging the Chinese position there. On May 3, 1962, China and Pakistan published simultaneously the text of an agreement calling for negotiations between two powers on border questions. It was agreed that the boundary between Sinkiang and Kashmir had '*never been formally delimited and demarcated in history*'. *Gilgit and Baltistan were certainly vital to Pakistan, while the Indian defence system would be gravely weakened by the loss of Ladakh.* The best-indeed only possible—routes to both Baltistan and Ladakh run through the Kashmir valley. Nobody can ignore this fact and the importance of security consideration.

Another aspect of the current three concerned dispute Kashmir concerns the role played by the Soviet Union. Russia has explicitly the validity of Kashmir's succession to the Indian Union and has consistently supported India's position in Security Council deliberations.² Soviet Union openly gave support to India in all adverse situations. Moreover, Russian instructors were sent to train Indian Air Force pilots in the use of these planes in mountain regions. Soviet motives can range far and wide and longstanding interest in Central Asia—specifically, in strategic and mineral rich Sinkiang. Soviet Union was first to recall for negotiations in 1962 aggression. Today India plays vital role in the calculations of both the Soviet Union and the Western Powers as China's only major Asian rival in an expanding area of operations. The area of open conflict is no longer confined to their common frontier but involves a competition for influence throughout the rest of Asia and Africa. One major objective of Chinese foreign policy has clearly been

1. Jamhuriat (Dacca) May 12, 1962 (as quoted in Hindu Weekly Review May 21, 1962 p.3).

2. *Ibid*

for sometime to demolish Indian prestige. This policy has taken many twists and turns. It is virtually certain that one Chinese goal is the complete control of South-East Asia but it would be idle to speculate on how and when this aim is to be achieved. It is most improbable that the Chinese have in mind the military conquest of India. That they mean to hold the Ladakh corridor is plain. Perhaps they also intend to detach oil rich Assam.¹

The entire length of Himalayan border has been either defined by treaty or recognised by custom or both although China now claims that the boundary is entirely delimited which is false. In the middle sector, the boundary between India and Tibet is the frontier of Uttar Pradesh' Himachal Pradesh. This boundary in the Spiti area was confirmed by the treaties of 1684 and 1842. In 1914, both the Tibetans and Indian Governments had agreed that the boundary in this area lay along the highest watershed. China is rich in means of communications. It has about 20,000 miles of railway line.² In 1959, a strategic link with Russia was constructed by connecting Peking with trans-Siberian Railway Strategic motorable roads have been constructed connecting Lhasa with China and also connecting the Indian Border. This parallel road construction from Ladakh to NEFA region is a serious consideration in resolving the border dispute. With the opening of the Karakoram Highway (China Gilgit Road) passing over 15,500 ft. Khunjreb Pass through the Pak-occupied Kashmir, Chinese are more successful in having their outlet via Karachi Port in Arabian Sea than their Russian rivals. The Karakoram Highway is linked with the Chinese lateral road system — the 'Sinkiang-Tibet Highway' which runs across India's Aksai Chin Area. China is recently helping Pakistan in building a new road connecting Skardu with Gilgit.³ Gilgit the northern most outpost of the Indian empire, covers all the

1. Sharma, S.P.; 'India's Boundry and Territorial Disputes' 1971 (V.P.D.)

2. Military Geography ; Officer Training School, Kampltee, Pamphlet.

3. *Ibid.*

passes over the Hindu Kush from the easternmost one, the Shimshal to those at the head of the Yasin River in the west.¹

China's manpower is a serious threat to her prosperity. The defence structure of China is particularly weakened by its lack of oil. Although some new deposits have been discovered in Sinkiang and on the border of Inner Mongolia. The Chinese expansion is more of an ideological nature and not aimed at territorial gain only. China is Strategically handicapped in the following aspects : unmanageable manpower ; lack of strategic raw material like oil and copper ; inordinately long land and sea frontiers.

I think that there are few recent trends and changing pattern which should help us in formulating our own policy. Firstly, the Soviet Union has now emerged as the principal adversary of China. China has not only territorial claims against the Soviet Union, but has challenged her leadership in the Communist world and in Asia. Secondly the Soviet Union is trying to fill some of the vaccums created by the U.S.A.'s declining interest in Asia. Thirdly, from the Chinese point of view, the Soviet move in regard to Pakistan is an attempt to create a new link in the anti-China alliance. From our point of view, the inflow of more and more sophisticated arms into Pakistan from U.S.A. and China increase the threat to our security. We know from previous experience that the arms can only be used against us. Since the borderwar of 1962, our policy towards China has been marked by greater caution. Before war, we had refused to hold talks unless China withdrew FROM Aksai Chin. After the October offensive, we reduced this condition to a mere restoration of the September 8th position. The situation changed in 1965 when the escalation of war took place in Vietnam.²

1. Knight, E.F.; 'Where three Empires Meet', 1896 p. 290.

2. Nehru, R.K. : 'India's China Policy' (Article Published in Chana-
kya Defence Annual, 1969, Allahabad).

Flexible Policy

In this changing situation, there is need for greater flexibility in our policy. If the Chinese fear of encirclement is genuine, they can hardly welcome Pakistan's drawing closer to the Soviet Union. From our point of view, this may be helpful, but arms aid also spells some danger and we cannot, in any case, welcome our being equated with Pakistan. The next step may well be some change in the Soviet stand on Kashmir. We must of course maintain our present relations with the Soviet Union. Our effort is to improve relations with Pakistan must also be continued. The Chinese are, however, not unlikely to reappraise the situation in the light of recent developments. On the other hand, though an ally of China, Russia's apparent neutrality in the India-China dispute was definitely in India's favour politically. The Soviets charged the Chinese with more than 5000 violations of Soviet frontiers in 1962.¹

We are now at the beginning of a new decade in international relations and the situation is showing a marked tendency for fluidity. It appears, they have adopted a similar approach to the Americans. They are not yet talking with us. Closer contact with China may be helpful. It would give us greater leverage in our relations with other nations ; it might also help to reduce the pressure to which we are exposed by our own encirclement by two hostile neighbours. In any case, it would be a step however long it may take to fructify, in the direction of greater normality in the Asian situation.

Conclusion

It is not the amount that is spent on the defence of a country that provides it adequate security but the hardware that is formulated to meet the requirements of national security. Above all, research and development efforts in defence was initiated and built up from 1958 onwards. Efforts were made to develop an indigenous defence production. Without a sound

1. Nanda, B.R. : 'India's defence Policy' (My years with Nehru) 1969 (Vikas Pub., New Delhi).

strategic doctrine, the entire defence budget, to whatever limit we raise, it might easily turn out take an exercise in infructuous expenditure. Thus the crux of problem is whether we are developing a sound strategic doctrine to meet a constantly fluctuating threat, which is the product of numerous factors ; political, economic, military, diplomatic and psychological, which are in a state of perpetual flux. In old time the main factor was to influence the region through power equation, but now the factors like political, economic, diplomatic has taken place to realities of Punjab and Kumaon Himalayan security sensitivity.

Different views are expressed on Nehru's perception of India's problems and the threat to its border. History will record that Pt. Jawaharlal Nehru's perception of India's problems of security was accurate. The policies persued were also perhaps the best under the circumstances. He has been much criticised for his so called 'forward policy'. The policy was not a provocative one it has been characterised by Maxwell. It was the only sensible policy available to test the Chinese intentions. However, the Indian government must now seriously review the developing situation and reorient its plans for national security in conformity with its realities.

It is concluded that emerging trends and new developments in Indian sub-continent are serious considerations for the regional powers. In view of these changing circumstances. India must think on broad specturm to assure the full scope safeguard to Indian territorial integrity and democracy. The new defence trends and hostile activities should also be scrutinised in view of U.P. and Punjab Himalayan Security purposes. The problem of 'Punjab and Kumaon Himalaya' is linked with Kashmir problems especially in Ladakh Sector and the new found Sino-Pak friendship. As long as the Ladakh Sector remains vulnerable to Chinese and Pakistani aggression, the Punjab and Kumaon Himalaya bordering Tibet cannot be regarded as safe. Mr. M.C. Chagla also argued in early seventies that the expansion of army was 'not only in our

interests but in the interest of the whole South East Asia and ultimately of democracy and peace'.¹

1. (A) From the discussion so far, it becomes clear that Punjab and Kumaon Himalayas and the whole northern frontier have always remained a sensitive area in the considerations of Indian security. The sensitivity of this area was mainly due to the fact that two or more powers always converged in this region and manoeuvred for favourable balance of power. The area is strategically so located that none of the powers involved could ignore the presence of another power in this area.

- (B) The second thing that becomes obvious is that up to early twenties the conflict in the area was strictly between the powers involved in this area and did not have international ramifications. Therefore, the conflicts were often solved by treaties, compensations and adjustments. It is true that such arrangements, with new developments were always disturbed and it is also equally true that new set arrangements were arrived at to bring back stability. This is to say the problem never went out of hand or became unmanageable.

- (C) With the withdrawal of the British Power and Indian Independence, India inherited the problems of this area also. With the partition of India into Pakistan and India, the problems of North West Frontier passed into the hands of Pakistan. Yet the unresolved Kashmir dispute, the presence of Pakistan forces along the cease-fire line and the Chinese holding the Karakoram Highway does not in anyway eliminate the dangers of Indian security from the North West Frontier. The danger is

1. Statement at Bombay Press Conference, 2nd Jan. 1963 cited, 'Times of India' 3 Jan. 1963.

further aggravated by the Chinese occupation of Tibet and Aksai Chin region. Thus the north-west strategic strains is bound to be felt on the Punjab and Kashmir Himalaya also.

- (D) The other thing that will be apparent from the discussion is that the power equation in this area has dramatically changed. Among the three powers involved in the region, India happens to be the weakest power whereas during pre-Independence period, British-India was the strongest power and acted from that power position.
- (E) Now the global political compulsions make this region more sensitive from security view point. Security considerations of each power are based on geostrategical lay out and result in territorial claims and counter claims.
2. (A) The other thing that is noticeable is that the dispute in this area has now acquired greater complexities and is no longer confined to the three powers in the sense it was during the British regime. The complexities have crept in due to the global and regional policies of the powers and also because of the bipolar world that came into existence after World War II.
- (B) The Super Powers have their interest in a favourable power distribution in this area and Russia is the nearest Super Power in this part of the world.
- (C) The boundary dispute between India and China is not purely a question of boundary dispute but is viewed from wider perspective. China is not only keen on territorial gains but also on maintaining the leadership of the Communist world of her type. China's political and diplomatic intension is to be little India in the eyes of Asian countries. China also seeks to diverse Indian resources towards

military efforts by keeping alive the border dispute.

- (D) The border settlement between India and China does not suit Pak strategic considerations. So long India-China border dispute remains unsolved, India will be compelled to distribute forces along Sino-India border. This protects Pakistan from the concentration of superior Indian Forces on the Indo-Pak front. Her close links with China may act as a deterrance to Indian aggression on Pakistan. Pakistan would like her dispute over Kashmir to be settled to its satisfaction before any settlement is reached by India with China on the border issue.
- (E) The marked difference between Soviet Union and China from the seventies and growing friendship between India and Russia is also a factor in Chinese considerations towards border settlement.
- (F) The bipolar world seemingly tending to multiplicity in essence remains bipolar and the diplomatic manouevres of Super Powers among the Asian countries make this region strategically more sensitive and complex.

Conclusions

A. PUNJAB AND KUMAON HIMALAYA AS A SENSITIVE FRONTIER

The Himalayas which have dominated the life, culture and religion of India today is one of the world's most dangerously smouldering areas, with strategic roads now reaching up to the high passes where yaks were the only form of transport. The great mountain wall of the Himalayas was always considered impregnable. Today, the Himalayas are no more impregnable due to the development of science and technology. Though the Himalayan range had served as an effective barrier all along its history, yet the Chinese aggression of 1962 has belied the belief and the barrier is no longer considered impossible even for large numbers. The north-most zone, also known as the Greater Himalayas, has an average height of 6066 mt. and is always snow-bound. The middle zone is known as the Lesser Himalaya and the average height is 4,550 mts. The southern-most zone is called the outer Himalayas and has an average height of about 1,062 mts.

The utility of Himalayas as an effective barrier is rendered doubtful. Yet the essential advantages of this respect of this mountain barrier is not its width of 150 miles but the 15,000 ft. plateau behind it which climatically and from the point of view of distances involved is unsuited and unfavourable as a base from where continuous attacks can be delivered on India. In short, the Himalayas may still be regarded as a major system of defence for India, impregnable in case of large-scale invasions but what should not be forgotten is that no mountain range is

ever a perfect barrier against every kind of invasion particularly when the enemy is determined and has the resources of large organised State and is upto date in science and technology. The more significant passes and routes are the Karakoram Pass, Lanak La in J & K and Shipki La in Himachal Pradesh area and Samhti, Niti and Mana are strategic defence pockets in U.P. Himalaya. Though the Himalayas still remain unsuitable for military use and may be considered as a barrier of a sort, yet the whole concept of barrier has now undergone a revolutionary change with the growth of all powers. The airmen's geography including definitions, distances, barriers and climate has become more important than the geography of maritime era. The Himalayas may still be considered a major system of defence for India. But no mountain range is ever a perfect barrier against every kind of invasion.

In previous chapters, different aspects of change and problems have been discussed. Discussions from the strategic, political and geographical aspects, it becomes clear that the whole northern frontier has always remained a sensitive area in the consideration of Indian security. In the past, the security sensitivity of this area (Punjab and Kumaon Himalaya) was mainly due to the presence of power and their national interests. The conflicts were solved by treaties, compensation and adjustment. Another point which is obvious is that power equations in this area have changed and added new defence dimensions. India has not been sufficiently vigilant over Punjab and Kumaon Himalaya since 1947. It is a fact that geo-strategical factors in this region will always have strategic implications on border settlement with Pakistan and China.

Kepping this in mind, it becomes essential to remove the strategic weaknesses experienced in 1962 conflict and gear up adequate military preparedness to meet any future eventualities.

Closely linked up with such preparation will be effort to put the population in this region in a frame of mind to face aggression effectively and be ready for extreme sacrifices. Efforts

will also be necessary to mobilise complete national support for Government with a view point on this issue.

Besides, vigorous diplomatic efforts will have to be made to create a favourable world opinion on the subject so that India no longer remains isolated whenever the crisis comes. It would be desirable to narrow down the area of conflict through political and diplomatic means to make military operation, if necessary, more manageable.

The security sensitivity of this region was considered by Britishers and they formulated their defence policy to maintain the political stability in the Indian Sub-Continent keeping their empire untouched by other powers. That the region continue to figure in the security considerations right from the British days to the present, right from Dogra invasion to 1962 Chinese aggression, proves the continuity of the security sensitivity of this region, through the dimensions of the security sensitivity have changed. The region from Lahul-Spiti to Leipulekh covers the Punjab and Kumaon Himalaya. The passes and routes are strategically more vital.

- (i) In Kumaon Himalaya strategic pockets Sangaon, Shillong, Shitpani, Dung, and Untadhura passes are similarly vital so border security.
- (ii) In the Garhwal Sector, Barahoti pass towards Niti, Marhi pass towards Daba, Chhoti Holi Pass connecting Sheilshed pass and Kungri-Bingri pass are the sensitive spots in this border.
- (iii) On the Punjab Sector has Shipki La, Imisla, Khemkul Pass etc. These have strategic implications on Sino-Indian border dispute in Punjab Himalaya.
- (iv) This is a truth that geography dictates the pattern of war. The terrain, land, features, mountains, rivers, forests, heights and other aspects such as climate, weather, ecology play dominant role in tactical operations.

- (v) Thus geographical factor is one of the first considerations to a military commander to face the enemy's operation. In the semi-desert areas like hilly regions above the height of say 5000 ft. or 1500 mts. above sea level, water resources are scarce, scattered and limited to certain oasis points only. These points should be developed as micro-industrial production centres. Thus geography provides a fundamental but not unchanging "frame of reference" within which national and international political organisations exist and operates.

B. SECURITY CONSIDERATION IN RELATION TO

(f) Military Factor

Under the general concept of national defence as defined earlier, we find, upon further analysis, several major components included. The first is, of course, sufficient military strength to deter war or to wage war. Such strength must include an effective intelligence system and dependable retaliatory force. Secondly it must have multi-pointed logistical support or mobility. Finally, such strength must also include a civil defence system in a state of readiness for immediate mobilisation.

In respect of sufficient military strength, India should not face any difficulty as there is no dearth of manpower. One of the major causes of 1962 war is attributed to poor intelligence system. Timely and correct information is the corner-stone of any military planning. Therefore, a thorough knowledge of the area of operation, the mood and temperament of the local people, the intentions of the enemy, their movement etc. are vital for successful military operation.

The experiences of 1962 debacle awakened India to the vital need for foolproof logistical system. Now a network of roads runs throughout the border areas—with far reduced chances of over-crowding and bottlenecks in the smooth flow of military movements—and logistical support.

However, the text of the adequacy is war. No one can, therefore, assume any preparation as sufficient or any system as foolproof. There is evidence to show that Punjab and Kumaon Himalayas have been thoroughly surveyed and the Army is now in possession of thorough knowledge of the area.

The Government through its different schemes for hill development has succeeded in awakening a national and political awareness among the people of this region. They now can be dependable to a greater extent for assisting in execution of defence plan.

According to informed sources, much work is being done in this area for civil defence training. The people of this area and the area itself are very well suited for guerilla operations. It would greatly add to the effectiveness of security in this area if side by side with the civil defence training, people are also organised for guerilla operation.

National objectives are broad based on certain principles designed to support national interests. National policies are specific courses of action designed to achieve national objectives. A military factor is a basic and foremost element to project the national power and its potentiality. The military strength both in numerical strength as well as qualitative strength protects the nation from external aggression. Intangible factors also such as will to fight, sense of social cohesion and political responsibility add to national strength.

A modern defence plan—or one of aggression—begins with an appreciation of the situation leading to the formulation and execution of national policy. The factors considered fall under five general heads; geographical, political, economic, human and military. Analysis of the factors provide the basis for a conclusion that recommends a specific line of action.

As we have seen, these mountains form a very sensitive border region of great strategic importance. There are about main passes in both Punjab and Kumaon Himalaya which posed

danger. From various activities in this area, it can be concluded that the Govt. has taken and is taking appropriate measures to protect these danger points. Following the Chinese invasion of 1962, the Government has, on its own initiative, taken keen interest in building a good network of roads and other communication links for ensuring preparedness from the defence point of view. From 1947 till today, there is no evidence to show any political unrest in the region involved. The area has enjoyed continuous political stability. On the economic front, the Govt. has constituted the Hill Development Board to look after the economic well being of the inhabitants in this region. The effort is to create varied occupational openings to the economically backward people of this area. The effort by and by must draw the people into the main national stream and prove to be main power in the qualitative sense.

Defence Developments

- (a) Border Road Development Board should follow up the measures to accelerate the means of communication for supplying the logistical aid, reinforcement during operation period.
- (b) Strategic link roads, comprehensive security of check-post, continuous vigilant control on boundaries by B.S.F. and I.T.B.P. and respect to other's territorial integrity be enforced in this region.
- (c) Defence budget should be enhanced for defence preparedness and deterrent credibility.
- (d) Punjab and Kumaon Himalayan sensitive pockets should be guarded properly and adequate force be stationed to avoid the eventualities.
- (e) This region has significant defence structure and existing problems in modern conditions. Super powers are interested in their long term policy to maintain the Asian balance.
- (f) Special art of war and mountain training equipment should be given to personnel for hill warfare. Military

factor must be strong and sound to ensure the dynamic defence system on the Himalayan region.

(ii) Human Factor

Human factor plays its significant role in the security considerations of the Himalayan frontier. The region from Lahul to Leipulekh is less inhabited due to natural conditions and other administrative reason. The border land communities have their aspirations, aptitudes, customs and connections entirely different from the rest of India. Hill people are hardy by nature, acclimatised and having peculiarities. Knowledge of the area, hardiness, natural acclimatisation and spirit of adventure make them well suited for the role of special border force within the armed forces or outside. Their dedication, determination, spirit of endurance are key contributions to the structure of society.

Punjab and Kumaon Himalaya is inhabited by numerous hill people and tribes who lead simple lives in the lap of nature. The people of hills differ from those of adjoining plains, culturally and economically. 1981 census report reveals the population of Garhwal and Kumaon Mandal's scheduled castes and scheduled tribes as 334,084 and 438,068 respectively. The percentage of schedule cast is 13.62 and of tribes 3.60 in Garhwal Mandal where in Kumaon Mandal falls to 15.97% and 3.76% respectively.

Agriculture products are not sufficient to support the inhabitants. For their self-sufficiency, the Government is making efforts. Poverty is there. Poverty will have to be reduced. It will be noticed that the growth of population has increased decade to decade. It was 16.50 lakhs in 1901 and reached to 48.36 lakhs in 1981. The census gives the figure of 8181 and 6999 populated villages in Garhwal and Kumaon Mandal. As in the rest of the country, this creates the problem of finding increased avenues of occupation keeping pace with the growth of population rate. As elsewhere, in hill districts too, the Government has so far failed to open new avenues to absorb the increasing stress of population growth. Majority of hill

adult population shift to outside area in search of bread and butter. This leaves the hill districts deficient in adult manpower which in turn affects development. The people's life of Utter Pradesh and Punjab Himalaya is hard due to inaccessibility to these remote areas. For hill prosperity, it is necessary to realise that these border people must be educated and uplifted so that they may play an important role in the maintenance of the strategic border areas. The satisfied people with economically prosperous life can be better dependent in any crisis. Conversely unsatisfied hilly people can be dangerous to India's security in this region.

The total population of U.P. hill region is 48,35,712 in both Kumaon and Garhwal Mandal.

After the loss of Tibet, it is to be seriously realised that the people of border area should attain satisfaction and merge in the main stream of Indian national life. The human factor of this region can be a liability or an asset to us depending on what we do. In past they have memorable traditions in the defence of their motherland.

(iii) Administrative Factor

Mountains want changes in different fields. These areas suffer from continuous exploitation and have remained cut-off from the main stream of national life. The British made basic changes in the administrative structure in those part of the Himalaya which they gradually absorbed, They, however, did not introduce in the border districts under their jurisdiction the form of administration prevalent elsewhere in the country. The policy of British Empire was divide and rule. The Britishers always alienated the States, Kings, Landlords and other administrators of their policy. They were against the indigenouse defence deployment, industrial progress as a matter of policy. They kept artificial administration in hill areas. The frontier character of the Himalayas has always conditioned the system of adminstration in the border areas of India.

Kumaon (including Garhwal), as the first mountainous of the East India Company and the sole channel of British trade with Tibet, was accorded the special status of a non-regulation province, although it was officially a part of the North Western Provinces. Kumaon ceased to be a non-regulation Province in 1891. Its administration was brought in line with the administration in the rest of the Provinces. A separate Court system was later introduced so that the district officers were gradually released from judicial duties. After 1891, Kumaon was reorganised several times.

In 1960, the first reorganisation took place and northern border areas of the division were reconstituted into separate administrative units. Two separate Commissioners were appointed to Kumaon and Garhwal to ensure smooth administration.

Lahul and Spiti which now constitute one district are in fact, two separate Units historically as well as traditionally. After the British occupation, Lahul and Spiti were made a part of the Kangra District and placed under the jurisdiction of the Assistant Commissioner of Kulu. A fundamental change in Spiti's administrative set up was effected only in the spring of 1960. Lahul and Spiti tehsils of the Kulu subdivision of the Kangra district were constituted into a separate border district, called Lahul and Spiti Districts. Now an officer of the Indian Administrative Service designated as the Deputy Commissioner, administers it.

It is traced from history that during British regime, there was no effective administration of the hill districts. As a result, the region remained undeveloped and confined to the local life. After Independence, the Government of India undertook effective steps to develop these regions under the changed circumstances. Administration is an important factor in the development of the region. An ineffective administration cannot fulfil the needs and aspirations of tribal people and borderland communities of the Himalayan region. Hence the administration to be imposed should be one that can meet the problems of law and order and can effectively meet the needs and aspira-

tions of the people. Under such effective administration, the people will respect the law and respond enthusiastically to any demands made by the administration. A good administration goes a long way to inspire loyalty and nationalism.

In this Chapter, Military Factor, Human Factor and Administrative Factor are discussed in the context of security considerations of the Punjab and Kumaon frontiers. At present Uttar Pradesh Government is very keen to develop the hill regions in the sixth Five Year Plan. The total outlay in the Sixth Plan (1980-85) is Rs. 570 crore out of which special Central Assistance is given Rs. 350 crore. The main spillover works are roads and bridges Rs. 171 crore, building of educational institutions Rs. 19 crore, and ITIs, Polytechnics, Hospitals and Water Supply Projects account for about Rs. 30 crore.

Before 1962, figures, data are not available from authoritative source for comprehensive hill development in the Punjab and Kumaon Region. The seventh decade is the first strategy of approach for new schemes and plans.

The development schemes are taken into consideration to develop the hill region. Rs. 23.60 lakh have been sanctioned for defence welfare in 1982-83 by Hill Development Department, Uttar Pradesh Government.¹

Military rest houses are constructed at Haldwani, Ranikhet and Lansdown. Military hospitals are also opened at Dehra Dun, Pithoragarh and Joshimath.

The National Development Council in its meeting held on 30th and 31st August 1980 adopted the framework for the Sixth Five Year Plan for 1980-85 which contains the objectives of the Plan alongwith the main programme thrust.

It cannot be denied that development of the nature taken up by the Government in the hill area will greatly enhance the

1. Parvatiya Kshetra Ka Vikas, U.P. Govt. Bulletin (1982-83) and (1983-84).

conditions of better defence operations in the far flung frontiers. The entire U.P. and Punjab hill area acts as a supporting area to the border area. The support area must be capable of supporting large number of operational forces and in permitting them high level of freedom of operation and the advantage of time and space factor. Hitherto one of the main occupation of the people of under developed hill area was military service. And military service is generally regarded as a respectable occupation. The ex-service man in these remote areas naturally assumes the leadership of the area.

Therefore, steps by the Government to set up organisation for the welfare of the army and ex-servicemen in the area must prove a morale boosting factor.

C. APPROACH TO THE DEVELOPMENT IN THE REGION

Problem Peculiar to Hill Districts

Geographic environment sets rigorous limits for different economic pursuits in Kumaon and Punjab Himalayas. The season system of the weather and altitudinal zoning of climate are two important characteristics of the climate of Himachal Pradesh and Kumaon. With the increase of population, forest was felled to accommodate larger cultivated areas and new villages were established usually at higher altitudes. Rehabilitation of the population is one of the most controversial issues of the whole region. The resources which a bearing on the defence are mineral resources, forestry, power resources and industry.

Indiscriminate exploitation of such factors have caused the problem. The type of administration, development, planning process in hill have been discussed in the previous chapters. Out of that studies, the following problems have emerged :

- (i) Far-flung habitations of small ptches of population are scattered and unconnecte d which make develop-ment administration more difficult.

- (ii) Life is difficult for lack of adequate and proper supplies of food and even drinking water.
- (iii) Disappearance of forests and grazing lands has made life still worse in terms of lack of firewood as well as of grass for animals.
- (iv) The irrational forest exploitation has led to soil erosion in cultivated areas and cost of cultivation and repairs of terraces have gone up.
- (v) Lack of organised marketing for agricultural products and other products. Absence of industrial sector and occupational imbalance caused by fast-disappearing crafts.
- (vi) The gap between administration and common man is so vast that administration serves no purpose of development. Loose administration cannot fulfil the aspirations of the mass population.
- (vii) Incentive for future improvement is seen only among the well-to-do sections. After Sino-Indian tension along these borders, a good lot of infrastructure is woven in the hill regions.
- (viii) Planning process in hills is not knitted and fitted to the needs of the area. The income level is so poor that it fails 25% below the average for a backward state like Uttar Pradesh.

It goes without saying that security sensitive area, if left neglected and weak, is bound to prove a liability at a time of crisis. Various factors such as geography, climate, human, economic, social, administrative and psychological should be so developed and geared that they add to the efficiency and effectiveness of the security arrangements under any eventualities. Development of any area on purely defence oriented plan may be desirable and possible under certain circumstances and duration of time. But as a general rule, the development of the area will have to be taken in its totality.

It is only through government agencies that such developments can be conceived and implemented. With the total development of the area, if proceeded on correct lines, the security and security and defence requirements are also met. Generally speaking, security and defence requirements desired in any area of operation would be favourable for time and space factor, local material and human support, effective civil administration and population with high morale behind the forces.

Therefore, in any approach to development in security sensitive areas, these factors will have to be kept in mind. The difficulties that any development plan faces in these areas (Punjab and Kumaon Himalaya) are various.

The development programme is fast changing the face of the Himalayas. The area is astir with a new life and new hope. The Himalayas have always protected the social stratification of India from being disrupted by invasion from the north. Whatever groups of people moved into the Himalayas from the lands of their origin in the south or in the north for social, economic or political reasons, have remained insulated one from another and developed their own cultures and economics.

In modern parlance, development is registered as synonymous to industrialisation and thereby related with maximum production drive. Development seems to be regarded as a well defined trajectory along which we are compelled to move and we fear to deviate from it. With the accelerated thrust of technology, systems are thrown in a never ending race. In this frenzy, it is the "glamorous" aspect of technology, not functional which has become an index of development. The Himalays served well as a sentry and protector in the past. India never suffered a major military aggression from the North, and the ravaging hordes of Central Asia stopped just at this great impregnable wall of nature. The Chinese occupation of Tibet in 1951 and India's recognition of Tibet in 1954 destroyed Tibet's buffer position. In view of the recent advance of technology, the Himalayas are no more impenetrable from the North,

although they still can halt any large invasion that might be attempted. No treaties or alliance and friendship can truly safeguard our security. It will all depend entirely on how we prosper on the economic front in the foreseeable future. In the British period it was the British rulers that secured India's position in the Himalayas. In the years ahead, only India's economic and social advancement will secure it.

Owing to the economy of the people of the Himalayas being of the subsistence type, the standard of living is low. The area used to be self-sufficient in the past. Much attention has been paid in the long neglected Himalaya border Lines the gaining of independence of India Due to increased security sensitivity after Chinese presence in Tibet and specially from 1962m the Government is compelled to pay more attention to this area. As a result of the spread of education, the people of the Himalayas are now marching forward. The live stock provide food as well as a means of transportation. Life in the Himalayas would really be difficult without the forest produce. The Himalayas border land also abounds in mineral resources like Borax, Coal, Copper, Sulphur, precious stones etc. It is important to exploit suitably these mineral resources of commercial value.

The Sino-Indian border conflict has greatly affected the economy of the people of the Himalayas. Even non-political relations like border pasturage have stopped upsetting the economic situation there. This study of geography, people, history and administration of the southern segment of the Himalaya border land shows how the essential elements of the present confrontation between India and China have always been present historically and traditions of India and China have prevented the establishment of the Himalaya borderland. The research work also reveals interesting similarities in the economic, political and social developments of the Himalaya borderland. Further studies and critical analysis of the various problems, especially in the agricultural and socio-economic fields, can be highly useful both in the formulation and in the implementation of development programmes in the entire Himalaya borderland.

The mountains, because of their very geography and unique set of ecological and geological factors, are not able to provide bioresources in quantities adequate enough to the inhabitants for their necessary means of life, enjoyment and development. It is so because for long this area has remained ill-surveyed and ill-exploited. As a result the hill people have, therefore, to live at a very low level of economic standards and seek temporary migration to plains in order to earn, save and bring money in the mountains to supplement their meagre income.

In any strategy for the development of hills of Punjab and Kumaon Himalaya, the role of outmigration is of crucial importance. The strategy for the development depends upon several factors, such as, human factor, natural resources, geographical, industrial and security. Science and engineering can play a crucial role in Socio-Economic upliftment of the rural areas. The draft Annual Plan (1978-79) of U.P. has paid considerable attention to rural industrialisation programmes, industrial co-operatives etc. The Plan rightly observes: "The topography and poor socio economic conditions of the fragile hill area have accounted for special problems of its own".

The U.P. Himalaya is a region which has its own specific problems of terrain, accessibility, climate and the resultant elements. Complexities of climate and the physical setting in the present region have been mainly responsible for decreasing levels in general, of both urbanisation and economic developments. Urbanisation of the region is mostly a post-independence feature.

Our past experience have given to us the generalisation that urbanisation and economic development have been highly co-related phenomena and it is also a fact that rural development of a region, in widest sense of the term, consists of economic development for the most part. For a successful practical planning, the region must be a functional region with maximum possible coincidence with the administrative boundaries. Any of the boundaries may be re-adjusted for the purpose. Border road programmes and soil conservation measures are

already in progress in the hills of U.P. for reasons of strategic compulsion.

In Himachal Pradesh, because of mountainous and rugged topography, canal irrigation cannot be practised from rivers at a large scale. However, the small zigzag chanel called kuhals have been constructed in many parts of the State. Now the Government is working on so many schemes to provide lift irrigation facilities to farmers wherever possible. Because of their altitude, most of the Himalayan ranges in Himachal Pradesh get snow fall during winter. The difficult terrain, bad weather and high altitude make the movement difficult and at many places impossible. The Himalayas still act as natural defence line.

After 1948, there were many serious problems inviting immediate attention without the solution which systematic development of the area on sound scientific lines could not be initiated. Hence the planned development had a late start in this region. Himachal Pradesh has been neglected because of its remoteness, inaccessibility, seclusion and various other geographical and historical reasons. In this area, the people had lived in deep ignorance, innocence, abject poverty and superstition. The tribals in particular wanted to live in their own way without any interference howsoever beneficial it might prove to them. Hence the era of development is about two and a half decades old in this region.

Thousands of villages all over the State face acute shortage of water during summer months; surprisingly in a State whose rivers supply water to the plains for many purposes. For the speedy, systematic and scientific development, a sound infrastructure has to be built. Road development, in fact, is an indispensable infrastructure to bring about overall change in the fields of agriculture, mining, generation of water power and tourism.

It is not only for Himachal Pradesh but also for the whole hilly areas of the country that the constructions of roads is of

paramount importance for activating the economy.¹ Mobile power is needed for various purposes in the field of development.

Some are apprehensive that modern technology in the Himalayas may destroy ancient culture, where will our hermits go for meditations in the solitude of the Himalayas? But we should not forget that the vast rugged and snowy regions of the Himalaya will always have many remote valleys in the high glaciated regions, which will provide seclusion and quietness in out of the way places, which will ever be peaceful. Besides, the 'Chipko Movement' of Mr. Sunderlal Bahuguna is an explicit step and dynamic mobilisation of hill manpower to maintain cultural heritage and preservation of the ecological system. The cultural heritage of the Himalays will ever remain as it is today though perhaps only in the remoter and higher valleys.²

This is to be emphasised that the Indian Military Policy was one of continual and usually unsatisfactory compromises between what was politically desirable, financially possible and militarily prudent in the context of Himalayan security after the withdrawal of the British Empire. Himalayan security sensitivity of entire northern frontier is as important as the all-round security prospectives of the Indian Sub-Continent. Hence the development programmes should be envisaged.

BIFURCATION OF DEVELOPMENT ACTIVITIES IN KUMAON HIMALAYA

The Hill Region of the U.P. State lies in the central zone of the Himalayas and comprises 8 northern districts. The region having a population of 48.36 lakh (1981 census) is spread over 51125 sq. kms. and accounts for nearly 17.4% of the area and population of the State. The population of scheduled castes and scheduled tribes according to 1981 census is 7.73 lakhs and 1.82 lakh, respectively constituting about 16.0% and 3.8% of the total population of the hill region.

1, *Ibid.*

2. Bose, S.C., *Op. cit.*

Nearly two-thirds of the forest area of the State lies in the hills. Though the availability of agriculture land is severely limited, yet agriculture is the main source of livelihood for the vast majority of population. Topographical diversity has resulted in wide variations in climate, vegetation, soil structure and occupation of the people. The region has considerable potential for the economic development, viz. horticulture, forest, tourism & hydropower generation etc. The terrain is mostly rugged and steep settlement pattern as thinly dispersed as about 92% the Village have a population *less than 500*, *severe soil erosion problems*. Due to long gestation period of projects: unit cost of infra-structure development is high and the returns are relatively low. Inadequate technology development suited to hill areas. Unscientific management of land use pattern have also attributed to low returns on the one hand and depletion of resources and ecological imbalances on the other. There is dearth of basic social facilities such as drinking water, education public health etc.

Objective and Strategy of Development¹

In the Sixth Five Year Plan, an integrated approach for the development of hill area consistent with ecological restoration and conservation of resources has been adopted. Considering the alarming degradation and depletion of natural resources resulting in ecological imbalance, in the development activities.

At present, efforts are being made for optimum utilisation of existing infrastructure facilities, consolidating gains of production activities and correcting imbalances. Accordingly, programmes for scientific management, protection and regeneration of forests, diversification of agriculture and horticulture, development of resources bases and development of tourism as an industry are being developed and implemented.

The eco-system of the Himalayan Region has been greatly impaired due to denudation of forest, indiscriminate grazing, unscientific land use practices and unplanned road construction

1. Draft Annual Plan 1984-85 (Hill Area Plan) U.P. Government.

activity etc. The ecological conservation in the hill areas is of crucial importance.

Some specific recommendations have been made by the "Task Force for the study of Eco-Development in the Himalayan Region" under the chairmanship of Dr M.S. Swaminathan and the Sivraman Committee report on the "Development of Backward areas". These recommendations mainly relate to forestry and soil conservation, horticulture, road construction and habitat planning. A care strategy of development is envisaged during 1984-85 under which efforts will be concentrated on protective and productive measures towards socio-economic development which would be in harmony with ecological balance. Human resource development should be with the involvement of the local community into the main stream of development planning.

The Annual Plan 1984-85 for the region recognising the need for a balance in emphasis between beneficiary oriented and infra-structural development programme will strive at scientific conservation and improving the living standard of the people.

Major thrust will be on the following measures during the Annual Plan 1983-84 as integrated water management on the basis of catchment. Massive afforestation and plantation programme, people's participation in developmental activities and strategy of road construction in hill have been modified to derive larger benefits with less investment on the hand and ecological preservation and conservation on the other. Rural electrification programme will also be accelerated.

A separate Hill Division of the State Planning Institute has been set up to formulate the plans.

Plan Outlays

An outlay of Rs. 570 crore including Rs. 350 crore as Special Central Assistance has been approved for the Sixth Plan of the Hill Region of the State. The break-up of outlays and expenditure for the Sixth Plan is given below :

Table 1
Outlay, Special Central Assistance and Expenditure
 (Rupees in Crores)

<i>Year</i>	<i>Plan Outlay</i>		
	<i>Total Outlay</i>	<i>Out of which Spl. Central Assistance</i>	<i>Total Expenditure</i>
Sixth plan 1980-85	570.00	350.00	—
1980-81	86.01	41.20	91.67
1981-82	101.12	54.96	103.36
1982-83	120.00	70.00	124.15
1983-84	140.00	85.00	142.17
1984-85	180.00	—	—

Tribal Area Plan

The main emphasis under the tribal plan is for the socio-economic uplift of these people and raising the standard of their living conditions and quality of life during the Sixth Plan period. Major thrust is on beneficiary oriented family focussed programmes. Necessary infrastructural and social facilities are also being taken care of for the benefit of the target group. Efforts are being made to enable 50 per cent of the Scheduled Tribes families to cross the poverty line by increasing productivity level in the fields of agriculture, horticulture, animal husbandry, forestry, small village and cottage industries etc. by undertaking family oriented programmes and providing various inputs, incentives, financial assistance etc.

Although no separate central assistance is being made available to Tribal Area Plan of hillareas of the State, yet as far as possible relatively higher outlays are being quantified for Tribal Plan out of the total hill area plan. During 1983-84, an

Table 2
Outlays and Expenditure – Hill Region

(Rupees in crores)

<i>Major heads of Develop- ment</i>	<i>Sixth Plan (1980- 85) Outlay</i>	<i>Expenditure</i>			<i>Outlay</i>	<i>1983-84</i>	<i>1984-80</i>
		<i>1980-81</i>	<i>1981-82</i>	<i>1982-83</i>		<i>Anticipa- ted Expendi- ture</i>	<i>proposed outlay</i>
1. Agriculture & Allied Sectors	111.19 (19.5)	12.77 (14.00)	16.93 (16.38)	24.75 (19.94)	33.94 (24.24)	33.47 (23.54)	47.48 (26.38)
2. Co-operation	3.58 (0.6)	0.24 (0.25)	0.30 (0.29)	0.68 (0.55)	0.92 (0.66)	0.92 (0.65)	1.48 (0.82)
3. Water and Power Development	102.50 (18.00)	15.68 (17.10)	17.67 (17.09)	20.22 (16.29)	25.20 (18.00)	25.54 (17.96)	32.95 (18.31)
4. Industries & Minerals	36.16 (6.3)	2.97 (3.23)	3.24 (3.13)	4.49 (3.62)	6.28 (4.49)	6.05 (4.26)	11.41 (6.34)

Table 3
Outlays and Expenditure—Tribal Areas Plan

<i>Items</i>	<i>Sixth Plan (1980-85) Outlay</i>	<i>Expenditure</i>			<i>1983-84 Likely Expendi- ture</i>	<i>1984-85 Proposed Outlay</i>
		<i>1980-81</i>	<i>1981-82</i>	<i>1982-83</i>		
1. Agriculture and Allied Sector	1451.95	169.77	252.67	298.87	376.84	491.00
2. Co-operation	32.40	1.05	7.14	1.92	0.52	2.45
3. Irrigation and Power	500.00	36.00	96.66	149.95	99.40	104.00
4. Industry and Mining	11.00	0.74	0.90	2.50	4.50	5.00
5. Transport and Communication	729.75	160.97	214.63	359.10	264.07	265.30
6. Social and Community Services	2027.99	288.08	381.93	246.88	533.04	561.55
Total	4753.09	656.61	953.87	1059.82	1278.37	1429.30

amount of Rs. 12.78 crore is likely to be spent and an outlay of Rs. 14.29 crore is proposed for 1984-85. The outlay and expenditure by major head of development are given below :

Garhwal and Kumaon Development Corporation

Promotional as well as commercial activities to augment industrial development are being taken up by these two Corporations. In addition to the existing industries, possibilities of establishing new projects are also being explored. Efforts are being made by Kumaon and Garhwal Scheduled Tribes Development Corporation to augment programmes of various production and training centres and encouraging Tribal crafts.

Units for manufacture of T.V. cabinets with modern techniques, electronic test and development centres are being established. U.P. State Industrial Development Corporation is developing necessary infra-structural facilities for plots, shed in industrial estate at selected site for establishment of small-scale industrial units.

Roads being the life line of hills, development of net work of roads has been considered as a condition precedent for opening up the economy and utilisation of vast natural resources of the hill areas.

Efforts are being made to develop tourism as an industry in the sixth Plan. During 1984-85, emphasis will be for providing infrastructure and other facilities for which programmes are in the shape of suitable accommodation. For the development of tourism an outlay of Rs. 750 lakh has been proposed for the sixth plan period.

In view of the essential needs for expansion of educational facilities an outlay of Rs. 47.00 crore has been proposed for the Sixth Plan (1980-85). A sum of Rs. 9.21 crore was spent during 1980-81 and Rs. 13.30 crore in 1982-83. The main thrust on the technical education is for job oriented technical training and improving the skills.

28 Point Programme
Physical Targets and Achievements—Hill Region

Point No.	Item	Unit	Base year level 1979-80	Sixth Plan (1980-85) Target	Achievement			1983-84	1984-85	
					1980-81	1981-82	1982-83	Target	Anticipated Achievement	Proposed target
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
15.	Welfare of women and Children									
1.	Nutrition to Pregnent Ladies									
(a)	Rural Development Deptt.	000No	2.50	32.33	—	—	4.00	6.29	6.29	7.00
(b)	Education Department	„	2.00	4.25	4.25	4.25	4.25	4.25	4.25	4.25
2.	Nutrition to children below six years of age									
(a)	Rural Development Deptt	000No	5.00	64.67	10.00	6.30	8.00	12.58	12.58	14.00
(b)	Education Department	„	—	0.45	0.45	0.45	0.45	0.45	0.45	0.45
(c)	Social Welfare incl. women and children	*	6.67	61.11	6.67	8.89	12.00	12.00	12.00	55.56

(Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
3 Nutrition to school going children	..	—	—	40	57	57	92	91	91
4. Establishment of I.C.D.S. Project Functioning	No.	3	3	3	3	10	12	12	12
5. I.C.D.S. Beneficiaries (Women/children)	000No.	6.67	61.11	6.67	8.89	12.00	12.00	12.00	55 56
16. Education :									
(A) Enrolment in Age Group 6 to 11 years (Class 1 to V)									
(1) Formal Education	000No.	528	728	546	591	610	637	637	652
(2) Non-Formal Education	..	—	100	20	40	48	80	80	127
(B) Enrolment in Age group 11 to 14 year (Class VI to VIII)									
(1) Formal Education	000No.	180	305	188	217	233	246	246	255
(2) Non-formal Education	..	—	15	3	6	6	10	10	15
(C) Adult Education									
Number of participants (15 to 35 years of age)	..	32	300	32	37	45	73	73	75

18. Handicrafts, Handloom and Village Industry

1. Establishment of Village and Small Industry	No.	2225	2800	458	400	437	400	400	450
2. Establishment of units by IRD programme	..	—	25800	—	1457	6364	8700	8700	12000
3. Establishment of units by Trysom trainees	..	—	6450	—	811	1634	2175	2175	3000
4. Organising of Handloom Cooperative Societies	..	71	15	9	1	1	3	3	3
5. Handlooms brought under cooperative fold	..	2051	750	306	24	24	150	150	150
6. Production of Handloom Cloth	Lakh Mts.	11.85	15.00	13.24	10.45	13.85	13.00	14.00	15.00
7. Training of persons in handloom	No.	79	400	36	24	55	80	80	83
8. Production of Raw Silk	Kg.	4300	20000	5100	6800	9000	12600	12500	20000

PSUP—2 Genl Plan—39.11.83 1,500 (M)

Tehri Dam Project consists of construction of a 260.5 metre high clay core type rockfill dam cross river Bhagirathi, about 1.5 km. downstream of the historic Tehri town.¹ An under ground power house with 1,000 MW in capacity in the first stage and another 1,000 MW in State II. As per the present programme, the project is to be completed by 1992-93. During 1979-80, 13,728 KW of power was being generated in the hill areas through micro-power projects, under the micro-power development programme.² The present Government is giving priority to power generation and its distribution for the development of hills.

In the realm of development in Kumaon region, it is to suggest that Hill Universities should play a leading role in the whole process of development. Concerted attempt should also be made to preserve the socio-economic norms and values. Further research studies may emphasise field orientation. This is also recommended that judicious management of existing resources must take an integral part of development. At a state level defence development by implication leading to defence support should also be one of the objectives of Parvatiya Vikash Vibhag, U.P. Because the hill development basically assumes the sensitiveness of border region.

Bifurcation of Development activities in Punjab Himalaya (Himachal Pradesh)

In previous chapters, the geographic, climatic population pattern, administration, planning process in hills have been discussed. Developmental schemes and other programmes are taken into consideration by the Himachal Government viewing the security sensitiveness from Lahul to U.P. Himalayan border. Any plan is as good as implemented. Therefore, the plan implementation in the current as also the long-term perspective has received adequate attention in Himachal Pradesh. Forests constitutes the backbone of hill economics.

In 'C' Chapter, Draft Annual Plan 1983-84 occupies the central position not only in the time horizon of the 1980-85

1. *Titiz*: June 16, 1984, page 17.

2. *The Pioneer Suppl.* June 9, 1981, page 13.

plan but also in view of the fact that a large number of programmes and schemes initiated. This Chapter, in itself, accounts for the panoramic over view of plan performance in Himachal Pradesh during 1980-81, 1981-82 and also outlines the thrust of development strategy for 1983-84.

Problems peculiar to Punjab Himalaya

The problems peculiar to Punjab Himalaya are common as explained before. Most of the tribal areas and borderland communities are affected by poverty. Life is difficult for lack of adequate and proper supplies of food. Incentives for future improvement is seen only among the well-to-do sections. Planning process and industrial development in hill is not well knitted to the needs of the area. Development of any area on purely defence oriented plan may be desirable and possible under certain circumstances. Table 1 depicts the sixth plan outlay.

OBJECTIVES OF THE SIXTH PLAN 1980-85

The National Development Council in its meeting held on 30th and 31st August 1980 adopted the frame work of the sixth Five-Year Plan for 1980-85 which continue the objectives of the Sixth plan along with the main programme thrust. The objectives as envisaged for the National Plan for 1980-85 are as under :

- (i) A significant step up in the rate of growth of the economy, the promotion of efficiency in the use of resources and improved productivity.
- (ii) Strengthening the impulses of modernisation for the achievement of economic and technological self-reliance.
- (iii) A progressive reduction in the incidence of poverty and unemployment.
- (iv) A speedy development of indigenous sources of energy, with proper emphasis on conservation and efficiency in energy use ;

Table 1

<i>Sector</i>	<i>Sixth plan Outlay</i>	<i>1980- 81 Actual Exp.</i>	<i>1981- 82 Actual Exp.</i>	<i>1982- 83 Outlay</i>	<i>Likely Exp.</i>	<i>Proposed Outlay 1983-84</i>
1. Agriculture and Allied Services	140.91	23.80	31.15	32.44	33.81	39.09
2. Cooperation	6.75	1.48	1.50	1.38	1.42	1.44
3. Water and Power Development	153.48	24.34	25.36	32.14	33.14	43.12
4. Industry & Minerals	18.00	3.04	3.85	3.99	3.99	5.16
5. Transport and Communications	118.65	20.00	24.80	19.50	19.50	29.25
6. Social and Community Services	108.26	20.33	28.98	27.83	27.98	36.74
7. Economic Services	0.45	0.06	0.08	0.15	0.15	0.18
8. General Services	13.50	2.66	2.84	2.56	2.57	3.02
Total	560.00	95.71	118.56	120.00	22.56	158.00

- (v) Improving the quality of life of the people in general with special reference to the economically and socially handicapped population, through a minimum needs programme whose coverage is so designed as to ensure that all parts of the country attain within a prescribed period nationally accepted standards;
- (vi) Strengthening the redistributive bias of public policies and services in favour of the poor contributing to a reduction in inequalities of income and wealth;
- (vii) A progressive reduction in regional inequalities in the pace of development and in the diffusion of technological benefits ;
- (viii) Promoting policies for controlling the growth of population through voluntary acceptance of the small family plan ;
- (ix) Bringing about harmony between the short and the long term goals of development by promoting the protection and improvement of ecological and environmental assets ; and
- (x) Promoting the active involvement of all sections of the people in the process of development through appropriate education, communication and institutional strategies.

There is no denying that the fact that solutions to the problems of poverty, under-employment and unemployment can only be found in the framework of rapidly expanding economy. To that end the plan must ensure all efforts that have to be made to step up the aggregate growth performance of the economy. The Planning Commission at the national level has assessed that in the existing circumstances taking into full view the developmental capacities installed the growth impulses generated recently as also the high saving rates in the aggregate economy, it will be feasible to plan for an average annual growth rate of 5.3 per cent during the Sixth Plan.

As is obvious from the above objectives, there can be no two opinions about the whole-hearted attempt to set the economy back on rails and give momentum in the right directions.

The formulation of the State Sixth Plan for 1980-85 has by and large conformed to the objectives within the framework of the objective of the national plan with minor adjustments as have been necessitated by the local conditions and needs.

The objectives of the state plan cannot be at disagreement with the ones of the national plan and as such all our programmes and sectoral priorities of investment are aimed at :

- (i) Helping the economy to attain an average growth rate of 5 per cent in the initial years of the plan and 5.3 per cent towards the last years of the plan ;
- (ii) A higher growth rate of economy in agricultural sector ;
- (iii) A larger emphasis on rural development programmes through IRD, SFDA, TRYSEM, etc. ;
- (iv) Ensuring a highly efficient and sufficiently strong public distribution system ;
- (v) An enlarged emphasis on 20 point Economic Programme ;
- (vi) Harnessing the vast economic potential in the fields of hydel generation and diversification of horticulture so that it does not compare with the forestry sector ;
- (vii) Rapid industrialisation of potential areas involving low-freight, high transport, and high value added commodities ;
- (viii) Intensification of the availability of special services like education, health, drinking water, housing etc. ;
- (ix) A larger than earlier effort for speedy amelioration of the weaker sections.

The data on growth of road length in Himachal Pradesh has been depicted in Table 2 below :

Table 2

(In Kms)

<i>Year (as on 31st March)</i>	<i>Motorable double lane</i>	<i>Motorable single lane</i>	<i>Jeepable</i>	<i>Less than Jeepable</i>	<i>Total</i>
1956	—	587	684	1142	2412
1970	1493	5200	550	2200	9443
1980	1994	9999	594	4002	16589
1981	1994	10611	633	4195	17433

TRIBAL SUB PLAN OF HIMACHAL PRADESH

Article 46 of the Constitution enjoins the State to take special care of the scheduled castes and scheduled tribes in the process of securing justice,—social, economic and political. Eversince the First Plan, the Government of India has been taking special care of the tribal areas, such areas as had scheduled tribes concentration of 66½ per cent or above, in the shape of Tribal Development blocks, but their impact remained insignificant. The objectives adopted for the Sixth Plan period are :

- (a) raising the productivity levels in fields of agriculture, horticulture, animal husbandary, forestry, cottage and village and small industry etc. So as to create an economic impact of an order which will enable a targeted number of families (say 50%) in the tribal sub-plan area to cross the poverty line ;
- (b) apart from the effort in the core economic sectors indicated in (a) above, education should become the key sector in the Sixth Plan period ;

- (c) the attainment of the objectives in (a) above would vitally depend on an adequate infrastructure for the creation of which there should be commensurate financial and physical effort ; and
- (d) concomitant with the aforesaid three-fold aims and perhaps the most important, assiduous exertions are necessary to eliminate exploitation of tribals in the fields of alienation of land, money-lending, debt bondage, trade, excise, forest, etc.

Tribal Areas

In the first instance, areas of tribal concentration were taken up. In Himachal Pradesh, these areas are the districts of Kinnaur and Lahul-Spiti and Pangl and Bharmour tehsils of Chamba district. These areas are spread in the north and north-east of the Pradesh covering an area of 23, 508 sq. kms. (42.33%) in a contiguous belt having a population of 1,33, 847 (3.13%) (1981 census). The scheduled tribes form 77.52 per cent of the population and the scheduled castes account for 8.23 per cent (1981) census). The density of population is 6 as compared to 77 for the State as a whole. The economy of the tribal areas is predominantly agropastoral.

NEW 20-POINT PROGRAMME

The New 20-Point Programme now outlines the focus of our development efforts to ensure speedy economic amelioration of the people living in the sub-poverty conditions and also simultaneously envisages creation of developmental infrastructure for heralding new growth impulses in our economy. The rural population will be in the principal beneficiaries under the new programme as a whole and the under-privileged groups in urban areas will also receive adequate attention through five specific programmes contained in it.

In view of the very high primacy attached to the programme the Himachal Pradesh Government has geared itself for effective implementation of the programme and expeditious delivery of benefits to the target groups. We have re-constituted

the committees at State level District level sub-Division level to review the progress of New 20-Point Programme. Non-official Members, Members of Parliament Members of Legislative Assembly Representatives of Congress (I), one woman member, two representatives of Scheduled Castes Tribes Prominent Public Representatives, Representatives of Beopar Mandal have been included in these Committees to make it a point to involve people's right from the grass roots to the state level in the implementation of the New Programme. Programmes like afforestation, family planning, adult education, health and nutrition are being implemented with the support of people's groups such as unemployed youth, voluntary organisation, school children, Panchayats etc.

One of the significant planks in the implementation of New 20 Point Programme is preparation of District Level 20-Points Plans and their wide publicity to ensure larger participation in the field level implementation of the programme.

The State Ex-Servicemen Corporation has been established during 1980-81 and is being a significant role in raising of the plantations and efficient running of the transport services in the State.

Geographical Glossary

Aksai Chin—A “white stone” alkaline desert plateau, about 17,000 ft. above sea level, the northern extension of the Lingzi Tang. There is evidence it was once the bed of an extensive lake. Its present importance lies in its position in a gap between the glaciers of the Great Karakoram and the high peaks of the Kunlun range.

Bara Lacha Pass—Elevation about 16,210 ft. One of the principal passes in the Punjab Himalaya, separating the “Alpine” region of dense forest below the perpetual snow from the barren rocky region.

Chang Pass (Chang La)—Important to the defence of Leh. Outward bound travellers have a choice of routes after crossing it, the Shyok valley route to the Karakoram Pass; the Chang Chenmo valley route to Pumzal, and thence to either the Lingzi Tang or the Lanak Pass, the Pangong Lake basin; or southeast to Chushul, whence the route branches to either Rudok by way of Spanggur Lake or Gartok by way of Demchok.

Charding Pass—Shown on the maps as 20-30 miles south and slightly west of Demchok.

Chenab River—The middle one of the “five rivers” of the Punjab.

Chu—The Tibetan word for “stream”.

Dara—A Turki word meaning “valley”.

Daria (Darya)—A Turki word meaning “river”.

Dras—A village in a basin of the same name, the first important stop after crossing the Zoji Pass en route to Leh. It is known for relatively heavy precipitation.

Gartok—Literally “High Fort” in Tibetan. It was also referred to as Gare in early British records. There was some confusion about this administrative centre of West Tibet for a time, until it was realized that there were two “Gars” : Gar Dzong or Gar Gunsa, the winter site is about 40 miles down the Indus from Gar Tok or Gar Yarsa, the summer site.

Gilgit—Strategically located on a tributary to the Indus, in the general area where the river furns Nanga Parbat. It commands the passes in several directions and was considered by the British to be vital to the defence of the lower Indus valley.

Hindu Kush—One of the great Asian ranges, forming a watershed between the Kabur River on the south and the Amsu Daria (Oxus) on the north.

Hunza · An isolated valley in Pakistan-held Kashmir, forming a mountain lair from which the inhabitants, known as Kanjuts (or Hunzakuts), once ambushed caravans plying the Pamir routes from Yarkand. The raiding expeditions, which utilised the Shimshal Pass and the Shaksgam valley, sometimes endangered caravans using the Karakoram Pass routes.

Inner Tibet—Refers only to the Sino-Tibetan border as proposed at the Simla Conference.

Jammu · A former province occupying the upper Chenab valley in the southern part of the State informally known as Kashmir—formally Jammu and Kashmir.

Jara Pass—Crosses the Kailash range a little north and east of Demchok.

Kailash (Kailas)—A peak, covered with perpetual snow, in the center of the Kailash range, sacred to Hindus as the site of Shiva’s paradise. The sacred lakes, Manasarovar and Rakas, lie close by. It is also known as Kangri in Tibetan.

Karakoram Range One of the great ranges that appear to radiate from the central knot of the Pamirs. The name means "black gravel" and was supplied by Turki traders to the Karakoram Pass only. The extension of the term by Europeans to the entire range containing massive glaciers, a peak (K2) second only to Everest, as well as many other mountain giants was singularly inappropriate. Mason proposes that since Karakoram is too firmly established to be abandoned now, the term Karakoram Himalaya might be applied.

Karakoram Pass—Elevation, 18,290 ft. Gives its name to the principal caravan route between Leh and the plains of Sink-kiang. It links the upper Indus system with the upper Yarkand system. The most used route north then crosses a spur of the western Kunlun range over the Sugat Pass and proceeds down the Cata Cash valley to the oasis towns of the Sinkiang plains.

Kargil—A small village headquarters of Purig District, on the trade route from Kashmir valley to Leh. From it, branch routes lead northwest to Skardu and Gilgit.

Karpo—A Tibetan adjective meaning "white".

Kharbu (Karbu)—A settlement on the Srinagar-Leh route, in the hilly country between Kargil and the Indus Valley.

Kulu—An ancient Raput principality in the mountainous upper reaches of the Bias River. The Chief town is Sultanpur.

Kumaun (Kumaon)—The Kumaun Himalaya lies in India, just west of Nepal. The principal peak is Nanda Devi, elevation 25,645 ft.

Kunawar (Kanawar)—Upper—Situated in the Kumaun Himalaya

- Kungribingri Pass**—Elevation 18,300 ft. On the route from Milam in the Kumaun Himalaya to the sacred lakes area in West Tibet.
- La** - The tibetan word for "pass".
- Lahul (Lahoul)**—A district in the Punjab Himalaya.
- Lanak Pass**—Elevation 18,000 ft. On the Ladakh-Tibet frontier at the head of the Chang Chenmo valley.
- Leh**—Capital of Ladakh, a few miles from the banks of the Indus, at the junction of major east-west and north south caravan routes. Elevation 11,545 ft.
- Lipu Lekh Pass** - One of the passes into Taklakot from Jumla, in north-western Nepal. Elevation 16,750 ft.
- Longju**—South of Migyitun in the border area of Northeast Frontier Agency.
- Mana Pass**—Elevation, 18,400 ft. One of the principal border passes in the Kumaun Himalaya. It crosses the Zanskar crest on the route from Badrinath to Tsaparang (modern Chabrang) and the famous Toling Monastery.
- Manali**—An outpost in the Punjab Himalaya from which a mule track traverses the Bara Lacha Pass and eventually reaches Leh.
- Manasarowar, Lake (Tso Ma-Pham)**—One of the two sacred lakes in West Tibet, in the vicinity of Mount Kailash.
- Mayum Pass (Maryum Pass, Marim-La)**—The dividing line between Tsang and West Tibet, elevation, 16990 ft.
- Minsar (Missar) Village**—A Ladakhi enclave in the sacred lakes area of West Tibet. The Dogras stored supplies here in the World War of 1841-42.
- Muztagh Pass**—Elevation 19,030 ft. crossing the Karakoram range west of K2.
- Niti Pass**—Elevation 16,628 ft. At the head of the Alaknanda

Valley (in the Ganges system) leading across the Zaskar crest from Kumaon Himalaya into Tibet.

Nubra—The Nubra Valley, one of three (with the Indus and lower Shyok) in which the population of Ladakh is largely concentrated, lies on the western route from Leh to the Karakoram Pass. The valley itself, with an elevation somewhat less than that of Leh, offers easy passages but the pass from Leh into it (the Kardung Pass) and from it into the Karakoram Pass region (the Saset Pass) are both steep and impossible for several months in the year.

Pamir—A wide valley, above the timber line.

Qizil (Kizil)—The Turki word for “red”.

Rudok—A frontier district in West Tibet with headquarters of the same name.

Sarigh Jilganang Lake (Sariq Jilganany Kol)—A large turquoise lake in the Lingzi Tang near the Ladakh-Tibet border. Reports vary as to whether it is a salt lake or brackish but drinkable.

Shigatse—Tibet's second city, the capital of Tsang province, on the Tsangpo near Tashillunpo, the seat of the Panchen Lama.

Shipki Pass—A major pass from the Punjab Himalaya into Tibet.

Skardu—The principal settlement in Baltistan, on the Indus above the great gorge, and not far below the confluence of the Shyok and Indus. Elevation, about 7,300 ft.

Tsangpo—The “great river” of Tibet. It rises in the Kailash range, flows east through southern Tibet, turns the Himalaya in a great bend around Namche Barwa and flows southwest into the Bay of Bengal. Known in India as the Brahmaputra.

Yutien—The Chinese name for Keria.

Zanskar—Occupies the Kanskar basin. The Zanskar River is the principal tributary on the left bank of Indus.

Zoji Pass -Elevation 51,570 ft. An important pass leading north from the Kashmir valley, where the great Central Asian trade route to Leh and points north and east can be said to begin. The only Himalayan pass in the area, it also gives access to routes leading northwest to Skardu and Gilgit.

Appendices

APPENDIX – I

Defence expenditure of British India : Selected Years

(In crores of rupees)

<i>Year</i>	<i>Expenditure</i>	<i>Year</i>	<i>Expenditure</i>	<i>Defence as percentage of total expenditure</i>
1891	24.1	1937	47.4	54.5
1911	29.3	1938	46.18	54.3
1914	30.7	1939	49.54	52.4
1915	33.4	1940	73.61	64.5
1919	87.0	1944	395.49	79.7
1920	87.4	1945	360.23	74.3
1921	69.8	1946	207.37	60.4
1931	51.8	1948	146.05	45.5
1932	46.7	1949	148.86	46.6
1936	45.5	1950	164.13	46.7

Source : P.J. Thomas ; 'The Growth of Federal Finance in India' (Madras : Oxford University Press, 1939) p. 502 For 1891-1936.

R.N. Poduval, Finance of the Government of India since 1935 (Delhi Premier Publishing, 1951).

Balance of Forces between India and Pakistan

<i>Army</i>	<i>India</i>	<i>Pakistan</i>
Infantry Divisions	18 (some ear-marked for north-east)	16 (some new divisions are being raised)
Armed Division	2	2
Ind. Arm. Bde.	6	4
Ind. Inf. Bde.	1	4
Tanks	2120	1285
Anti Tank Missile	SS-11-B-I	TOW
Air Force		
Lt. Bomber sqn.	3	1
Figher Bomber sqn.	10	11 (multiroll)
Intercep for sqns. (Gnats & Mig-21s)	19	—
Air Defence		
Missiles	SAM 2s 3s & 6s	Crotale

Source : 'The Military Balance' K. Subrahmanyam
 "Pakistani credibility Gap" IDSA Journal
 July-Sept. 1981.

APPENDIX—III

India

Population : 635,440,000

Military service : Voluntary

Total armed forces : 1,096,000

Estimated GNP 1977 : \$ 101 bn

Defence expenditure 1978 : 29.45 bn rupees (\$ 3.57 bn)
\$ 1=8.25 rupees (1978) 8.83 rupees (1977)

Army : 950,000

2 armd divs.

17 inf. divs (1 more forming)

10 mountain divs.

5 indep armed bdes

1 indep inf bde

1 para bde

14 indep arty bdes, incl. about 20 AA arty regts

4 arty observation sqns and indep flts.

Reserves : 200,000 Territorial Army 40,000

Navy : 46,000 incl Naval Air Force

Naval Air Force : 2,000

Air Force : 100,000 ; about 661 combat aircraft

Para Military Forces : About 200,000 Border Security
Force 100,000 in other
organizations.

Source : The Military Balance 1978-79,

APPENDIX—IV

Defence Budget after Independence

<i>Year</i>	<i>Real defence expenditure (in crores Rs.)</i>
1949-50	150
1950-51	163
1951-52	181
1952-53	185
1953-54	196
1954-55	195
1955-56	189
1956-57	111
1957-58	279
1958-59	278
1959-60	266
1960-61	280
1961-62	312
1962-63	473
1963-64	816
1964-65	805
1965-66	884

(Source : Prakashan Bibhag, Govt. of India)

APPENDIX—V**District-wise break-up of Scheduled Castes
and Scheduled Tribes—1971**

<i>District</i>	<i>Scheduled Casts</i>		<i>Scheduled Tribes</i>	
	<i>Popula- tion</i>	<i>Percentage to total population</i>	<i>Popula- tion</i>	<i>Percentage to total population</i>
Chamba	38,269	14.99	71,464	2.80
Kangra	2,33,478	17.59	Nil	Nil
Mandi	1,34,531	26.11	5,743	1.11
Kulu	48,361	25.14	Nil	Nil
Lahul Spiti	241	1.02	17,951	76.26
Bilaspur	47,655	24.47	5,236	2.69
Simla	54,057	24.90	Nil	Nil
Sirmur	73,949	30.18	3,155	1.29
Kinnaur	9,669	19.40	34,090	68.41

District-wise table is taken from the book
'The Beautiful India—Himachal Pradesh' by S.S. Chib
Published by Light & Life Pub.,
New Delhi, 1977 page 96.

Population of Hill Region and Area—1981

Dist./Division	Area Sq.Km.	Population		Per 1000 Male/Female population	Population per sq.Km.
		Total	Female		
1. Dehra Dun	3088	7,61,668	3,41,203	811	247
2. Uttarkashi	8016	1,90,948	89,415	881	24
3. Tehre Garhwal	4421	4,97,710	2,38,327	1088	113
4. Pauri Garhwal	5440	6,37,877	3,05,066	1491	117
5. Chamoli	9125	3,64,346	1,78,343	1043	40
Garhwal Mandal	30,090	24,54,549	12,43,734	972	82
6. Naini Tal	6794	11,30,523	6,17,380	841	167
7. Almora	5385	7,57,373	3,63,980	1081	141
8. Pithoragarh	8856	4,89,267	2,42,900	1014	55
Kumaon Mandal	21,035	23,83,163	11,58,897	947	113
Hill Region	51,125	48,35,712	24,68,000	959	95

Source : Indian Census—1981

APPENDIX—VII

Population of Scheduled Casts and Tribes—1981 Census

<i>Name of Dist.</i>	<i>Total population</i>	<i>Sch. caste population</i>	<i>% of SC in total population</i>	<i>Sch. Tribes population</i>	<i>% of ST in total population</i>	<i>Total population of SC/ST</i>	<i>%age of SC/ST in total population</i>
1. Dehra Dun	761568	90881	11.93	76085	9.99	166966	21.92
2. Pauri Garhwal	637877	74901	11.74	1097	0.17	75998	11.91
3. Tehri Garhwal	497710	63540	12.77	68	0.01	63608	12.78
4. Chamoli	364346	62886	17.26	9164	2.52	72050	19.18
5. Uttarkashi Garhwal	190948	41875	21.93	1817	0.95	43692	22.88
Mandal	2452549	334083	13.62	88231	3.60	422314	17.22

6.	Almora	757373	155710	20.56	2145	0.28	157855	20.84
7.	Pithoragarh	489267	95145	19.45	17337	3.54	112482	22.99
8.	Naini Tal	1136523	187213	16.47	73998	6.51	261211	22.98
<hr/>								
	Kumaon Mandal	2383163	438068	18.38	93480	3.92	531548	22.30
<hr/>								
	Total Hill Region	4835712	772151	15.97	181711	3.76	953862	19.73
<hr/>								
	U.P.	110862013	23453339	21.16	232705	0.21	23686044	21.37
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INDUSTRIES
Factories and Small-Scale Units in Hill Region 1979-80

<i>District/ Mandal</i>	<i>Registered under Factories Act, 1948</i>			<i>Registered Small-Scale Units under</i>	
	<i>Factories</i>		<i>Total</i>	<i>Number</i>	<i>Employed</i>
	<i>Registered</i>	<i>Employed</i>	<i>Employed persons</i>		<i>persons</i>
1. Dehradun	119	97	8934	872	8497
2. Uttar Kashi	2	2	120	178	290
3. Tehri Garhwal	4	4	120	104	156
4. Pauri Garhwal	12	12	230	218	1539
5. Chamoli Garhwal	—	—	—	850	2330
Mandal	137	115	9284	2222	10912

6.	Naini Tal	55	45	9798	769	4207
7.	Almora	11	11	865	668	3457
8.	Pithoragarh	3	3	254	64	308
Kumaon						
	Mandal	69	62	10847	1501	7972
	Hill Region	206	177	20131	3723	18884

Source : Economic and Population Planning Region, Uttar Pradesh.

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