SUMMARY OF THE MAIN CONCLUSIONS
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I.1 Reproduction is the basic necessity of all the phenomena in Nature in which man is the most important. Man accomplishes it by interacting with Nature as its (Nature's) own force and with the other members of society.

I.2 Man's interaction with Nature and with the other members of society is carried through technology and the institutions which provide force of production and relations of production respectively.

I.3 In the initial stages of development the techno-institutional structure (Now on Social Environment) remains organically related with the Nature (Now on Natural Environment). But, gradually the social environment counter poses itself to the latter by constantly putting ever increasing demands for the appropriation of natural environment and its resources. Part of these demands are fulfilled by appropriating the diversities of local resources and the rest are met by procuring these from other areas/regions. Thus, the entire process lays down the basis or necessary conditions for spatial interaction. In this way spatial interaction is a response to smooth out the differential availability of required resources between demand and supply locales. But, the actual nature of interaction takes place under given techno-
in institutional framework. Subsequently, the pace of development always depends upon the compatibility of relations between these two, i.e. the necessary conditions and the sufficient conditions.

I.4 The harmony of relations between the Natural and Social environment on the one hand and between necessary and sufficient conditions on the other was scuttled after the colonial intervention in India during seventeenth and eighteenth centuries. In case of Uttar Pradesh Himalayas, the process started in the first quarter of nineteenth century. The region was reduced to the status of a subsatellite of a satellite i.e. India, and was placed at the bottom level of regional hierarchy along with other peripheral areas within the colonial structure.

II.1 The physical setting of an area plays both conducive as well as restrictive roles in the development of space relationships and subsequently in the process of development. Understanding about the Geology particularly its Geological history, structure, rock types and composition is important for human habitation, resource utilisation, construction and mining activities.

II.2 Relatively recent origin of the Himalayan mountain system mostly in the Tertiary Period is significant in making the Himalayas a fragile, unstable earthquake prone zone. As a result development of major construction activities
particularly big dams, reservoirs, large scale mining etc. have become difficult in the regions.

II.3 Physiography, particularly relief and arrangement of mountain ranges and river valleys have significantly influenced the processes of spatial interaction and development in the region. The altitude of the region generally rises from south to north and correspondingly spatial interaction also decreases in the same direction.

II.4 The intensity of environmental constraints expressed in terms of steep slope, poor soil quality and depth, and harsh climate is relatively less in the valleys. Hence, the valleys are also areas of intense human activities. With the increase in altitude the intensity of human activities tends to decrease. The only exceptions are the hill top settlements in the Middle Himalayas. Spatial interaction is minimum in the higher areas where it is restricted over time and space and thereby, make development a highly cost intensive activity.

II.5 River Ganga in Uttar Pradesh Himalayas does not only signify a mighty system of natural streams but also has great economic potentials. It has always been a source of spiritual satisfaction to the people. Furthermore, it continues to attract millions of devotees to its banks every year from all over the country. At the same time the rivers restricted
interaction among the people living on either sides. It has been noticed that rivers and streams and hill ranges formed natural boundaries of different principalities in the region. This gave rise to numerous micro-cultural groups and it is only in the recent past that intra-regional interaction increased significantly mainly due to construction of roads and bridges.

II.6 Most of the rivers and streams of the region originate from the glaciers in the Greater Himalayas and these are perennial in nature. These have large potential for hydro-electric power generation.

II.7 Climate characterised by mild winters and pleasant summer in its lower parts played important role in the spatial interaction and development of the region. It was particularly so during the colonial period. High urbanisation, development of tourism and other tertiary sectoral activities in the Middle Himalayas are mainly due to these climatic advantages. Similarly, moderate climatic condition in the valleys make these suitable for human habitation and activities round the year. Great heights and heavy snow fall in the Greater Himalayas attracts many adventurers and winter sport lovers but these offer a little opportunities for the development of permanent human settlements. It is only during the summers that this zone receives
Bhotia Trans-humants.

II.8 Forest is an important resource of the region from the point of view of commercial value. Forest resources attracted many outsiders especially the Britishers and large scale felling of trees took place. If proved detrimental both to the environment as well as development in the region.

II.9 Agriculture to a large extent depends upon the quality of soil. Good quality soil is available mostly in the river valleys, Duns and Tarai areas of the region. The forest type soil with low fertility and agricultural potentials is most common in other parts. Large scale deforestation, unscientific cultivation and grazing have accentuated the process of soil erosion leading to decline in the soil fertility.

III.1 Uttar Pradesh Himalayas had always been a buffer zone between two important cultural streams presented by North Indian plains to its south and Tibet to its north. For a long time it relatively isolated. But, due to relatively easy accessibility from south it interacted more freely with north Indian plains and was finally incorporated into the Colonial India under the Britishers in 1815. Very high mountain ranges considerably restricted its free interaction with territories lying to the north.
III.2 The region largely remained at the receiving end of influences and waves of immigrants mostly coming from the Indo-Ganga plain and other areas situated to its south. As a result the inhabitants of the region show a great admixture of different socio-cultural groups. Topography played an important role in the immigration of the people. Routes developed along the river valleys provided easy accessibility to the immigrant from the south. Though, immigration to the region has been there since long but, it was particularly significant during the phases of polico-social turmoils in northern India during medieval period.

III.3 British rule brought significant external influences to Uttar Pradesh Himalayas. Because, it was during this time that the region got largely incorporated into the Indian polity and market and subsequently, into the world market. This process proved to be detrimental to the proper development of the region. The region was subjected to the colonial exploitative mechanism particularly of human and natural resources. Transfer of economic surplus through different channels adversely affected the developmental potentials and reduced it to the status of sub-satellite of the satellite i.e. India. With "development" the region experienced ever increasing intra-regional disparities. There
came up a few developed hill stations and cantonment towns while the other areas suffered from exploitation of resources.

III.4 The process of spatial interaction at different stages of history had far reaching consequences upon the socio-cultural composition of population in the region. Areas and centres developed during the colonial period had greater socio-cultural diversities indicative of higher level of development. As opposed to this the interior parts of the region had predominance of pre-modern social structure in terms of caste, linguistic and cultural composition. Areas ruled by local rulers for a long period exhibit relatively undisturbed monolithic social-structure symptomatic of under-development.

III.5 Scheduled tribes continue to occupy relatively neglected areas of Greater Himalayas and Tarai-Bhabar. But, due to enhanced strategic importance of the border areas of north and agricultural development in the Tarai-Bhabar accompanied by special programmes for the development of tribals these have radically transformed. Scheduled caste population on the contrary, continues to occupy third rank in the caste hierarchy and its distribution is negatively correlated with that the Scheduled Tribe population.

IV.1 Demographic and economic structure of a region/society
are closely related to each other. And these are significantly influenced by the processes of interaction and development. More so in hilly regions like Uttar Pradesh Himalayas these reflect human efforts to adjust themselves to the environmental constraints.

IV.2 The Valleys, the Tarai-Bhabar zones, the Duns and the Foothills have more favourable environment and the opportunities of earning livelihood. Consequently, the density of population and proportion of urban inhabitants are relatively higher in these parts.

IV.3 The politico-economic control of the Britishers on Uttar Pradesh Himalayas greatly influenced the population structure here. Higher demand of young males for the recruitment in the British Indian Army during the two World Wars and to work as domestic servants throughout the colonial rule resulted in large scale outmigration leading to decline or slow population growth.

IV.4 Higher population below 14 years age and sharp decline in the population in the age group between 15-19 years is largely because of large scale age, sex and skill selective outmigration. Such distress outmigration is from areas having hostile environment and offering very limited opportunities for social survival. It has resulted in high sex ratio in such areas. As opposed to this low sex ratio is noticed in bordering areas of north where construction activity is going on and in the Tarai having developed agriculture which attract immigrants.
Literacy and education are basic for development. But, in a dependent peripheral region literacy and education leads to higher skill selective outmigrations. This process can be checked through proper economic planning and by creating more job opportunities.

Urbanisation acquired more significance in Uttar Pradesh Himalayas in times of British. The urban centres set-up by them had strong forward linkages with the higher order urban centres outside the region but weak backward linkages within the region.

Urban places came up mainly as cantonments, educational centres and health resorts. Recently some new urban centres have also developed either in the strategically important areas or as agro-industrial towns.

Relatively low proportion of urban population having high urban growth rate in the strategically sensitive areas is mainly due to small base.

Subsistence agriculture based on family labour is an important feature in the region. The region being mountainous offers limited land for cultivation. Most of the agriculture is confined to areas situated below 2400 Mts mainly in the valleys and on the lower slopes where terrace farming is possible.

Cereals occupy predominant position in the cropping pattern. The selection of superior or inferior cereals is determined by physiographic and climatic factors.
IV.11 Subsistence agriculture has mixed farming with livestock constituting an important component of it. Both livestock rearing and farming display symbiotic relationship. Animals are used for ploughing the fields their excreta used as manure. Unedible parts of crops are used as fodder. Altitude, climate and vegetation types significantly influence the distribution of animals.

IV.12 Large disparities are observed in the distribution of land holdings in Uttar Pradesh Himalayas. The disparities are more pronounced in areas of developed agricultural.

IV.13 Females constitute majority of agricultural workers. But, the share of male agricultural workers is high only in those parts which experienced modernization of agriculture.

IV.14 Secondary sector is weak in the region. But industry has become important in a few pockets in the recent years. Lack of capital, power, skilled workforce, market and transport are some of the important bottlenecks for developed secondary sector. Border road construction and hydel power projects in the Greater Himalayas, agro-based industry in Tarai and construction and manufacturing in the urban centres are the only components of the secondary sector in the region.

IV.15 Compared to secondary sector, Tertiary sector is relatively more developed in the region. It
started developing during colonial rule in the region. The proportion of tertiary sector workers is high in areas which developed as administrative and trade centres by the Britishers. Moreover, some new administrative centres came up in the strategically sensitive areas of the north resulting in an increase in the number of tertiary workers.

V.1 Underdevelopment is not a precondition, or a stage or negation of development. In fact underdevelopment and development are dialectically related with each other. These result from the same processes creating development at one place and underdevelopment at the other through transfer of economic surplus from the latter to the former. In short development and underdevelopment are two related aspects of the "Modern World System" interacting with each other on unequal exchange basis for their survival. Hence, one can be interchanged with the other.

V.2 Uttar Pradesh Himalayas was brought within the fold of "Modern World System" during the phase of Industrial Capitalism for the purpose of colonial expansion and exploitation of resources. Corresponding to these requirements the colonial rulers modified its regional and socio-economic structures for their advantages. The new structure evolved was hierarchical and each echelon in the hierarchy had different mode of transportation.
V.3 Hill top settlements are among the oldest villages in the region. New colonial centres also came up on hill tops in the Middle and Outer Himalayas. It considerably undermined the significance of hill top settlements in other areas. Under the new regime plundering and invasions were checked and as a result valley floor and mid slope settlements also became more important.

V.4. Principle of maximum economic opportunity was the single most important contributing factor in the growth of these new settlements rather than other advantages like strategic or spiritual importance etc.

VI.1 Spatial interaction and underdevelopment are complex and multidimensional processes. It was therefore, felt to be essential to analyse and understand these by taking reasonably large number of relevant indicators. Thirty eight indicators were selected for this purpose.

VI.2 Spatial interaction and under-development in Uttar Pradesh Himalayas have not only economic aspects but these have been significantly influenced by the natural environment, historical processes, socio-cultural characteristics and strategic factors. Hence, selection of sample units i.e. villages and households acquire added significance keeping the region specificity in mind. Three hundred and twenty two households were
selected from 19 sample villages for the present study. The sample villages represent important physiographic and ecological zones, areas of intense human activities and strategic importance.

VI.3 Various methods are in use for compositing the values of indicators. Composite Index based on Principal Component for assigning higher weightage for higher correlation have been preferred over other methods. It has been opted because of the underlying theoretical rationale which considers development a synthesis of many associated factors rather than a symbol of uniqueness or dispersion.

VI.4 Similarly various methods are in use for analysing the interrelationship between spatial interaction and development. Canonical Correlation was found most appropriate for the present study because here both 'X' and 'Y' represent two sets of variables rather than one explained and many explanatory variables.

VII.1 Favourable environmental factors such as gentler slope, lower altitude, mild climate, adequate soil cover, irrigation potentials and the institutional changes including government policy have positively influenced resource base in the lower parts of the region.

VII.2 Agriculture is the major economic activity but it continues to be backward and largely dependent upon
natural factors like precipitation, temperature, soil fertility and slope of an area. The valleys, Duns and Tarai areas are relatively more developed compared to higher parts in terms of agriculture. Use of modern inputs along with favourable government policy have also contributed significantly in the agricultural development in certain selected areas of the region. Since, agricultural inputs are more easily available in the urban centres hence the levels of agricultural development show inverse relationship with the distance from these centres.

VII.3 Uttar Pradesh Himalayas have very weak industrial base. Lack of capital and developed power resources, skilled labour, infrastructure and weak market relations are some of the important causes of it. Recent industrialisation is linked with agricultural development in the form of agro-based industry and the power and construction activities. Apart from this, efforts made by the government for developing tribal art and handicrafts, have also contributed to the industrial development in tribal areas.

VII.4 Proper co-ordination of and concerted efforts by government planners, implementing agencies and the people in areas covered under Integrated Rural Development Programme in Pauri district played
important in the socio-cultural development. Such coordination have also been noticed in the blocks having developed urban centres. The north-western parts of the region i.e. Tehri earlier ruled by local princes did not show such initiatives for socio-cultural development.

South-eastern parts of the region has relatively better terrain in terms of gentle slope, deep and fertile soil cover, mild climate and irrigation potentials. It also received special attention from the Britishers due to its strategic location on Nepal border. It shows higher levels of overall development. Marked environmental constraints in the interior and north-western parts of the region seem to be mainly responsible for low development.

Higher spatial interaction was found to be a prerequisite for development in Uttar Pradesh Himalayas. It has been greatly influenced by mountainous physiography and historical factors. The south-eastern part had developed good linkages with other parts of the country due to the British interest. This area also experienced growth of urban centre which in due course of time emerged as important developmental nodes and are continuing to attract most of developmental resources. The distribution of these developmental opportunities is inversely related with the distance from the developed nodes. Since, the number
of such centres is more in Kumaon than Garhwal and Tehri development is also higher in the former.

VII.7 Enhanced strategic importance of the bordering areas of the north in post 1962 period contributed to greater interaction and more construction and service sectoral activities. Moreover, these areas are also covered under Tribal Development Programmes.

VIII.1 Isolated villages, joint family system and caste as the basis of social division are three important characteristics of the social environment in Uttar Pradesh Himalayas. These also form integral part of the tradition developed within the mountain ecosystem over time. The bonds of tradition have become relatively more relaxed in areas near the centres of modernity and change. Hill top settlements mostly in the Middle Himalayas display a big leap towards modernity while their counter parts in Greater Himalayas particularly in the former principality of Tehri still exhibit strong hold of tradition. In this way ecology and historical processes have played significant role in the process of development in the region.

VIII.2. Land, forest and water are the three most important component of the resource base in the villages of Uttar Pradesh Himalayas. Accessibility have played role in the management of resource base and preservation of environment in the region. Easily accessible villages have experienced depletion of resource base while
those situated in the remote parts have higher resource base. The village situated near the developed urban centres have relatively lower resource base.

VIII.3 Subsistence agriculture based on family labour continues to be greatly influenced by natural factors. Levels of agricultural development are high in village receiving higher amount of rainfall particularly during winter months, having gentle slope and better soil conditions as is the case in Terai. Agriculture is less developed near urban centres. Higher rates of return on per unit land and labour in other than agricultural sector has adversely affected agricultural activities.

VIII.4 Though, Uttar Pradesh Himalayas is a backward region but it has some developed cultural pockets. Villages situated near these have higher level of socio-cultural development and it is inversely related with the distance from these centres. Apart from it the size of village and its strategic importance show positive correlation with the level of socio-cultural development.

VIII.5 The pattern of spatial interaction shows significant influence of colonial rule. Villages situated near the colonial centres continue to have better accessibility. Since most of the urban centres were
developed in the Middle and the Outer Himalayas, the spatial interaction decrease from hill top while towards the valleys in these zones; it decreases from valley upwards in the Greater Himalayas. Erstwhile princely rule in the western part of the region seems to have hampered interaction there.

VIII.6 Environmental and historical factors are most significant in influencing the level of overall Development of villages. The pattern of development established by the Britishers continues to exist though in a modified form.