Trans. Inst. Indian Geographers
Vol. 32, No. 1, 2010

Development of Infrastructure in Tribal Areas of Himachal Pradesh – A Geographical Analysis

B.R. Thakur and D.D. Sharma; Shimla, Himachal Pradesh

Abstract

The Kinnaur and Lahaul-Spiti districts, in their entirety, and Pangi and Bharmaur Sub-Divisions of Chamba district are notified tribal areas in the state and inhabited by different scheduled tribal communities. The present study is based on secondary data. The secondary data relating to indicators of socio-economic infrastructural development at the village level have been gathered from District Census Handbooks, Directorate of Census Operations, Shimla. The development of infrastructure has been studied at the village level for the periods 1971 to 2001. The present study is based on the analysis of 681 inhabited villages of 2001 census. In 1971 the number of inhabited villages was 484. The present study is an attempt to evaluate the trends in the level of development of social and economic infrastructure in the study area. In order to examine the level of infrastructural development six sectoral indicators which include education, health, drinking water, banking, electrification and communication have been computed at the village level. A composite index of these six sectors of infrastructure has been computed by assigning the weightage to different facilities according to their importance in socio-economic development of rural areas. The spatial variations in the level of infrastructural development have been shown with the help of choropleth maps. The study reveals that there has been a considerable expansion in infrastructural facilities across different tribal areas of Himachal Pradesh over the period 1971 to 2001. But the values of composite weighted score, representing all basic facilities has increased for all the inhabited villages in the region and across the areas during next three decades. However, there is a large scope for improvement in the remote and inaccessible villages regarding infrastructural development.

Himachal Pradesh, though anthropologically can hardly be called a tribal state, yet is inhabited by popular tribes as Gaddi, Kinnaura, Lahaula, Pangwal, Lamba etc.The total tribal population of Himachal Pradesh was 2, 44,587 persons which hardly constituted about 4% of the total population of the state in 2001. Thus, the population ratio of tribes and non-tribes in Himachal Pradesh is about 1:25 (Census of India, 2001).

Having hostile geographical conditions, peculiar cold and dry agro climatic conditions, non-industrialization and limited basic infrastructure facilities, the notified tribal areas of Himachal Pradesh are continuing as backward. The tribals of Himachal Pradesh mainly depend upon agriculture and pastoralism. Since ages, they are continuing a distinctive life style and cultural ethos (Agro-Economic Research Centre, 1988). They are experiencing geographical and political isolation clubbed with socio-economic inequalities.

Since independence, efforts are being made through successive plans to improve the socio-economic conditions of tribal people (Joshi, 1983). But, the tribal areas didn't get due attention for about two and half decades. The Fifth Five-Year Plan could be termed as a landmark in the development planning for the tribal people of the country. In this plan a new approach (tribal sub-plan) was envisaged for tribal development with long term objectives enumerated as (i) to narrow the gap between the levels of development of tribal and other areas (ii) to improve the quality of life of the tribal communities. The immediate objectives of the tribal sub plan for tribal development include elimination of exploitation in all forms, speeding up the process for social and economic development, building up inner strength of the people and improving their organizational capabilities (Hasnain, 2001). The present study is an attempt to evaluate the trends in the level of development of social and economic infrastructure in notified tribal areas of Himachal Pradesh.

The economic and social development of a region is associated with the development of infrastructure. The public investments in various socio-economic sectors determine the rate of overall development of economy and also distribute gains of development in different sections of society by providing opportunities. It is therefore imperative that for successful implementation of various developmental plans, the support of infrastructural facilities need to be consolidated. Inherent in the infrastructural development is economic infrastructure such as public utilities which include power, telecommunication, irrigation, finance, also social infrastructure such as education and health facilities (Bhakar and Bhargava, 2003).

Thus, infrastructure is essential for the development of an area and at the same time it also forms an indicator of the extent of development of the area. Facilities which represent investment in human capital, in consequence of which productivity, a powerful element of growth and quality of life of the people improve, are also included in the category of infrastructural facilities (Agro-Economic Research Centre, 1988).

Objectives of the Study

i) To evaluate the trends in the level of development of social and economic infrastructure in the study area.

ii) To study the spatial variations in the level of infrastructural development in the study area.

Data Base and Methodology

The present study is based on secondary data and information. The secondary data relating to indicators of socio-economic infrastructural development at the village level have been gathered from District Census Handbooks, Directorate of Census Operations, Shimla. The development of infrastructure has been studied at the village level for the periods 1971 to 2001. The analysis carried out for 681 inhabited villages (2001 Census) forms the basis of present study. It may be noted that in 1971 there were only 484 inhabited villages. In order to examine the level of infrastructural development six sectoral indicators which include education, health, drinking water, banking, electrification and communication have been computed at the village level. Educational infrastructure includes the availability of primary, middle, high and higher secondary schools, colleges and adult literacy centres. The health care infrastructure includes village health guides, registered medical practitioners dispensary, health sub-centre, primary health centre, maternity and child welfare centre, community health centre or hospital. Drinking water facilities include the source of potable water which covers taps, rivers and others. Banking facilities includes the public sector credit facilities viz Gramin bank, cooperative bank or any other commercial bank. Electricity infrastructure has taken as the electricity supply in the village. Communication facilities include the village level availability of post and telegraph services. The availability of roads and transport means has taken in terms of surfaced metalled road because data for bus stop facility are not available for 1971 census.

For studying spatial variations, distributional pattern of these facilities has been examined at the village level. Thus, a higher percentage of a facility would indicate a greater degree of its availability and represent a more convenient accessibility to it across different areas. A composite index of these six sectors of infrastructure has been computed by assigning the weightage to different facilities according to their importance in socio-economic development of rural areas in this mountainous region. The weightage has been assigned to various facilities arbitrarily but in logical manner. Following weightage has been assigned to various infrastructural facilities in the rural area:- village without primary school-0, village with primary school-1, middle school-2, high school-3, senior secondary school-4, college-5, adult

literacy centre-1; village without medical facilities-0, village health guide-1, RMP-2, dispensary, health sub-centre, primary health centre etc-3, community health centre/hospital-4; village with river or other sources of water-1; village with tap water supply-2, village without bank-0; village with bank-3; village without electricity supply-0, electrified village-3; village without post office-0, village with post office-1, village with post and telegraph office-3; village without metalled road facility-0 and village with metalled road facility-3. The composite weighted score has been computed for each village to obtain the index of level of infrastructural development. The spatial variations in the level of infrastructural development have been shown with the help of choropleth map. The composite weighted score has been categorized into 5 classes – upto 5 (very low) 6-10 (low), 11-14 (moderate), 15-19 (high) and 20 and above (very high).

Study Area:

The Kinnaur and Lahaul-Spiti districts, in their entirety, and Pangi and Bharmaur (now tehsil Bharmour and sub-tehsil Holi) sub-divisions of Chamba district constitute the Scheduled areas in the State, fulfilling the minimum criterion of 50% scheduled tribe population concentration in a community development block. These are situated in the north and north-east of the state forming a contiguous belt in the far hinterland behind high mountain passes and are amongst the remotest and most inaccessible areas in the State. Tribal area of Himachal Pradesh lies between 31°6' 15"'N and 33°15' 55"N and 76°13'47"E and 79° 0'25'E (Fig.1). The eastern parts of the area share international boundary with Tibet, the western boundary is shared by Chamba and Churah tehsils. In the north, it makes boundary with Jammu and Kashmir state and in the south and south east with Kangra Kullu and Shimla districts respectively. Spreading over the area of approximately 23,655 sq km study area has 681 inhabited villages spread across five ITDPs.The study area constitutes 42.49% of the State's geographical area and represent 2.74% of the total population of the State (Census of India, 2001).

Level of Infrastructural Development in Different Areas:

The weightage has been assigned, as mentioned in the methodology, in accordance to level of given infrastructure in the village and its importance in socio-economic development in the rural areas of Himachal Pradesh. Accordingly, three broad categories of level of infrastructural development viz. villages with low, moderate and high level of development have been identified.

Table 1 depicts the level of infrastructural development in study area

Table 1: Level of Infrastructural Development in 1971 and 2001

Composite Weighted Score							
Area	Census Year	Lowly Developed		Moderately Developed	Highly Developed		Total Villages
		Very Low	Low	Moderate	High	Very High	
		Upto 5	6-10	11-14	15-19	20 and Above	
Kinnaur	1971	16 (20.78)	42 (54.55)	13 (16.88)	5 (6.49)	1 (1.30)	77 (100.00)
	2001	44 (18.80)	90 (38.46)	58 (24.79)	24 (10.26)	18 (7.69)	234 (100.00)
Lahaul	1971	128 (82.05)	26 (16.67)	1 (0.64)	1 (0.64)	Nil	156 (100.00)
	2001	26 (13.54)	115 (59.90)	30 (15.63)	16 (8.33)	5 (2.60)	192 (100.00)
Spiti	1971	44 (93.62)	3 (6.38)	Nil	Nil	Nil	47 (100.00)
	2001	21 (22.11)	56 (58.95)	9 (9.47)	5 (5.26)	4 (4.21)	95 (100.00)
Pangi	1971	89 (96.74)	3 (3.26)	Nil	Nil	Nil	92 (100.00)
	2001	Nil	45 (76.27)	7 (11.86)	4 (6.78)	3 (5.08)	59 (100.00)
Bharmaur	1971	102 (91.07)	9 (8.04)	1 (0.89)	Nil	Nil	112 (100.00)
	2001	1 (0.99)	64 (63.37)	22 (21.78)	9 (8.91)	5 (4.95)	101 (100.00)
Total Tribal Area	1971	379 (78.31)	83 (17.15)	15 (3.10)	6 (1.24)	1 (0.21)	484 (100.00)
	2001	92 (13.51)	370 (54.33)	126 (18.50)	58 (8.52)	35 (5.14)	681 (100.00)

Figures in parentheses are the percentage of villages to total inhabited villages

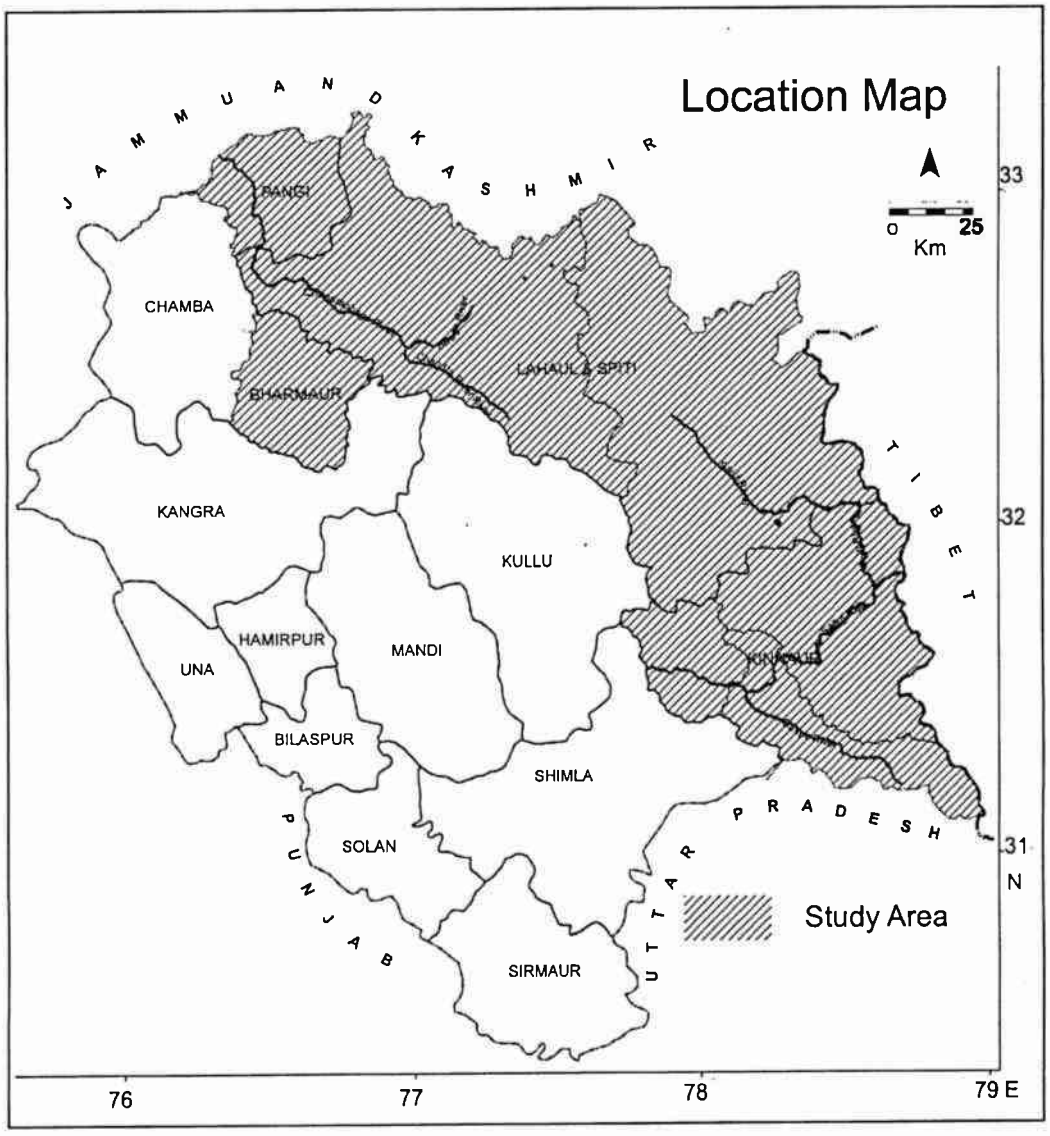

Fig. 1

in 1971 and 2001. Fig. 2, 3 and 4 show the spatial pattern of level of infrastructural development in different parts of the region in 1971 and 2001. It is evident that in 1971, about 95% villages in the region had low level of rural infrastructural facilities. In fact, about 78% of the inhabited villages had hardly any access to the basic infrastructure such as schools, hospitals, drinking water, banking, electricity, metalled roads and communication. But the values of composite weighted score, representing all these basic facilities, have increased for all the inhabited villages in

the region over the period 1971 to 2001. This reflects a gradual rise in the level of overall infrastructural development in the region. The proportion of villages with low level of infrastructure declined significantly till 2001. In 2001, about 68% of inhabited villages had low level of infrastructure. Though even in 2001 about 13% villages had hardly an access to the basic facilities. The proportion of moderately developed villages in terms of infrastructure has witnessed about 6 times increase during the study period. The composite score ranging between 15-19 signifying highly developed villages in terms of infrastructure has also increased from 1.24% to about 9% of total inhabited villages from 1971 to 2001. The share of villages in very high developed category was negligible in 1971 and increased substantially to 5% of inhabited villages in 2001 in the tribal areas of Himachal Pradesh.

Pangi Area: Pangi area is one of the relatively lesser accessible areas in Himachal Pradesh. The table 1 and Fig. 1 depict that all the villages in Pangi area had low level of rural infrastructure in 1971. More than 95% villages in this area had very low level of rural infrastructure. Comparison of Fig.1 and Fig.2 reveals that the level of infrastructural development has increased at a faster pace across this area during the study period i.e. 1971 to 2001. The proportion of villages with low and very low level of infrastructural development in 2001 was about 76% and nil respectively. The percentage of high developed and very high developed villages in terms of infrastructure is about 7 and 5 respectively. Remaining about 12% villages are moderately developed in this regard having 11-14 composite score. The study clearly indicates that there has been a lot of expansion in the availability of socio-economic amenities in Pangi area during the last quarter of 20th century (fig. 2).

Bharmaur Area: In Bharmaur area, about 99% villages were lowly developed in terms of infrastructure in 1971. They had composite weighted score upto 10. Among these villages, about 91% villages had very low level of infrastructural development. The proportion of highly developed villages in terms of infrastructure was nil in this area. However, about 1% villages had moderate level of infrastructure in 1971. The comparison between fig. 1 and 2 illustrates that there has been significant increase in the level of infrastructural development during 1971 to 2001. But, about 64% villages had low level of infrastructure even in 2001.Among these villages, the share of villages having very low level of infrastructure was merely 1%. The proportion of moderately and highly developed villages in terms of socio-economic infrastructure has increased considerably from almost nil in 1971 to about 22% and 14% respectively in 2001. About 5% villages having composite

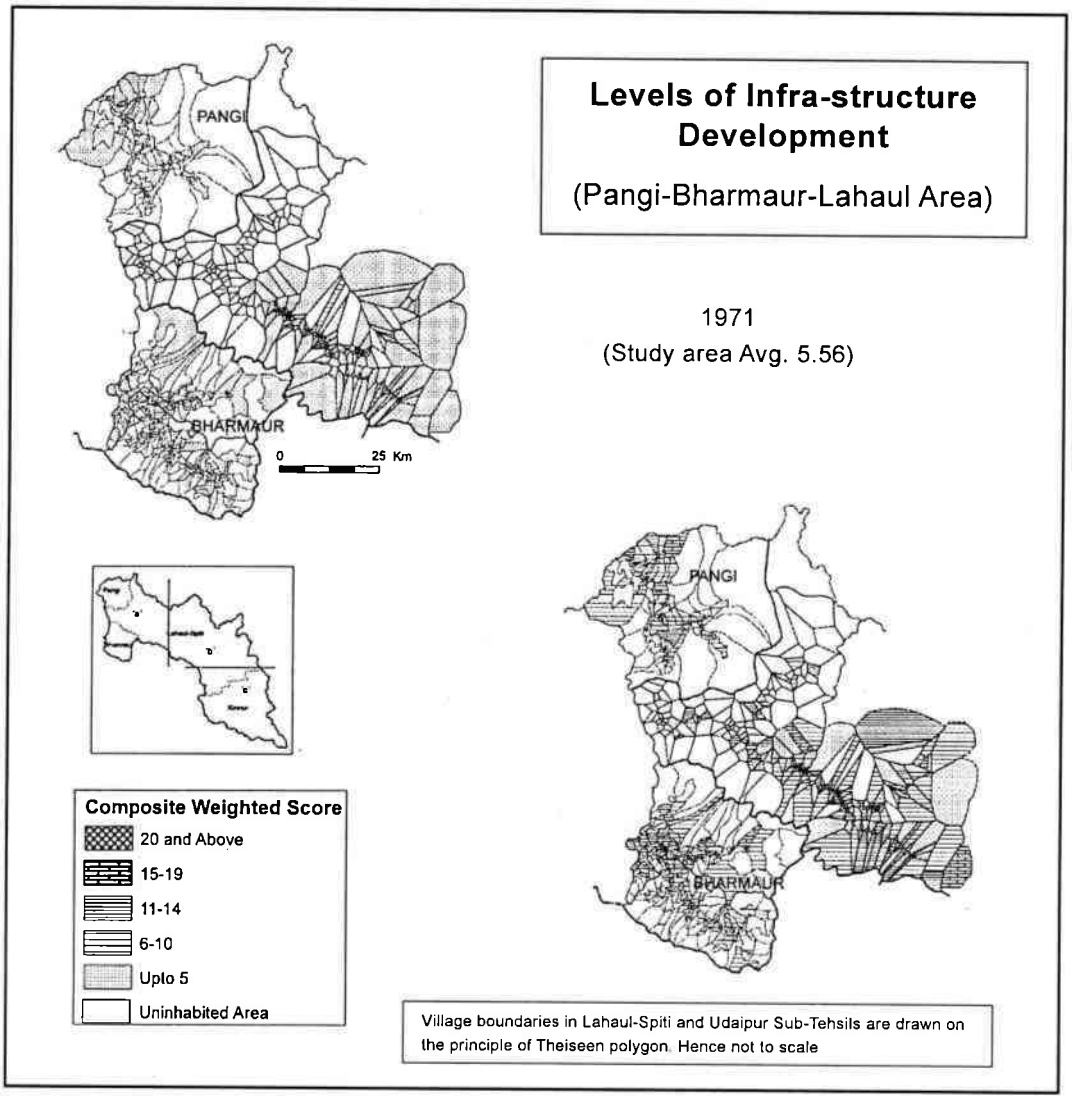

Fig. 2

weighted score above 20, were in very high developed villages' category (fig. 2).

Lahaul Area: Table 1 shows that in Lahaul Area, about 99% villages were lowly developed in terms of infrastructure in 1971. These had composite weighted score upto 10. Among these villages, about 82% villages had very low level of infrastructural development. The proportion of moderately developed villages in terms of infrastructure was insignificant (0.64%) in this area. However, another 0.64% villages had high level of infrastructure in 1971. The levels of infra-structure development in

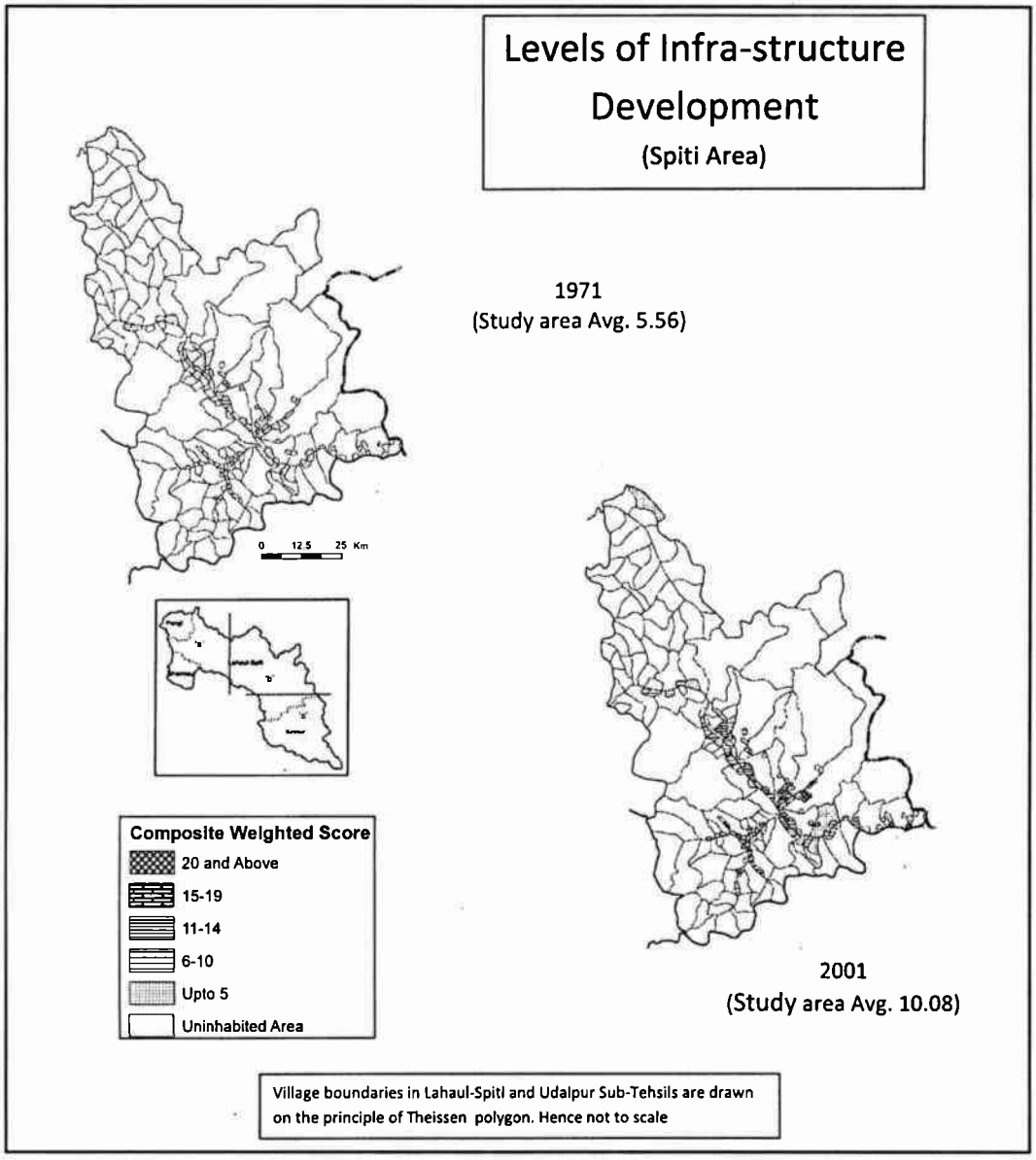

Fig. 3

1971 and 2001 are depicted in figure. The comparison of these two conditions illustrates that there has been gradual change from 1971 to 2001 Still, about three-fourth of villages had low level of infrastructure even in 2001. Among these villages also about 14% villages had very low level of infrastructure. The proportion of moderately (15%) and highly developed (11%) villages in terms of infrastructure has increased significantly. About 2.60% villages having composite weighted score

above 20, and hence, fall in very highly developed villages category. (fig. 2)

Spiti Area: Likewise Pangi area, Spiti area is relatively lesser accessible area in Himachal Pradesh. The table 1 and Fig. 1 depict that 100% of inhabited villages in this area had low level of rural infrastructure in 1971. But the rural infrastructure has developed in a significant proportion in following three decades. Fig. 3 shows that as compared to 1971, a large number of villages have acquired higher level of socio-economic infrastructure. In 2001, about one-tenth of villages became highly developed in this

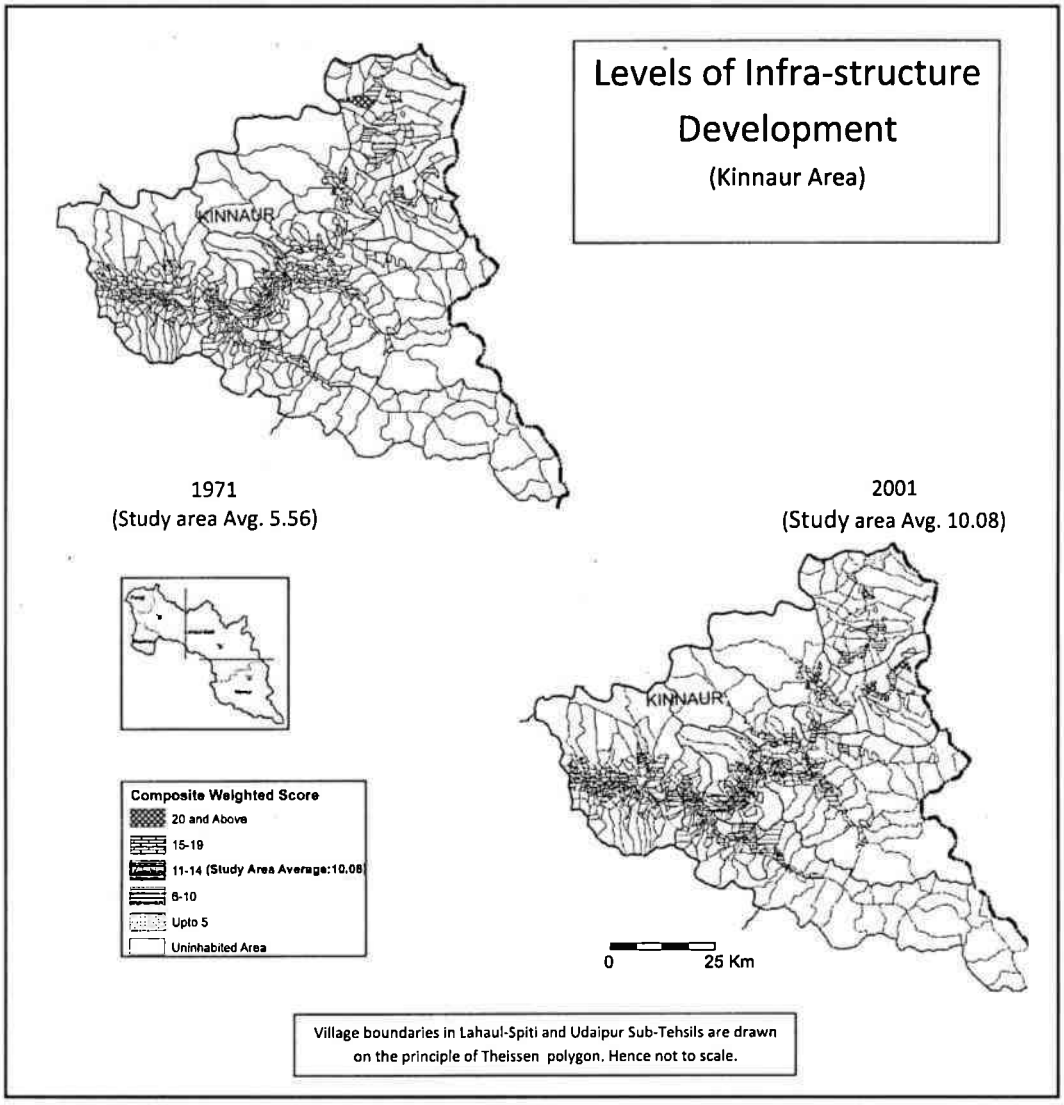

Fig. 4

regard. However, about 81% of inhabited villages had low level of infrastructure. On the other hand, about one-tenth of villages had moderate level of infrastructure in the area in 2001 (Fig. 3).

Kinnaur Area

The table 1 brings out that in 1971, about three-fourth of villages in Kinnaur area had composite weighted score up to 10. This means that an overwhelming proportion of inhabited villages fell into low category of infrastructure. About one-fifth villages in this area too had very low level of infrastructure. On the other hand, about 8% of the inhabited villages had high level of infrastructural development. Another 17% villages were moderately developed in this regard. Kinnaur has experienced a significant improvement in the level of rural infrastructure. In 2001 as well, about 57% villages had low level of rural infrastructure in this area. About one-fourth of inhabited villages also have moderate level of infrastructure. On the other hand, about 18% of villages are highly developed in terms of level of socio-economic infrastructure. About 8% of villages are very highly developed in this regard (fig. 4).

Summary

It is evident from the preceding discussion that there has been a considerable expansion in infrastructural facilities across different tribal areas of Himachal Pradesh over the period 1971 to 2001. The analysis of overall infrastructural development based on six sectoral indicators indicates that in 1971 about 95% villages had low infrastructural level in the region. Infact, about 78% of the inhabited villages had bare minimum level access to the basic infrastructure such as schools, hospitals, electricity, roads and communication. But the values of composite weighted score, representing all basic facilities has increased for all the inhabited villages in the region and across the areas during next three decades. However, there is a large scope for improvement in the remote and inaccessible villages regarding infrastructural development.

The picture emerging out of the analysis of level of infrastructure seems to be encouraging to the extent that during the twenty five years (since inception of tribal sub plan to 2001) a perceptible positive change has taken place in the rural infrastructure of backward tribal region of the state. However, a lot is desired to be done particularly in the field of making available metalled surfaced roads, higher education and electrification of households. The information gathered through the survey of sample villages reveals that the lack of surfaced roads is a very major hindrance in the path of development of remote villages in Pangi, Bharmaur and Spiti tribal areas.

References

Agro-Economic Research Centre. (1988): *Block Level Plan of Bharmaur in District Chamba, Himachal Pradesh*. Shimla: Himachal Pradesh University.

Bhakar, R.R. and Bhargava, P. (2003): Disparities in Infrastructural Development in Rajasthan. *Indian Journal of Regional Science, Vol.* 35(1) 57: 66.

Hasnain, Nadeem. (2001): *Tribal India*. 6th edition, Delhi: Palaka Prakashan.

Joshi, Y.G. 1983. Spatial Impact of Tribal Development Blocks as Centres of Innovation of Agricultural Development – A Study of Jhabua District, M.P. *Geographical Review of India*, Vol. 35(2) : 35-36.

Acknowledgements

The present article is part of a major research project funded by Indian Council of Social Science Research (ICSSR), Ministry of Human Resource Development, Govt of India, New Delhi. The first author is grateful to the ICSSR for providing the financial assistance.

Dr. B.R. Thakur
Asst. Professor,
Dr. D. D. Sharma
Associate Professor,
Department of Geography,
Himachal Pradesh University, Shimla.