CONCLUSIONS AND SUGGESTIONS

After foregoing discussion regarding the evolution and spatial organization of clan settlement in Bharatpur District, it may be concluded that the district is primary agricultural in composition. Its rural society is tradition bound and the caste system still plays a dominant role in it, though, winds of change have started blowing across it, which have begun to affect the rigidities of the hierarchy of castes.

The different historical records, settlement reports, district gazetteer and field study make it clear that the settlement of this region has begun around 1500 B.C. and in the past the region was inhabited by Matsya tribe before arrivals of Aryans. By the end of the seventh century B.C. the Aryanization of the area has been completed. The region was first affected by the migration wave of Jats clan at the beginning of the twelfth century A.D. and migration of the various corporate groups or clans a much larger scale followed by Muslims invasions in 1195 A.D. a wave of migration continued upto 18th century, each of which has left its imprint upon the study area.

The most visible feature in the cultural landscape is the settlement, and it has been observed the distribution of rural settlement is influenced by various factors. Out of the several physical, social, economic and political factors, a few factors are
more responsible for the distribution of rural settlements. However, the settlement distribution is not only determined by the natural condition but also influenced by socio-economic factors.

Four clans, namely, the Sinsiwar Jats, Sogarwal Jats, Chaudhary Jats, Meos, have been analyzed with the help of available literature, field survey and historical records. It has been observed that these clan settlements were diffused over the region by taking time nearly 300-500 years with the three stages of spatial diffusion processes. To measure the diffusion stages, seven dimensional attributes are considered: time (T), distance from parents settlement (L), population (P), number of settlements (n), length of time (S), population energy (p), and lastly viscosity of landscape (V). During the first stage of settlements diffusion process, the founding settlements are recorded in few places due to limited availability of the land and presence of vast jungle, except in the case of Sogarwal Jat clan settlements. In this case vast land was available and so they had established larger number of new settlements.

The second stage of spatial diffusion process mark with the establishment of a number of new settlements. It is due to population concentration and foundation of new hamlets.

The third stage was marked with stratification and competition (the tendency to produce great regularity in the
settlement pattern). It has also been recorded that during third stage of spatial diffusion process the number of founding settlements is much less. Since 1800 A.D., nearly all available land was occupied by the clans and they did not establish additional settlements on their fertile land. It has also observed that Sinsiwar Jats have found additional settlements during the third stage of diffusion process due to natural growth of population. A reverse relationship between the distance and population of daughter from parent settlements is recorded: as the distance of daughter settlements from parent settlements increases the population of daughter settlements from the parent settlements decreases and vice-versa. It has been recorded in Sogarwal Jat clan settlements but in other cases such as the Chaudhary Jat clan and Meos clans different relationship has been found. A positive relationship is recorded in the population energy (p) and viscosity of landscape (V): as population energy (p) increases the viscosity of landscape (V) also increases. It is due to immigration and presence of market centers.

Caste ranking is determined in the light of population and economic power (landownership). Three village have been taken into consideration. It has been noted that the Jats stands first rank (landownership and population dominancy) followed by Brahmins, Gujurs and others.
The quantitative analysis of spacing of rural settlement at panchayat Samiti level has revealed that there is a direct relationship between spacing and the size of the settlements. It is obvious that where spacing is high, villages are larger sizes, with a small number of hamlets having higher densities of population, which results in compact structure of settlements. On the contrary in areas of low spacing, settlement are generally smaller in size with low pressure of population and scattered distributional patterns, viz., hamlet type of settlements. The nearest neighbour distance approximation analysis of rural settlement has revealed that settlements are more regular than random.

An analysis of shapes of the villages show that the average shape index of the study area being 0.638. About 17 per cent of the villages conform roughly to rectangular or square shape. No village has a very elongated shape while nine villages approach near circular shape.

Contact index, population density and areal size do not show any significant co-relation with existing almost homogeneous environmental condition in the region.

Transformation of village shape into Dirichlet/Thiesson polygons and hexagons ought to be taken into consideration, while making plans for rural development. It has been found that village sites are mostly determined by physico-cultural factors where as markedly centres have developed at the intersection of roads or
along the roads. As the number of markets centres increase the services area of individual market centres decreases. Increasing Christaller's K values may be taken as an index to represent better efficiency of purchasing power and development on the one hand and transport connectivity of a region on the other, which should be taken into account while makings plans.

The morphology of rural dwellings in the study area shows that the building materials and the architectural style are the expression of the physical factors of the region, whereas the ground plans are closely related to the socio-economic conditions of the residents. Mud or clay, is widely used in the district, because plenty of cheap clay is on hand to construct walls and roofs. The size of the dwelling reflects the economic conditions of the dwellers.

The social morphological study of three selected villages (built up areas) reveals that the economic power of the people and caste plays a decisive role in the selection of best available site for settlement. The analysis of the spatial patterning of rural dwelling of different caste shows that segregation is closely associated with caste inhabited in the villages.

To improve the living conditions of the rural peoples and their settlements, it is important to comprehend the socio-economic condition of the people and the potential resources of villages. The rural settlements are tradition bound and its nature
of built up area is spontaneous. They are closely knit together through invisible thread of social fabric, and interdependent to one another to carry out their socio-economic business. Breaking of joint family system, pattern of existing dwellings, fragmentation of land holdings, social conflict are some of the cause for haphazard growth and mushrooming of settlements in countryside. In view of the above facts some of the important suggestions based on field experiences have been made to obtain the sustainable development of the countryside. These are as follows:

1. In order to improve housing conditions, house should be simple in design. Bricks that can be locally manufactured at the same time generating local employment can replace mud walls.

2. The congestion of houses may be relieved by providing extension site for them. This can also be achieved by filling up the stagnant ponds and pits lying near the settlement sites. These pits and ponds served useful purpose in medieval and ancient days but now they are turned into breeding grounds of mosquitoes.

3. All the villages and hamlets should be connected with brick line road with a view to maintain cooperation among the different sections of the society and improvement of their socio-economic conditions.
4. The sewage system needs improvement by providing soak pits for individual houses and pucca drainage for the streets, but both should be cleaned periodically.

5. Cattles pens and sheds should be keep little away from the dwelling sites attached to it with a view to good sanitation.

6. There should be provision to dry latrines near the inhabited sites to avoid the unhygienic practice of defecating in the open field.

7. Extension of safe drinking water through more tube-well installations.

8. Electric connections should be extended to every bit of the region.

9. Provision of better education, health facility for all and popularization of family planning measures, so that dependency burden on worker can be lessened.

10. Schemes for developing pisci-culture, dairying and poultry farming have been suggested.

11. The illegal gathering of forest produce should be regulated by introducing social-forestry, small scale industries or handicrafts generating rural employment and income.

12. Lastly, planning will be facilitated if further research in oriented to find out the process of human adjustment to environment.
National and International development policies are giving higher priority to distribute the benefits of development to the poor and other disadvantaged, through a combination of accelerating overall growth and disintegrating more of the benefits directly to those groups. For the development of human settlements the available resources should be used efficiently and to its optimum level to provide jobs, goods and services to the needy people of the rural areas; since poorest of the poor lives there. National and International development efforts seek to increase agricultural output and rural employment and incomes, the spatial focus of settlements policy must expand to include rural settlements as well as urban settlements. One way or another, the inhabitants of rural settlements should be provided with at least minimal facilities for safe drinking water, primary health care, education, marketing and storage facilities for agricultural produce and inputs and opportunities to earn enough income whether in cash or kind, to provide adequate food, clothing and shelter. In addition, national settlements policies and plans should strive to provide the rural population with access to a wider variety of occupations and cultural facilities so that ambitions, educated rural people will be able to find challenges and rewards commensurate to their abilities.