

# **Abstract**

## **Title: A Study of Spatial Distribution and Functional Characteristics of Settlements in the Rammam Basin, Darjiling-Sikkim Himalaya**

### **Introduction**

The present work deals with the spatial distribution and functional characteristics of settlements located in the Rammam Basin, Darjiling-Sikkim Himalaya, India. The study area consists of the entire basin area of the river Rammam which is divided into two unequal parts: the Northern part and the Southern one. The Northern part consists of 19 revenue villages, one notified bazar area, four forest blocks all of which are located under the jurisdiction of Soreng sub-division in West District of Sikkim. While the Southern part of the Rammam Basin consists of 14 revenue villages which are located under the jurisdiction of Darjiling Sadar sub-division in Darjiling district of West Bengal. The study was conducted to find out (1) whether the Spatial distribution and spacing of settlements in the basin under study is linked with the terrain characteristics of that basin or not; (2) whether the types of settlement in the Rammam Basin is dependent on functional characteristics of those settlements or not; and (3) which part or parts of the basin contains (contain) most of the settlements along with the rural service centres.

### **Database and Methodology**

The present study is mostly based on field survey and primary data as well as secondary data with some aids of previous literatures related to the nature of work. For secondary data Topographical maps of Survey of India, DEM data, Google Earth Pro, District Census Handbook, Data from Community Development Block Offices, Gram Panchayat Offices or Gram Panchayat Units and concerned literatures have been used. Intensive field survey was done to collect the location points of the hamlets through GPS survey. Collated data has, thereafter, been analysed using various statistical techniques and been presented through suitable cartographic techniques. The findings of the entire work have been interpreted in details.

### **Brief Outline of the Study**

The thesis has been divided into eight chapters. The first chapter deals with the location and administrative set up of the study area along with objectives, hypotheses, database

and methodology of the study. The second chapter provides an idea about the Physical and Socio-Cultural background of the study area. Terrain characteristics, Drainage system, Lithostratigraphy, Natural Vegetation, Weather and Climate, and Soil have been discussed under the heading of Physical background; while Population, Ethnic Groups, Economic Composition, Agriculture, Transport and Communication, etc. have been depicted under Socio-Cultural background. The third chapter describes Settlement Size, Spacing and Dispersion of Settlements along with Morphometric Indices in the basin under study. The correlations between Terrain characteristics and Dispersion and Spacing of hamlets have also been analysed in this chapter. The fourth chapter depicts Site and Situation of settlements along with the functional categories of the settlements. The fifth chapter illustrates the Type, Pattern and Morphology of settlements of the study area, and the relation between Type of settlements and Functions of settlements. In sixth chapter Service Centres have been identified and depicted. The distribution and distinctiveness of settlements as well as service centres in the various parts of the basin have also been discussed in this chapter. The seventh chapter narrates minutely the Problems and Prospects of settlements in the basin. At last in eighth chapter a summary of the whole work has been presented and thence an attempt has been made to draw a conclusion of the study.

### **Major Findings**

Study of settlements in the Rammam Basin imparts a clear view about the spatial distribution of settlements, influence of topography on the distribution of settlements in the study area, relationship between types of settlements and functional characteristics of settlements in the study area and distribution and hierarchy of service centres in the upper, middle and lower part of the basin. The followings are the major findings of the study:

After careful study of spatial distribution of settlements in the study area it has been observed that in the Forest Blocks and Notified Bazar Area located at the periphery of the basin, clustered pattern can be found whereas the settlements located at the central part of the basin are characterised by regular distribution of hamlets. Completely even distribution of settlements can be found in two settlements.

From discussion in chapter 3 it has been observed that dispersion of hamlet in the settlements of Rammam Basin is not correlated to the terrain characteristics such as ruggedness index, altitude and dissection index. But distribution and spacing of hamlet

in the settlements of the basin under study are significantly correlated to ruggedness index. Thus, it can be concluded that topography partly influences the distribution and spacing of hamlets in the villages of Rammam Basin. There are two compact settlements namely Nayabazar Notified Bazar Area and Nayabazar Forest Block, one semi-compact settlement and 35 hamleted settlements as per scheme proposed by R.B. Singh (1969), whereas there is one compact settlement (Nayabazar Notified Bazar Area), 32 hamleted settlements and five dispersed settlements as per scheme proposed by R.B.Mandal (1972).

It has also been observed that hamleted settlements are mainly agricultural, whereas compact settlements are non-agricultural in nature. Hence settlement types and functional characteristics of the settlements under study are correlated to each other.

In the Rammam Basin under study the hamlets are located in the middle and lower part of the basin itself. The middle part of the basin (1400m -2800m) is inhabited by 105 (55.85%) hamlets and lower part (below 1400m) is inhabited by 83 hamlets (44.15%). The upper part of the basin is completely devoid of settlement.

The primary service centres in the basin under study are randomly distributed which are located in the middle and lower part of the area. Besides these primary service centres (22 in number), one secondary and one tertiary service centre are also located in the basin under study. The service centres, especially the bazar areas show a great influence in the overall growth of settlements of the entire basin as the mean population of the hamlets increases with decreasing mean distance from any service centre located in close proximity.

## **Conclusion**

This thesis has unfolded the spatial distribution of settlements as well as service centres in the basin under study. The Rammam basin is inhabited in the middle and lower part with their distinctive rural service centres. It has also been observed through the study that the lower part of the basin is devoid of any higher order rural service centre. Therefore, initiatives can be taken to upgrade any rural service centre located in the said portion of the basin to higher order so that people living in that portion can get services within their reach.