Introduction

The study of settlements is basic to Human Geography because the form of settlement in any particular region reflects Man's relationship with the environment. Settlements have gradually grown up and evolved over a long period of time and by studying the site, pattern and arrangement of settlements something of the history of Man's exploitation of the surrounding land can be deciphered.

A settlement is a collection of shelters where people live. The study of settlements is largely a product of twentieth century. Human Geography is the study of relationship between man and earth of which Settlement Geography is a part and parcel. A settlement is man's first step towards adaptation to his environment. Settlement designates an organised colony of human beings, together with their residences and other buildings (shops, hotels, banks etc.), the roads, streets which are used for travel. Settlements are situated as advantageously as possible with respect to natural features such as water, fuel, food, protection and drainage and access to transportation and communication.

According to Brock and Webb settlement pattern denotes the shape or arrangement of settlement in relation to natural or man made features or designs such as streams, ridges,
canals and roads. The pattern of settlement is determined on the basis of the location of houses. The pattern of settlement exhibits the relationship between one dwelling and the other. Similarly the site may have no bearing on pattern in some cases.

Highways work as sort of life lines for the country or the region in which they are situated. So, naturally, they have tremendous influence on the settlements situated along them. In some cases the highways are the very "raison d'être" of the settlement. Precisely these are the reasons of selecting area along Grand Trunk Road for this particular study. Being an old and historic road and being an important highway, Grand Trunk Road has an overwhelming influence on the patterns of settlement situated along its course. The settlements along Grand Trunk Road are mainly of linear and rectangular pattern. Checkerboard and amorphous patterns are also found as a result of continuous growth. It seems that most settlements started as linear settlements and later gone on to develop into other patterns such as checkerboard, rectangular, triangular, square or even in an amorphous pattern. Although every settlement is unique and has a personality of its own but a common thread seems to be running along in the settlements situated through the course of Grand Trunk Road.
**Introduction**

**Significance of Study**

Good settlement planning is necessary for sustainable future of the world. Planning for future needs analysis of past trends, prospects and projection of growth and decay. Involvement of experts as well as people should be sought to develop a model and for this purpose a comprehensive database is a must. This study tries to do that. An attempt has been made to prepare a wide ranging database for the planners and policy makers.

**Aims and Objectives**

- To analyse the impact of distance from G.T. Road on the settlement pattern and socio-economic conditions along this road
- To analyse the intensity of impact with the increase and decrease of distance of settlements from roads.
- To examine the impact of other roads on settlements.
- To assess the effect of canal and railway line on the settlement pattern.
- To analyse the status of environment in study area through various social indicators.
Introduction

- To analyse the urban sprawl in
  - Gyanpur
  - Gopiganj
  - Bhadohi
  - Madhoslingh
  - Ghosia
  - and Aurai

as case studies.

Hypothesis
It is hypothesised that distance from the roads affects the pattern, density and the socio-economic environment of settlements in the study area.

Methodology
For this study GIS maps were prepared at two points of time 1976 and 2007. These maps are overlaid and urban sprawl maps of different settlements are prepared. Both settlement maps and urban sprawl maps were plotted on buffers of different distances to show the growth of settlements and extent of urban sprawl. Survey of India topographical sheets of 1976 and Landsat-7 images of 2007 have been used. Both the SOI Topographical sheets and Landsat-7 imageries were on 1:50000 scale. These have been rectified, georeferenced and analyzed to study the development and growth of settlements on temporal basis.
Imageries were first registered with SOI topographical sheets. For georeferencing, digitization and analysis GIS soft wares ILWIS 3.2 and ERDAS IMAGINE 8.5 have been used. A ground truthing survey of the study area with the help of Global Positioning System receiver (Model-Map 76) was also undertaken to collect the coordinates, validating the imagery and to see the situation on ground.

For the study of socio-economic environment a questionnaire based structured survey by interview method was conducted. 110 interviews on random basis were taken from different settlements taken as case studies. The results of the survey were tabled, analysed and shown with the help of charts in chapter IV.

**Study Area**

Geographical position of Sant Ravidas Nagar (Bhadohi) stands very good and favourable for development of human being. This district is situated in the planes of the river Ganges, with its borders touching districts like Allahabad, Varanasi, Mirzapur and Jaunpur, simultaneously. This district is famous for its carpets in India and abroad. It is a small district. Its area is 1055.99 sq. kilometres. Its latitudinal limits are from 25.12° north to 25.32° north and longitudinal limits are from 82.12° east to 82.42° east. It has an average elevation of 85 metres (278 feet). The Ganges, Varuna and Morva are the
Introduction

LOCATION MAP OF STUDY AREA

District Bhadohi

Fig. 1
main rivers. Weather conditions vary from extreme hot to extreme cold with less rainfall.

In the historical times Bhadohi was part of British administered division of Benaras. The pargana of Bhadohi was located in the upper north-western portion of the district of Mirzapur. This large pargana, separated from the rest of the district by the Ganga, shared its western borders with the district of Allahabad, its northern border with Jaunpur and its eastern border with district of Benaras. Situated on the fertile alluvial Gangetic Plain, pargana was, extensively cultivated and supported a dense agricultural population. In 1881 Bhadohi comprised an area of 391.6 square miles and contained a population of 238027.

Carpet making is the main industry in Bhadohi District. There are many types of carpets or 'rugs' their other name, are produced here, Cotton warp and weft in a huge variety of qualities, from rugs with less than 40 knots per sq. in. to rugs with over 245 knots per sq. in. This area also produces lots of "Indo-Tibetan" rugs (woven in the same technique as rugs from Nepal, but at lower cost), and lots of hand-tufted rugs (rugs made by inserting wool into a canvas backing). While made by hand, these tufted rugs are not knotted, and so are not Oriental rugs.
Introduction

Interestingly, 90 per cent of the country's carpet production comes from the Mirzapur-Bhadohi belt in U P. The carpet tradition in this belt, which has India's largest weaver concentration, is at least 400 years old. But the produce is of the lower and medium quality. It is only now that some quality improvement is showing. Over 90,000 looms are engaged in the industry, employing more than 500,000 persons in weaving, embossing, washing etc.

Chapter Summary

The work is divided in five chapters besides introduction and conclusion-

First chapter deals with basic facts about settlement development, various definitions, relation between settlement development and environment, house types and correlation between site and pattern.

Second chapter highlights the relation between highways and settlement development. The chapter also traces the development of roads in India and the world.

The review of literature has been taken up in the third chapter.
Introduction

Fourth chapter examines the status of environment and social well-being in the study area. Graphs and charts are prepared to show the quality of life of residents.

Chapter five analyses the interrelationship of Settlement Systems, Growth of Settlements and Sprawl in study area.