

**Dedicated to my beloved parents**

***Late Sri. Sankar Lal Saha***

**&**

***Smt. Sampa Saha***

**Who have given their everything for my study**

## .....**DECLARATION**

I declare that the thesis entitled “A Geospatial Analysis of Urban Growth in Siliguri Planning Area, West Bengal” has been prepared by me under the guidance of Dr. Ranjan Roy, Professor of Department of Geography and Applied Geography, University of North Bengal. No part of this thesis has formed the basis for the award of any degree or fellowship previously.

*Arjun Saha*  
(Arjun Saha) 14.08.2023

Department of Geography and Applied Geography  
University of North Bengal  
Raja Rammohunpur  
Siliguri, Dist. Darjeeling  
PIN: 734013  
Date:

# CERTIFICATE



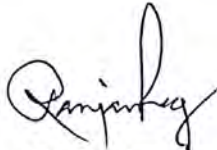
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## DEPARTMENT OF GEOGRAPHY & APPLIED GEOGRAPHY UNIVERSITY OF NORTH BENGAL

ACCREDITED BY NAAC WITH GRADE B++

RAJA RAMMOHUNPUR, P.O. NORTH BENGAL UNIVERSITY, DIST. DARJEELING, WEST BENGAL, PIN - 734013  
Ph. No. +91-0353-2776342, FAX +91-0353-2699001, URL: www.nbu.ac.in

This is to certify that Arjun Saha has prepared the thesis entitled “A Geospatial Analysis of Urban Growth in Siliguri Planning Area, West Bengal” for the award of Ph.D degree in Geography and Applied Geography of University of North Bengal under my guidance. He has carried out the research work at the Department of Geography and Applied Geography, University of North Bengal and the thesis has been prepared based on the extensive literature study for collecting secondary data and field study for primary data, information and ground verification.

  
(Dr. Ranjan Roy) 14.8.2023

Prof. (Dr.) Ranjan Roy  
Professor  
Dept. of Geography  
&  
Applied Geography  
University of North Bengal

Professor  
Department of Geography and Applied Geography  
University of North Bengal  
Raja Rammohunpur  
Siliguri, Dist. Darjeeling  
PIN: 734013  
Date:

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7 CHAPTER – 1 INTRODUCTION SECTION – A 1.1 Introduction Urban geography is a branch of geography that examines the history of urban centers, how they have changed over time, how they have changed morphologically, how they serve their communities, and many other facets of urban life. Analysis of urban expansion is a key component of urban geography. According to Bhatta et al. (2010) and Clark (1982), urban growth is the alteration of both spatial characteristics and demographic structures, as well as the growing significance of towns and cities for the concentration of people. It can be summed up as an expansion of the category of urbanized land that has features added by urban extension (Viana et al., 2019). On the basis of the emergence of new built-up features over time, Wilson et al. (2003) divided urban growth into three categories: infill, expansion, and outlying growth. According to Wilson et al. (2003), infill growth is defined as the conversion of non-built-up or empty land into a built-up region that is encircled by at least 40% of previously existing built-up land. Edge expansion is the term used to describe the conversion of non-built-up land into built which grows from the boundary to the outer part of present built-up land and is encircled by not more than 40% of existing built-up land. Outlying urban growth is characterized by the conversion of non-built-up areas into built up which are developed at a greater distance from the existing major built-up developed area (Wilson et al., 2003; Sun et al., 2013). Outlying growth is further divided into three categories: isolated growth, which is a small emerging built-up area some distance from the present built-up area; linear branch, which refers to the growth of new roads corridors, and concurrent development of some settlements along it; and clustered growth, which is a compact, large built-up evolution away from the present built-up area (Wilson et al., 2003). The term "leapfrog development" also applies to this clustered growth (Harvey & Clark, 1965). Due to population expansion, particularly in metropolitan areas, the world has seen dramatic changes in both the natural world and anthropology in the twenty-first century (Foley et al., 2005). Only 13% of the world's population lived in cities in 1900; by 2018,

*Ranjan Roy* 14.8.2023

Prof. (Dr.) Ranjan  
Prof.  
Dept. of Geogra  
&  
Applied Geogra  
University of North

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“No one who achieves success does so without acknowledging the help of others. The wise and confident acknowledge this help with gratitude”

..... Alfred North Whitehead

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Siliguri.

Arjun Saha .  
(Arjun Saha)

## .....**PREFACE**

Urban growth is a universal phenomenon and it has taken place in all the places and countries and it will go on. In developing world like India, this growth in maximum cases does not follow the rules and regulations and for this, different negative impacts on environment take place. This same thing has happened in the city Siliguri and its adjoining areas which mainly bear the influx of populations after the independence, simultaneous partition and excessive migration from East Bengal. For this, Siliguri and its adjoining areas known as Siliguri Planning Area has been chosen to identify the growth of urban built-up and different issues due to it.

The whole work has been divided into seven chapters. First chapter mainly deals with the conceptual framework of the work, history of the study area, different objectives and hypotheses that have been framed, overall socio-economic, physical characteristics of this area. Second chapter deals with the land use and land cover changes and transformation that had taken place in this area from 1992 to 2021. Third chapter is about the urban growth of this region. This chapter mainly tried to find out the pattern of urban growth, its speed and trends of development over this region from 1992 to 2021. Fourth chapter stated about the identification of different types of suitable lands in patches for the new built-up development which will be helpful for the people to select their actual residential plots. Fifth chapter deals with the infrastructural development in last twenty years in this region and to relate the population growth with this, which will stimulate the growth of impervious surfaces. Sixth chapter is for the analysis of different negative impacts that is facing this region due to the unplanned urban growth and huge burden of population. Impacts on river water, local climate, and on vegetation density had been analyzed to justify the urban growth and negative impacts on environment. Last chapter tried to put some suggestions for better and scientific and sustainably suitable to reduce the problem of unplanned urban growth as well as for a healthy urban growth in this region.

.....***LIST OF TABLES***

<b>Table no.</b>	<b>Table name</b>	<b>Page no.</b>
1.1	Growth of world population	4
1.2	Global urban population trend from 1950 to 2030	6
1.3	Trend of Urban population and rural population growth in India	6
1.4	Changes in the decadal growth rate of the total and urban population of India	7
1.5	Top ten populous cities in India from 1951 to 2011 (Ranks are being made on the basis of 2011 population)	8
1.6	State-wise Share of Urban Population	9
1.7	Urban Population and decadal growth rate of India and North Bengal (1901-2011)	12
1.8	Percentage of urban population in different districts of North Bengal (1901-2011)	13
1.9	Decadal growth rate of urban population in different districts of North Bengal (1901-2011)	15
1.10	Classification of urban centers according to population	17
1.11	Class-wise number of urban centers in North Bengal (1901-2011)	17
1.12	Class-wise growth of urban centres in North Bengal from 1901 to 2011	263
1.13	Class wise growth of Siliguri as urban centre from 1931 to 2011	267
1.14	Total population and its decadal change in Siliguri (1931-2011)	21
1.15	Number of Immigrants of Siliguri Urban Agglomeration, Migration D Series Data, Census of India	268
1.16	Sources of Data for LULC and Urban Growth Mapping	28
1.17	Percentage of the population of the total population of the study area	46
1.18	Total population and population growth from 1992 to 2021	46
2.1	Land Use and Land Cover Classification System	59
2.2	Details of Landsat Images	61
2.3	Calculation for Accuracy Assessment	66
2.4	Total Area of Different Classes of LULC from 1992 to 2021	73

2.5	Decadal Changes in LULC Classes from 1992 to 2021	74
2.6	Core Zone of Buffer-wise Map Analysis	76
2.7	Buffer Zone I of Buffer-wise Map Analysis	76
2.8	Buffer Zone II of Buffer-wise Map Analysis	77
2.9	Buffer Zone III of Buffer-wise Map Analysis	77
2.10	Transfer Matrix Table of Land Use and Land Cover Classes (1992 – 2001)	86
2.11	Transfer Matrix Table of Land Use and Land Cover Classes (2001 – 2011)	86
2.12	Transfer Matrix Table of Land Use and Land Cover Classes (2011 - 2021)	87
3.1	Quadrant-wise Area of Built-up Land (in Sq. Km.) from 1992 to 2021	103
3.2	Quadrant-wise Percentage of Built-up Land from 1992 to 2021	104
3.3	Quadrant-wise Shannon’s Entropy Value from 1992 to 2021	110
3.4	Quadrant-wise Relative Entropy Value from 1992 to 2021	110
3.5	Decadal Change in Growth Pattern from 1992 to 2021	110
3.6	Concentric Circle-wise Area of Built-up Land (in Sq. Km.) from 1992 to 2021	111
3.7	Concentric Circle-wise Percentage of Built-up Land from 1992 to 2021	112
3.8	Concentric Circle-wise Shannon’s Entropy Value from 1992 to 2021	118
3.9	Concentric Circle-wise Relative Entropy Value from 1992 to 2021	118
3.10	Decadal Changes in Growth Pattern from 1992 to 2021	118
3.11	Quadrant-wise Built-up Land Density (Area/Km <sup>2</sup> ) from 1992 to 2021	119
3.12	Quadrant-wise Percentage of Built-up Land Density from 1992 to 2021	119
3.13	Concentric Circle-wise Built-up Land Density (Area/Km <sup>2</sup> ) from 1992 to 2021	124
3.14	Concentric Circle-wise Percentage of Built-up Land Density from 1992 to 2021	125

3.15	Standard for Measuring Urban Development Speed (After Aburas et al., 2015)	130
3.16	Quadrant-wise Urban Expansion Intensity Index from 1992 to 2021	130
3.17	Concentric Circle-wise Urban Expansion Intensity Index from 1992 to 2021	131
3.18	Observed Growth of Built-up from 1992 to 2021	135
3.19	Expected Growth of Built-up from 1992 to 2021	135
3.20	Difference of Built-up Growth	135
3.21	Chi Square value and P-value	135
4.1	Different criteria used for urban site selection studies	146
4.2	Selected criteria and sources of data	148
4.3	The fundamental scale of absolute numbers for AHP	149
4.4	The random inconsistency value	150
4.5	Pair-wise comparison matrix by AHP	164
4.6	Normalized pair-wise comparison matrix and computation of criterion weightage	164
4.7	Computation of consistency vector	165
4.8	Summary of criteria, sub-criteria, suitability level, ranking of sub-criteria and weightage of criteria	166
4.9	Different suitability categories and their area	169
4.10	Classes of land use land cover under each suitability category	171
4.11	Classes of distance from the road under each suitability category	172
4.12	Correlation Co-efficient and 't' Value for Hypothesis Testing	173
5.1	Score of different infrastructural parameters for the Borda Rule calculation, 2011	269
5.2	Score of different infrastructural parameters for the Borda Rule calculation, 2001	272
5.3	Correlation co-efficient value between growth of population and growth of development	189
6.1	Location of water sample stations and their features	200
6.2	Classification of river portion	205
6.3	Water quality index value and their status	206

6.4	Calculation of unit weight and standards according to BIS	207
6.5	Water quality index value of two periods with color code	207
6.6	Karl Perason's correlation matrix among different water parameters	211
6.7	ANOVA Table for Urban and Upstream	217
6.8	ANOVA Table for Urban and Downstream	217
6.9	Details of landsat images for LST calculation	219

## .....***LIST OF FIGURES***

<b>Figure no.</b>	<b>Figure name</b>	<b>Page no.</b>
1.1	Urban Population in India and North Bengal (1901 to 2011)	13
1.2	District-wise Urban Population (1901 to 2011)	15
1.3	District-wise Decadal Growth of Urban Population (1901 to 2011)	16
1.4	Class-wise Number of Urban Centres (1901 to 2011)	18
1.5	Location of the Study Area	40
1.6	Relief map of Siliguri Planning Area	43
1.7	Minimum temperature of Siliguri Planning Area (1982 to 2020)	44
1.8	Maximum temperature of Siliguri Planning Area (1981 to 2020)	44
1.9	Relative humidity of Siliguri Planning Area (1990 to 2019)	45
1.10	Rainfall of Siliguri Planning Area (1951 to 2020)	45
1.11	Administrative unit-wise population density of Siliguri Planning Area, a. Census year 2001, b. Census year 2011	47
1.12	Total numbers of workers in Matigara block (Census year 2011)	48
1.13	Total numbers of workers in Naxalbari block (Census year 2011)	49
1.14	Total numbers of workers in Rajganj block (Census year 2011)	49
1.15	Transport network map of Siliguri Planning Area	51
2.1	Land use and land cover map of Siliguri Planning Area, 1992	68
2.2	Percentage of Different Land Use and land cover classes, 1992	68
2.3	Land use and land cover map of Siliguri Planning Area, 2001	69
2.4	Percentage of Different Land Use and land cover classes, 2001	70
2.5	Land use and land cover map of Siliguri Planning Area, 2011	71
2.6	Percentage of Different Land Use and land cover classes, 2011	71
2.7	Land use and land cover map of Siliguri Planning Area, 2021	73
2.8	Percentage of Different Land Use and land cover classes, 2021	73
2.9	Total area of different land use and land cover classes (1992 to 2021)	74

	2021)	
2.10	Decadal changes in land use and land cover classes (1992 to 2021)	75
2.11	Total area of land use and land cover classes in Core area (1992 to 2021)	78
2.12	Total area of land use and land cover classes in Buffer-I area (1992 to 2021)	78
2.13	Total area of land use and land cover classes in Buffer-II area (1992 to 2021)	79
2.14	Total area of land use and land cover classes in Buffer-III area (1992 to 2021)	79
2.15	Buffer-wise map of Siliguri Planning Area of 1992	82
2.16	Buffer-wise map of Siliguri Planning Area of 2001	83
2.17	Buffer-wise map of Siliguri Planning Area of 2011	84
2.18	Buffer-wise map of Siliguri Planning Area of 2021	85
2.19	Transfer of land use and land cover classes (1992 to 2001)	87
2.20	Transfer of land use and land cover classes (2001 to 2011)	88
2.21	Transfer of land use and land cover classes (2011 to 2021)	88
3.1	Eight Quadrants of Siliguri Planning Area	101
3.2	Fifteen Concentric Circles of Siliguri Planning Area	102
3.3	Quadrant-wise built-up area of Siliguri Planning Area (1992 to 2021)	104
3.4	Quadrant-wise Built-up Land of 1992	106
3.5	Quadrant-wise Built-up Land of 2001	107
3.6	Quadrant-wise Built-up Land of 2011	108
3.7	Quadrant-wise Built-up Land of 2021	109
3.8	Concentric circle-wise built-up area of Siliguri Planning Area (1992 to 2021)	112
3.9	Concentric Circle-wise Built-up Land of 1992	114
3.10	Concentric Circle-wise Built-up Land of 2001	115
3.11	Concentric Circle-wise Built-up Land of 2011	116
3.12	Concentric Circle-wise Built-up Land of 2021	117
3.13	Quadrant-wise Built-up Density of 1992	120

3.14	Quadrant-wise Built-up Density of 2001	121
3.15	Quadrant-wise Built-up Density of 2011	122
3.16	Quadrant-wise Built-up Density of 2021	123
3.17	Concentric Circle-wise Built-up Density of 1992	126
3.18	Concentric Circle-wise Built-up Density of 2001	127
3.19	Concentric Circle-wise Built-up Density of 2011	128
3.20	Concentric Circle-wise Built-up Density of 2021	129
3.21	Quadrant-wise urban expansion intensity index (1992 to 2021)	131
3.22	Concentric circle-wise urban expansion intensity index (1992 to 2021)	132
3.23	Urban Expansion of Siliguri Planning Area from 1992 to 2021	134
4.1	Accessibility factor as distance from roads for identifying suitable sites of urban growth	155
4.2	Accessibility factor as distance from railway stations for identifying suitable sites of urban growth	156
4.3	Accessibility factor as distance from the airport for identifying suitable sites of urban growth	157
4.4	Environmental factor as land use land cover map for identifying suitable sites of urban growth	158
4.5	Environmental factor as distance from rivers for identifying suitable sites of urban growth	159
4.6	Environmental factor as distance from the canal for identifying suitable sites of urban growth	160
4.7	Physical factors as slope map for identifying suitable sites of urban growth	161
4.8	Physical factors as geological formation for identifying suitable sites of urban growth	162
4.9	Population density map for identifying suitable sites of urban growth	163
4.10	Final suitability map for urban development	170
4.11	Percentages of different suitability categories and restricted area	170
5.1	Spatial Distribution of Ranks among Different Administrative	186

	Units of Siliguri Planning Area, 2001	
5.2	Spatial Distribution of Ranks among Different Administrative Units of Siliguri Planning Area, 2011	187
6.1	Location of water sampling stations	203
6.2	Water Quality Index value of two seasons	208
6.3	Spatial location of water quality in peak period	209
6.4	Spatial location of water quality in lean period	210
6.5	Karl Pearson's correlation matrix among different water parameters	211
6.6	Section-wise values of water parameters	215-217
6.7	Land surface temperature and profile line of 1992	222
6.8	Land surface temperature and profile line of 2021	222
6.9	Relation between LST and NDBI of 1992 and 2021	223
6.10	Normalized difference vegetation index map of 1992	225
6.11	Normalized difference vegetation index map of 2021	226
6.12	Vegetation classification from normalized difference vegetation index map of 1992	227
6.13	Vegetation classification from normalized difference vegetation index map of 2021	228
6.14	Relation between NDVI and NDBI of 1992 and 2021	228

.....***LIST OF PHOTO PLATES***

<b>Photo plate no.</b>	<b>Photo plate name</b>	<b>Page no.</b>
5.1	Infrastructures in different places of Siliguri Planning Area, (a) Matigara GFF Primary School, Mathapari, (b) Bagdogra Primary Health Centre, Uttar Bagdogra, (c) Central Bank of India, Uttar Bagdogra, (d) Kabi Sukanta High School, Patiram	188
6.1	Water sample collection during lean period (a) at B1 station, (b) at M5 station, (c) at M2 station, (d) at M4 station	212
6.2	Water sample collection during peak period (a) at B4 station, (b) at M7 station, (c) at M11 station, (d) at M2 station	213
6.3	(a) Sewage water mixes with river Mahananda at M4 station, (b) Sources of sewage water at M4 station, (c) Water condition of river Mahananda at M2 station	214

.....***LIST OF APPENDICES***

<b>Appendix</b>	<b>Appendix name</b>	<b>Page no.</b>
Appendix A	Tables	263-275
Appendix B	List of Acronyms	276
Appendix C	List of Publications	277
Appendix D	Copy of the Publications	278
Appendix E	List of Seminar Certificates	279
Appendix F	Copy of the Seminar Certificates	280