

Urban Expansion Near Siliguri City and Surroundings: Future Possibilities

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Abstract-- At present, the trend of urban expansion in Siliguri-Jalpaiguri Planning Area (SJPA) is mostly concentrated around Siliguri along with Dabgram and Uttar Bagdogra. These three urban centers are fulcrums of development in surrounding areas of Siliguri City. Siliguri, largest city of North Bengal, possesses the best possibilities of expansion based on northwestern and western corridors of it. Due to the presence of dense forest areas in the east this area is against urban expansion. Siliguri and surrounding areas, within the radius of 50 km, have been studied including Uttar Bagdogra and Jalpaiguri City. Based on Ground Truthing of this entire area, after considering certain parameters viz. transport, logistics, physical infrastructure and connectivity, future possible urban expansion trajectories have been carved. There are two main possibilities of urban expansion around Siliguri. First, based on Siliguri and Dabgram a Metropolitan can develop towards Jalpaiguri City in future and second, based on Siliguri and Dabgram, from Uttar Bagdogra to Jalpaiguri, the entire region gets covered by the formation of Greater Siliguri. Based on these two possibilities of future urban expansion in surrounding areas of Siliguri, the city has been considered as the Central City of North Bengal.

Keywords-- Expansion, Fulcrums, Metropolitan, Possibilities, Siliguri

I. INTRODUCTION

Siliguri is a class-I city with 1,092,000 population (2022) situated on the boundary of Darjeeling and Jalpaiguri districts of West Bengal. Siliguri is located at a very crucial and strategic location. Being the most important and largest city of entire North Bengal (northern West Bengal) Siliguri is considered to be the "Chicken Neck" entrance for Northeastern states and therefore this important corridor is *"heavily patrolled by the Indian Army, The Assam Rifles, the Border Security Force (BSF) and the West Bengal Police (Ghosh, 2018)"*, which makes this corridor a very sensitive zone. Apart from this, Siliguri controls all important roadways, railways and airways transits throughout the areas coming within 250 km radius of Siliguri. In terms of economy, infrastructure, export-import, trade and commerce Siliguri functions as the fulcrum. Siliguri has taken nearly 65 years (1940-2005) to evolve into the present day scenario from a village.

During this time Siliguri passed through different stages of formation and evolution. After the 1950s, when Siliguri surpassed Jalpaiguri, main infrastructural development started taking place in Siliguri. There are some reasons behind such development in Siliguri, viz. good accessibility, better opportunities, better infrastructure and a good network system. Here network system means road connectivity. Recently, the Asian Highway 2 Project has passed through Bagdogra, which is a town 14 km west of Siliguri. This phenomenon has boosted the importance of Siliguri by marks. There are some important places around Siliguri which are playing crucial roles in urban development and expansion of Siliguri as well. Based on these surrounding areas Siliguri is experiencing a gradual expansion towards its southern and eastern directions. Though the rate is very slow, the process is functioning. Behind this expansion there are some reasons. These are only Siliguri offers best administration, infrastructure, facilities and opportunities in entire North Bengal. As the city is just 264 sq.km in terms of area coverage, tremendous pressure of in-migration, higher order services, economy and facilities is exerted on the city. Since last decade Siliguri has started expanding towards west, eastern and southeastern directions. Thus, several small urban centers have evolved in between bigger urban centers like Siliguri and Jalpaiguri. There is another city, Dabgram which is joined with Siliguri from the eastern and southern side and has already started experiencing expansion due to the profound influence of Siliguri. As Dabgram is two and a half times larger than Siliguri in terms of physical area but has almost 1/5th of Siliguri's population (119,000, as per census 2011), there are more possibilities and potentials of development in infrastructure and urban lifestyle in that region which accelerated the process of urban expansion towards eastern and southeastern sides of Siliguri. In the present paper, based on ground truthing during conducting field survey in Siliguri and surrounding areas two conceptual probability models have been carved out to decipher the future urban expansion based on Siliguri City. In the 1950s Siliguri started growing and expanding and *"the development of Siliguri as a town is clearly linked with the development of Sanatorium town of Darjeeling and the flourishing tea industry in this region in the colonial period (Khasnobish, 2018)"*.

Due to advancement in infrastructure, accessibility and networks Siliguri turned into the most important city of entire North Bengal within 1990. Migrants from neighboring places like Sikkim, Assam, Bihar, Nepal and Bangladesh used to come here for better jobs, opportunities and services. Eventually, surrounding small settlements of the city turned into auxiliary nodes which assist Siliguri to afford all in-migrants and locals simultaneously. Within a few decades (1970-1990) Siliguri became a very important city which also functions as "Gateway to the Northeast". Since that period to till date Siliguri has achieved phenomenal progress and development which also influenced expansion into neighboring areas. Besides, there is not much work on Siliguri and surroundings, so very few people and researchers have ideas regarding this region.

II. OBJECTIVES AND METHODS

1. To trace out the trajectory of urban expansion near Siliguri City
2. Analyzing the strength of Siliguri markets in terms of available products and services to determine the potentials of surrounding growth magnets and the hinterland.
3. To explain the formation of Greater Siliguri and incorporation of Jalpaiguri in future along with possibilities of other possibilities of expansion

Here a mixed method approach of analyzing data has been adopted for the present study. Based on Ground Truthing of Siliguri city surroundings (within a radius of 50 km) and key informants interview of some resource persons of Siliguri, Bagdogra and Jalpaiguri, attempts have been made to understand the possibilities of future urban expansion and present trajectories considering **attribute, location and time** as key factors. Simultaneously, the Market Composite Index has been calculated to find out the market gravity and potentials in respect with the surrounding growth magnets.

III. DISCUSSION

Over two decades Siliguri and adjacent areas including Bagdogra and Jalpaiguri have started experiencing a rapid increase in *“urbanisation and urban growth, which is a worldwide phenomenon, gets amplified in terms of urban population and expansion of urban area when people move in large numbers from rural to urban areas (Sarkar, Kar, 2021)”*.

As a result rapid urban expansion has been started in this region since 2000. After the commencement of Asian Highway 2 project there are several small settlements between Bagdogra, Siliguri and Jalpaiguri started emerging in terms of services and infrastructure, although there are many class-IV, V and VI urban centers (as per the Census of India) which are still lagging behind, still overall the expansion is following some definite trajectories. These mainly include Siliguri and Jalpaiguri. Based on ground truthing and interviewing local resource persons. Being the prime city of North Bengal and the most important transit point as well for adjacent regions, Siliguri is expanding both towards Northwest and Southeastern directions. Two conceptual models have been formulated to understand the possible urban expansion trajectories of Siliguri and surroundings. This is a very interesting fact that the expansion of Siliguri, in any direction, involves another city, Dabgram which is joined with Siliguri by surrounding it from Eastern and Southern directions. This is also a considerably important city of North Bengal with an area twice of Siliguri in terms of physical extension but one fifth of population of Siliguri. There are some strong reasons behind urban expansion in Siliguri and surroundings. Apart from Siliguri there is another important urban center of surroundings, Bagdogra which is 16 km west of Siliguri.

By 2021 Siliguri has crossed the 1 million mark of population (1.09 million). Sex Ratio has improved by 5 points from last decades; Child Sex Ratio is around 938. Religious composition reports 92% Hindu, 5.4% Muslim, 0.9% Christian, 0.7% Buddhist, 0.2% Sikhs, 0.2% Jains, 0.6% do not prefer to tell. Siliguri experienced a total of 7 surging phases of development from 1930-2005. Along with all phases of development, possibilities of surrounding urban expansion was also increasing. The main Siliguri City has 7 km extension from North to South and 4.6 km extension from East to West. This stretch includes from Mahananda Bridge in the north to lower Shaktigarh colony in south and from Gurung Basti in west to Mahabirshah in the east. This is a massive area as well consisting of the total 25 ward divisions of Siliguri Corporation out of total 47 wards of the entire city. The aforementioned area is known as “Old Siliguri” or “Main Siliguri City”; rest of the entire Siliguri which is seen today are included into time to time phase wise urban expansion. With all these additions from the 1930s to 2005, Siliguri has turned into a gigantic city which puts it just after Kolkata in terms of importance, development, transport, communication and connectivity within West Bengal.

Keeping Siliguri at the center there are two possibilities of the formation of a massive metropolitan region which will eventually spread over a common region. First one has comparatively lower possibility and even if it forms it will take decades or may be a century. This includes Siliguri, Dabgram and Jalpaiguri city. Now the scenario is, Siliguri and Dabgram are joined with each other. These are also the First and Fourth most important cities of North Bengal respectively. But the city of Jalpaiguri is 51 km from Siliguri and 29 km from Dabgram. Uttar Bagdogra is 14 km from main city Siliguri but actually comes under Greater Siliguri boundary in northwest. Both Dabgram and Uttar Bagdogra therefore come into the demarcation of Greater Siliguri.

Siliguri started flourishing after the partition. Before partition it was merely a big village because Jalpaiguri city used to be rich on those days and it flourished as well in terms of transport, connectivity, trade and commerce. After partition Jalpaiguri fell into a pocket as the Bangladesh border starts from just 15 km east of the city. so there is no space for infrastructure expansion. The city is also surrounded by an international border with the same 6-8 km patch from both south as well. Thus the priority of the economy and resultant infrastructure started shifting from there which eventually pushed the city into far more interior pockets. Due to this decaying situation Siliguri emerged from a very unique location advantage which does not share any international boundary or not even close to such, Siliguri can be accessed from all four directions equally and easily. ***“Siliguri is a big trading and transportation hub in entire Northeast India and has great strategic importance in West Bengal because it connects four international borders i.e., Nepal, Bangladesh, Bhutan and China (Bose, Roy Chowdhury, 2020)”***. Siliguri has witnessed a total seven phases of development till date. The seventh phase of development of Siliguri was completed in 2005. It took just 35 years to emerge as the second most important city of the state of West Bengal. There are some clusters surrounding the main city Siliguri whose boundaries ultimately form the demarcation of greater Siliguri. These clusters are as follows:

1. *Kendriya Vidyalaya Cluster-1*
2. *Matigara-Khaprail Cluster-2*
3. *Bagdogra Cluster-3*
4. *Fulbari Cluster-4*
5. *Noukaghat Cluster-5*

These clusters surround Siliguri from Northeastern, Northwest, Western and Southern directions. Kendriya Vidyalaya is situated at the boundary of northern Dabgram which is actually at northeastern part of Siliguri. Kendriya Vidyalaya forms the node of cluster-1 which is also influenced by Cosmos Mall and Vega Circle Mall as well. These two gigantic shopping hubs attract pools of people from around 30-50 km. This cluster pushes the urban expansion including Karaibari, Bengal Safari, Kalabari and Ewam Buddhist Monastery. The Vedic Township is situated in this area as well. Thus the cluster forms the northeastern end of Greater Siliguri.

Matigara-Khaprail is situated outside the immediate boundary of Siliguri in western side. These two are mainly financial nodes but separate from each other. These two nodes form the second cluster which extends up to M.M Terai picnic spot in far west from western Siliguri. Here another shopping hub, City Centre Shoppers' Stop which is the largest shopping hub of north bengal is situated which accelerated further the expansion of this second cluster, contributing a major portion of Greater Siliguri. The biggest township of Siliguri, Uttarayon is also situated in this cluster. Node of cluster-2 is Matigara. This cluster contributes partly to the northwestern part of Greater Siliguri.

The biggest portion of Greater Siliguri is covered by cluster-3 which is centered over Bagdogra International Airport, situated in Uttar Bagdogra which is merely 16 km from main city Siliguri. Bagdogra international airport has a maximum threshold of around 300 km radius which is also the only operational airport of north bengal. This cluster starts from Noukaghat cluster (cluster-5) of western Siliguri and extends up to M.M Terai picnic spot in the far west including Bagdogra, Shivmandir, University of North Bengal. These three are very important allies of Siliguri as the Asian Highway-II project runs across this cluster which has boosted the impetus of this region phenomenally since last decade. This cluster contributes the remaining portion of western part of Greater Siliguri.

The third most important cluster of Greater Siliguri is situated in the southern part of Dabgram, cluster-4. This cluster is centered over Fulbari which is located at southwestern border of Dabgram. This cluster incorporates the largest railway junction of North Bengal, New Jalpaiguri Platform (NJP) and the old Siliguri junction. These two communication junctions contribute a major portion of daily transit from northeast India and North Bengal to the rest of India.

These two railway junctions along with a massive local market of Fulbari have added considerable gravity to the overall weightage of this cluster. Noukahat Cluster (cluster-5) is the newest one among all clusters. It has a comparatively smaller influence area than all previous clusters. The influence area of this cluster is interlocked by the cluster-3, cluster-2 and cluster-5 from west, north and south respectively.

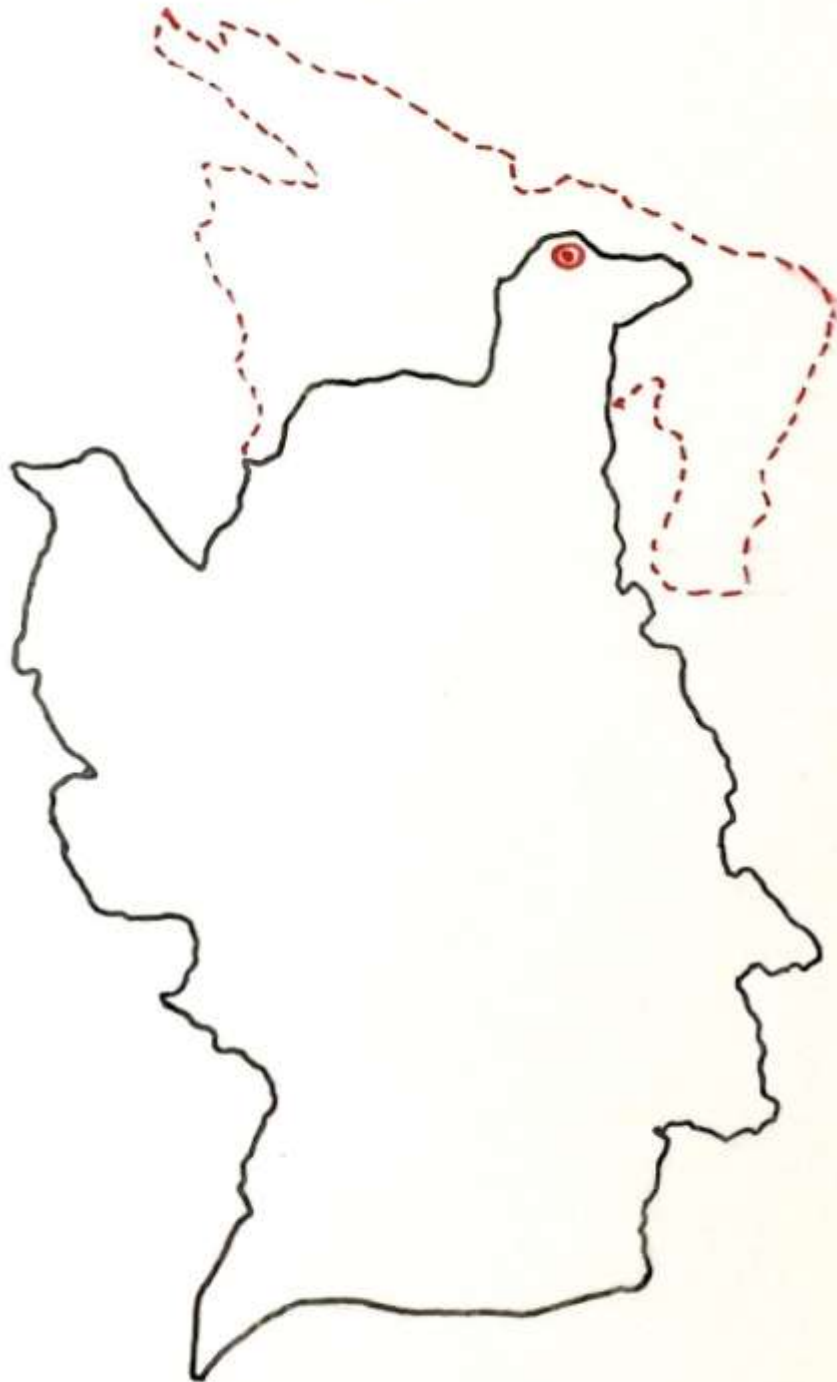
Despite all these conditions this area has significant growth in terms of economy, infrastructure and facilities. In this area there are several road expansions and important bifurcations towards surrounding satellite nodes. North Bengal Medical College (NBMC) is the only government medical college of the entire region of Greater Siliguri with potential importance and reputation. This cluster has two main river junctions and is therefore well connected with the ferry network.

**Table-I:
Clusters' Profile**

Clusters	Key Features	Gravity	Influence
Kendriya Vidyalaya	KV, I-Smart Mall, Vega Circle Mall, Siliguri Monastery	Infrastructure, Connectivity, Recreation	High
Matigara-Khaprail	Tenzing.N. Bus Terminus, City Center, Neotia Getwel, Chhang's SS Nursing Home, Champasari	Economy, Connectivity, Infrastructure, Medical Facilities, Recreation	Very High
Bagdogra	Bagdogra International Airport, North Bengal University, Shivmandir, Asian Highway Project, Bagdogra Army Cantt.	Connectivity, Infrastructure, Education, Trade-Commerce, Economy, Transport-Communication, Airport, Army Base, Logistics	Quite High
Fulbari	NJP Railway Station, Siliguri Junction, Fulbari Market	Transport, Network, Railways, Economy, Trade-Commerce	Very High
Noukaghat	NBMC, Nouka Ghat Ferry Network, Ghoshpokur, Rishi Road	Medical College, Waterway transport, Economy, Communication	High



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Cluster-1: Kendriya Vidyalaya

Siliguri and Dabgram are like twin cities, although Dabgram is a gram panchayat but it has over 100,000 population and there are some ward divisions of Siliguri which have encroached into Dabgram from western side. There are growth points around Siliguri-Dabgram based on which fore mentioned clusters are being evolved gradually. This process has been started for the last 8-12 years.

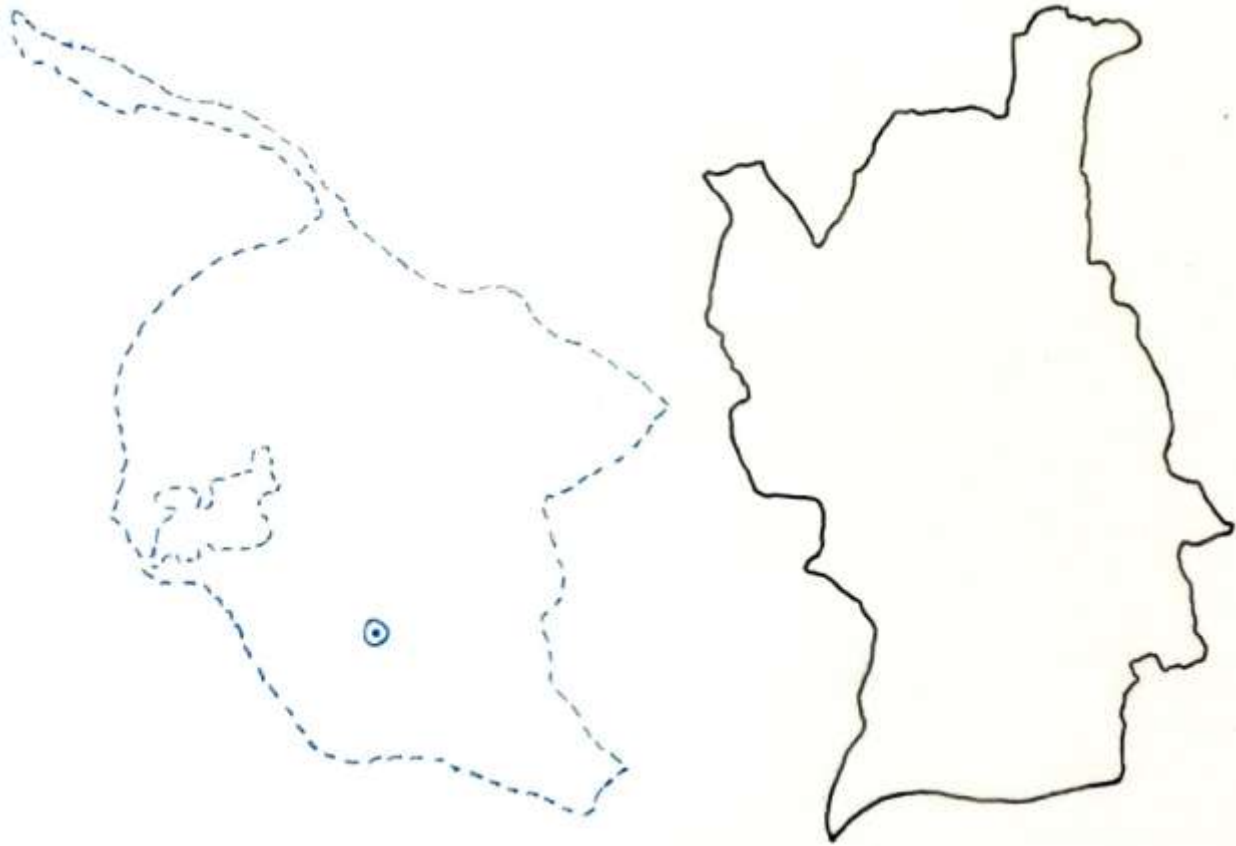
Due to the Asian Highway-II project which passes through Bagdogra, a town, 14 km from main city Siliguri, infrastructure, connectivity and communication have rocketed up in this region, which is also the main reason behind the immense expansion of Siliguri towards the formation of Greater Siliguri by coalescence of all five major growth clusters.



Cluster-2: Matigara

After full evolution the Greater Siliguri will stretch for 30 km from north to south and for 40 km from west to east. This stretch covers all important urban centers except Jalpaiguri city. A complex web of highway connectivity throughout cluster 2 and 3 have been constructed.

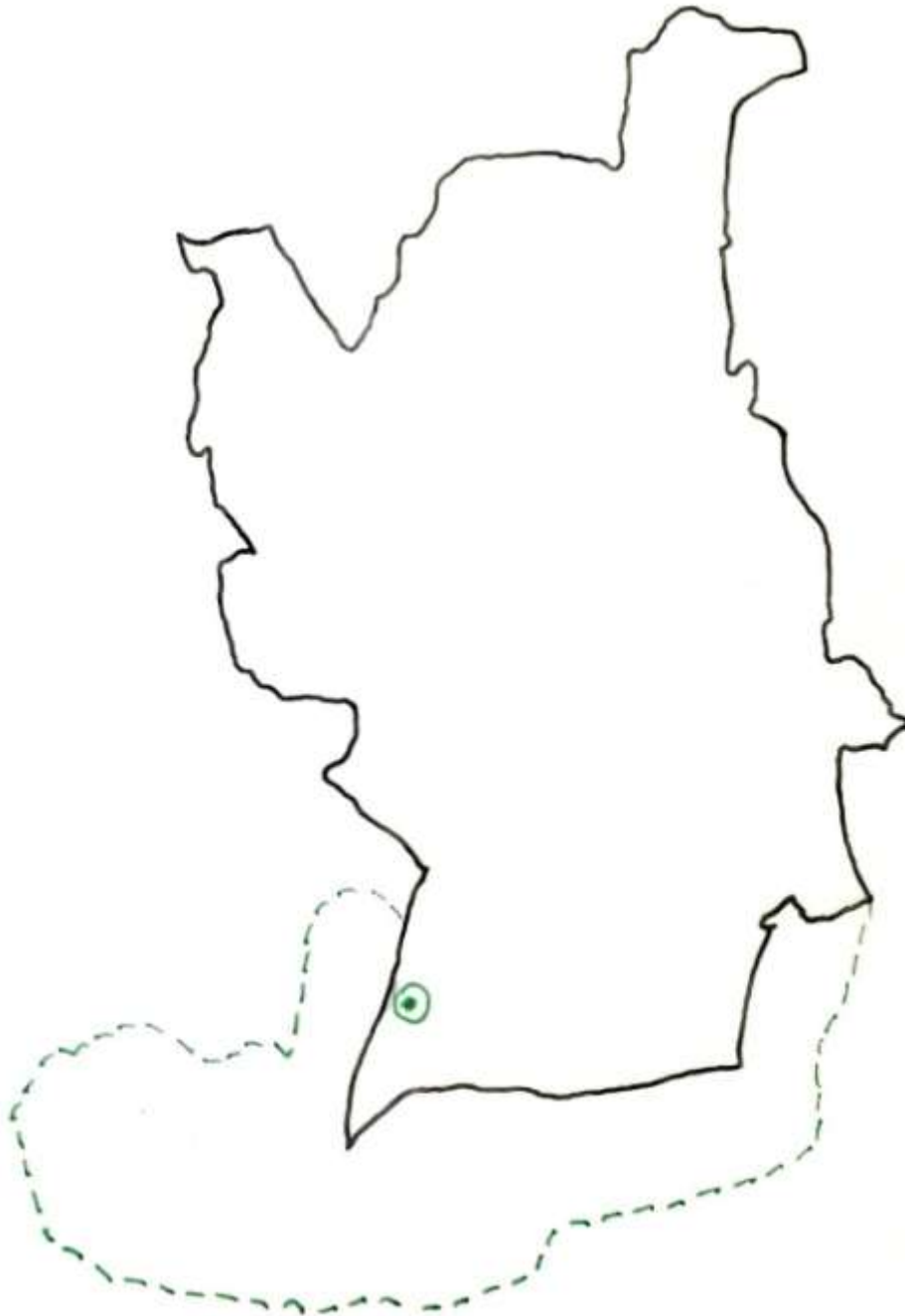
These two clusters are the busiest and economically most important clusters for Siliguri, the second largest city of West Bengal which *“is connected to Calcutta, Darjeeling, Sikkim, Jalpaiguri, Coochbehar, and entire Dooars and Terai by large network of roads (Chanda, Roy Chowdhury, 2019)”*, although the cluster-1 and 5 seem to be growing at a slower rate but actually growing quite rapidly.



Cluster-3: Bagdogra

Cluster-1 includes the northernmost hinterland of Siliguri which directly encroaches into upper dooars and hills. This area is likely to be the inclusive area for immigrants from hills and dooars who form a considerable consumer of some premium and elite services provided by Siliguri as they have very good economic conditions. Cluster-5 is sandwiched between Siliguri main city and cluster-3 although it covers an extensive area which operates as an alternative area for Siliguri in-out transits.

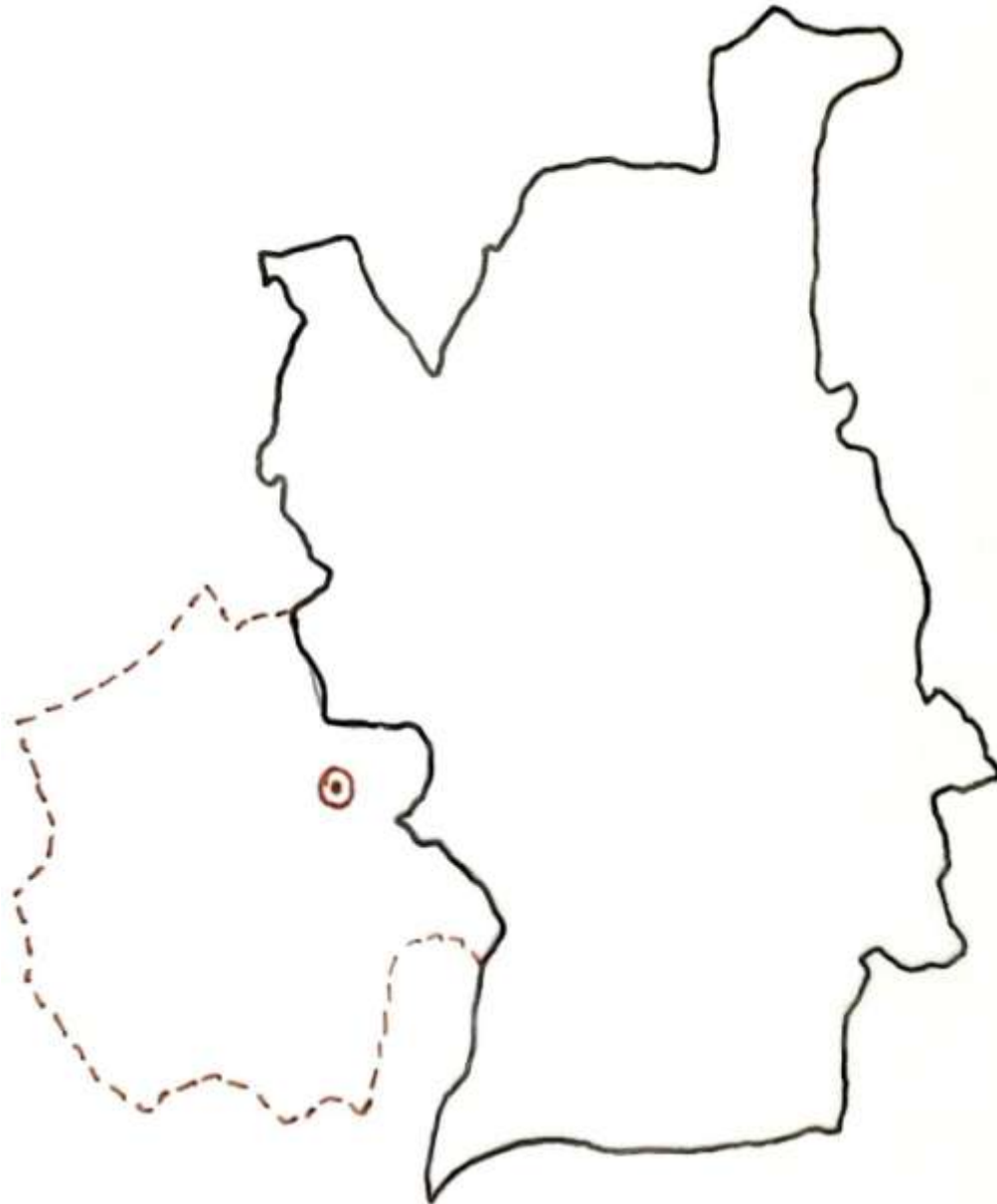
There are two major ways to enter or exit Siliguri, one is Matigara-Bagdogra route and other is Fulbari-Mohitnagar route. Due to extremely heavy traffic hours almost throughout the day these two routes always remain overcrowded or jammed more often. The cluster-5 here has a remedy for this problem which literally sheds the traffic over Bagdogra route into less than half. This area has two major bifurcations of Asian Highway-II which eventually enters Siliguri from southwestern direction by avoiding the entire Bagdogra route.



Cluster-4: Fulbari

One of the most important reasons behind the rapid expansion of Siliguri is the potential of different markets of the city in terms of numbers of choices, availability, supply and demand.

Being the second largest city of West Bengal and due to its privileged strategic location Siliguri has a considerable range of people from different economic and social status which directly influence the markets of Siliguri.



Cluster-5: Noukaghat

Main economies of the city are based on trade and commerce, tourism, export-import and services. The city is a prominent example of Harris and Ullman's Multiple Nuclei Theory of urban morphology. From the very beginning, the prime economic essence of Siliguri has been business and export-import, therefore today Siliguri has turned into a business hub along with a fulcrum trade point.

Locally Siliguri has a vast supply area surrounding 20-25 km radius from it which supplies vegetables, locally cultured fishes to the markets/mandis of Siliguri. There are a number of local dairy startups which are growing good business in the dairy sectors of Siliguri. Apart from this there are local startups working on service providing mainly broadband internet throughout the city.

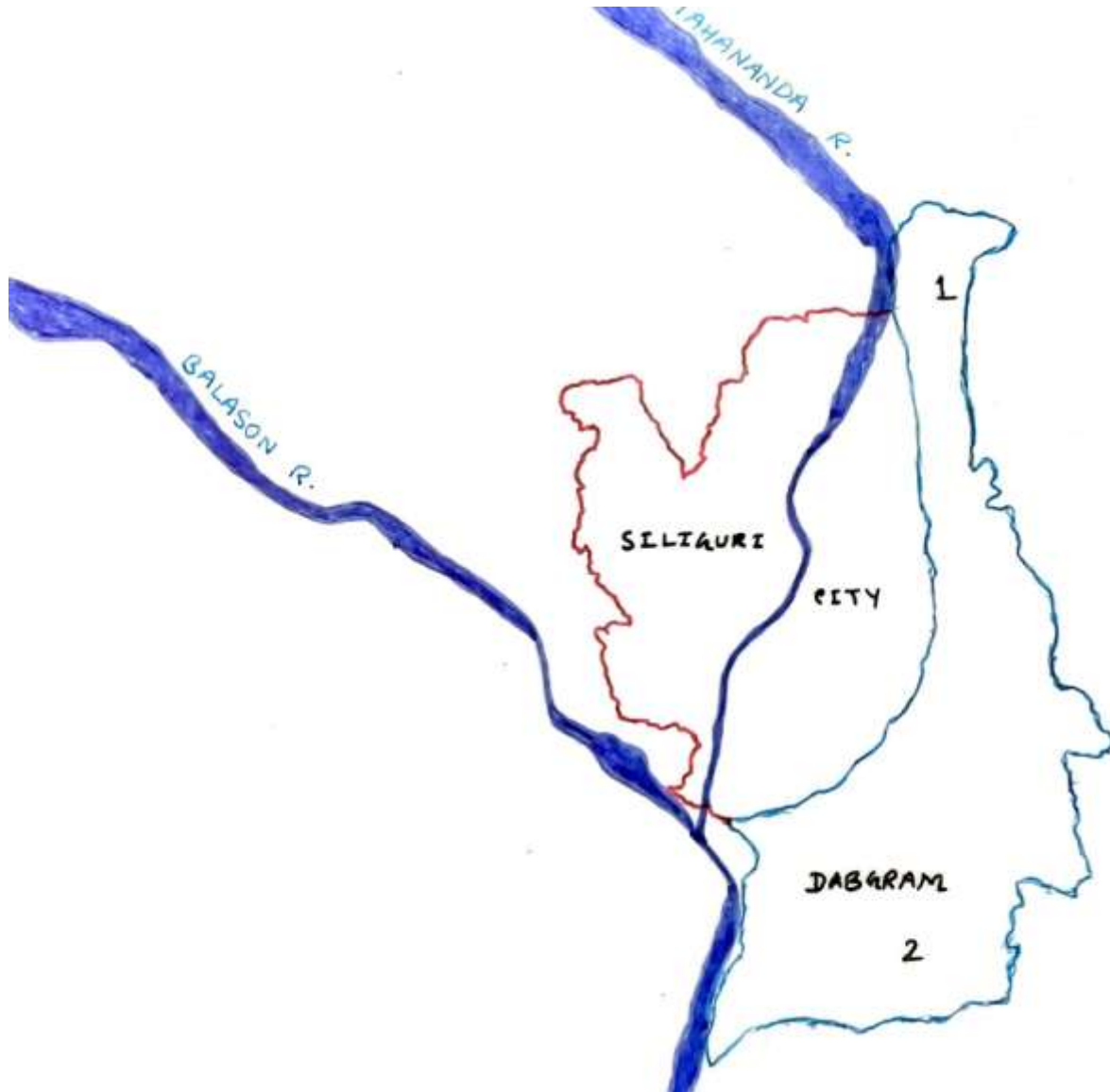


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Also there are restaurant chains, cloud kitchens, garments emporium series, interior designing, home decoration and hotels and shopping complex chains that have developed in Siliguri to a massive extent since last decade. Renowned nursing homes and hospital franchises have been opened which attract pools of tourists and commuters from Darjeeling, Kurseong, Jalpaiguri and Nepal border. Also people who actually belong to hilly areas also permanently settle in Siliguri for either job or working purposes, out of them there are also people who run businesses in Siliguri and surroundings. Siliguri, with the passage of time has developed a strong mixed economy which includes- agriculture, horticulture, trade and commerce, tourism, export-import, services, quaternary activities, transport-communication etc. There are also different tiers of these economic sectors. Siliguri strongly exhibits sectorization of markets in terms of goods or services available there. There are market sectors which only deal with daily necessary products like garments, stationery, dairy, foods, vegetables, fruits etc; also there are pharmaceutical market sectors, hardware and electronics market sectors, banking sectors, service sectors, transport hub, shopping complexes and multiplexes as well. Thus throughout the city a complex sectorization and web of connectivity and network have been established which provides best services and options.

Although all five magnet clusters which have been portrayed as growth poles of the twin city system, have been described as influenced by one primary nod but in reality, since 2010 due to the Asian Highway-II project the region has depicted phenomenal expansion and development. This has resulted in emergence of multiple influence nodes in each cluster apart from the mentioned one, which has developed a cosmopolitan tendency of expansion throughout the twin city. Market areas determine the space of development and progress of a region. To measure the economic edge of a region, studying market clusters is most essential.

Siliguri, being the largest and most important city of North Bengal is always considered accompanied by Dabgram, therefore it will be more appropriate to call the cluster as Siliguri-Dabgram. Dabgram is a sister city of Siliguri, surrounding it from eastern and southern side, even larger in terms of area but a Gram Panchayat in terms of administration. Although it is a panchayat area on pen and paper but due to the overshadowing nature and unmatched pace of growth possessed by Siliguri, this massive region also has started growing rapidly along with Siliguri. Additionally, due to Asian Highway, construction of Townships, expansion of main highways Siliguri and Dabgram both have been unleashed to their highest potentials.



Siliguri-Dabgram Twin City Structure

In this image Siliguri and Dabgram are shown together which are fed with two rivers, Mahananda and Balason. Previous images where a map has been shown with all phases built up areas is Siliguri-Dabgram together. This twin-city system caters to a very powerful economic magnet which attracts people from several hundreds of km radius and also fosters numbers of big market clusters which play significant roles in the economy of the region.

To unveil the significance of the market areas to actually understand the reasons behind the emergence of different growth clusters around Siliguri to form Greater Siliguri Metropolitan, main market clusters of Siliguri-Dabgram are chosen to calculate a Composite Index, based on following tables-

**Table-II:
Market Clusters and Attributes**

City / Town	Name of Market	NS	BR	SR	RH	LH	PR	SPR	SU PR
Siliguri	Bidhan Market	2670	60	8	9	2	5	1	2000
Siliguri	Hong Kong Market	264	70	8	9	2	5	1	1500
Siliguri	Seth Srilal Market	100	10	5	8	3	3	1	600
Siliguri	Kshudiram Pally Market	90	10	5	9	0	4	1	1000
Siliguri	Vivekananda Supermarket	120	10	8	7	2	3	1	500
Siliguri	Hawkers' Corner	200	15	6	7	2	3	1	500
Siliguri	Hashmi Chowk	200	15	5	7	2	3	0	300
Siliguri	Hyderpara Market	470	12	3	8	2	3	0	300
Siliguri	Subhashpally Market	240	12	3	8	3	3	0	200
Siliguri	Mahabirathan	1060	25	5	10	2	3	1	700
Siliguri	Champasari Mandi	680	50	8	13	0	2	1	40
Siliguri	Jhankar More Market	200	10	3	6	0	3	1	200
Siliguri	Golden Plaza	600	45	8	7	1	5	1	2000
Siliguri	Hillcart Road Market	180	15	6	7	0	5	1	600
Dabgram	Baikunthapur Market	130	5	2	8	3	3	0	20
Dabgram	GP-2 Supermarket	80	3	2	8	3	3	0	20
Dabgram	Fuleshwari Bazaar	250	8	3	10	2	3	0	80
Dabgram	Ektiashal Haat	50	8	1	10	0	2	0	20
Dabgram	Fuleshwari Haat	200	7	2	10	0	2	0	40

(Source: Primary Survey conducted by the Author in 2018)

NS= Number of Shops, BR= Buyers' Range in km, SR= Sellers' Range in km, RH= Rush Hours, LH= Lean Hours, PR= Products, SPR= Special Products, SU PR= Distance of Supply of Products in km. (Product Codes: 1= Necessity, Basic Fancy, 2= 1+Basic Luxury, 3= 2+Luxury and Utility, 4= Medicine Only, 5= 1 to 4+ Many others)

Table-III:
Z-score values (Market Clusters attributes)

Name of Market	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Total
Bidhan Market	4.39	2.34	1.28	0.27	0.69	1.65	1.15	2.68	14.46
Hong Kong Market	-0.17	2.89	1.28	0.27	0.69	1.65	1.15	1.83	9.59
Seth Srilal Market	-0.48	-0.40	0.15	-0.17	1.55	-0.10	1.15	0.31	2.00
Kshudiram Pally Market	-0.50	-0.40	0.15	0.27	-1.02	0.77	1.15	0.99	1.40
Vivekananda Supermarket	-0.45	-0.40	1.28	-0.61	0.69	-0.10	1.15	0.14	1.71
Hawkers' Corner	-0.29	-0.12	0.52	-0.61	0.69	-0.10	1.15	0.14	1.38
Hashmi Chowk	-0.29	-0.12	0.15	-0.61	0.69	-0.10	-0.84	-0.19	-1.33
Hyderpara Market	0.22	-0.29	-0.61	-0.17	0.69	-0.10	-0.84	-0.19	-1.29
Subhashpally Market	-0.22	-0.29	-0.61	-0.17	1.55	-0.10	-0.84	-0.36	-1.04
Mahabirasthan	1.34	0.43	0.15	0.71	0.69	-0.10	1.15	0.48	4.84
Champasari Mandi	0.62	1.80	1.28	2.04	-1.02	-0.98	1.15	-0.63	4.25
Jhankar More Market	-0.29	-0.40	-0.61	-1.05	-1.02	-0.10	1.15	-0.36	-2.70
Golden Plaza	0.46	1.52	1.28	-0.61	-0.16	1.65	1.15	2.68	7.96
Hillcart Road Market	-0.33	-0.12	0.52	-0.61	-1.02	1.65	1.15	0.31	1.54
Baikunthapur Market	-0.43	-0.67	-0.99	-0.17	1.55	-0.10	-0.84	-0.67	-2.32
GP-2 Supermarket	-0.52	-0.78	-0.99	-0.17	1.55	-0.10	-0.84	-0.67	-2.52
Fuleshwari Bazaar	-0.20	-0.51	-0.61	0.71	0.69	-0.10	-0.84	-0.57	-1.42
Ektiashal Haat	-0.58	-0.51	-1.37	0.71	-1.02	-0.98	-0.84	-0.67	-5.25

These all market areas are situated in either direct influence region or close to the same of which the five possible growth clusters have been demarcated previously. Some major market clusters of Siliguri play fulcrum functions in terms of increase in threshold radius for Siliguri-Dabgram over significant areas. Bidhan market cluster of Siliguri reserves the highest weightage in terms to trade and commerce in the region because this cluster includes other important market nodes too mentioned in the previous table but only because the main key points of those bifurcations are different that's why they are considered as separate market sectors.

The variables which have been taken for this calculation are significant to trace out the future probability of urban expansion based on the economic boom in Siliguri and Dabgram. In ground truth, the picture of expansion is more vivid and picturesque. Apart from the above listed market clusters, numbers of new commercial areas have been evolved based on different township peripheries inside the mega cluster of Greater Siliguri.

Jalpaiguri is also an important city of dooars and North Bengal, situated 51 km southeastern side of Siliguri, residence of over 125,000 people. This city *“lies in the middle of vast fertile plains (Terai) south of Himalayas, watered by innumerable rivers and rivulets rising from and flowing down the Himalayas (Rahamati, Ali, Kamraju, 2020)”* used to be the most important city of dooars before the partition of India as Siliguri was at its early growing stage then. Even in spite of losing fulcrum to Siliguri, even today Jalpaiguri is the nearest ally city of Siliguri in terms of economy, trade and services. After the formation of greater Siliguri, based on the present trend of growth and expansion it can be envisaged that soon after greater Siliguri will also incorporate the city of Jalpaiguri within its boundary and thus a cosmopolis will form in future based on Siliguri, Bagdogra and Jalpaiguri. There are some strong reasons behind this prediction which are as follows:

- Jalpaiguri is highly dependent on Siliguri in terms of special services, goods, facilities and businesses. Numbers of people from Jalpaiguri commute daily to Siliguri for job or working purposes.
- Most of the road connectivity between Jalpaiguri and rest of any places of North Bengal pass through Siliguri, thus Siliguri functions as an unavoidable transit point for Jalpaiguri as the location of Jalpaiguri is an interior pocket. Being the transit point *“from here cargo must be transferred from one carrier to another (Basu Roy, Saha, 2011)”* and those carriers are mostly from Siliguri.
- Heavy industries of Jalpaiguri are directly dependent on Siliguri for the supply of raw materials and logistics because at local level Jalpaiguri does not have any logistic company and heavy transporter as well.
- In between these two cities there are small towns which are growing rapidly and peri urban fringes of these two cities almost coincide.
- There are possibilities of the expansion of the railway network based on NJP Railway Station. If it expands it will definitely connect many untouched points between two cities which will connect them strongly.

These are some important reasons based on which it can be predicted that in future greater Siliguri and Jalpaiguri will merge to form a cosmopolitan.

Starting from Siliguri, moving westward after crossing Balason river bridge a very powerful nodal point arrives, named as Shivmandir. This is a very powerful nodal point between Siliguri and Bagdogra. Around 15 years ago, this settlement used to be a part of the extended peri urban of Siliguri.

It used to take around 60-90 minutes to commute between Siliguri and Bagdogra international airport. After the initiation of the Asian Highway-II project, Shivmandir leaped towards a massive facelift and today it has turned into a town and exhibits marked progress in terms of connectivity, trade and commerce, business and transport. This town has its own area of influence which encircles it from a 5 km radius of it. This also has put a boost in improving traffic congestion in Matigara and is directly connected with cluster 3 and 5 of Greater Siliguri. Day by day Shivmandir has been economically empowered remarkably and as a result it can easily function as a singular node which can refrain both Siliguri and Bagdogra from merging into each other. In the other words, it has the potential of functioning as a connectivity hub between two massive urban metropolitan areas. As *“Siliguri was not free from the dominating waves of globalisation and one can witness a lot of restructuring of the spatial organisation within the city and outside the city (Kumari, 2019)”* this unstoppable wave of globalization influenced Shivmandir, Bagdogra and even further areas as well in terms of free trades, PPP (public private partnerships), new local business startups with foreign collabs. This added immense impetus in expansion of Bagdogra and shooting up development in Shivmandir, along with AH-II project later. Thus within 10-15 years the physical infrastructure map and economic map of this region- Bagdogra, Shivmandir and Matigara (comes under clusters of 2,3 and 5) has undergone sea changes. These are the future potential for urban expansion based on Siliguri city.

IV. CONCLUSION

Rapid growth in urbanization and resultant expansion can not happen in a region, just based on one growing city. It needs a chain of situations, processes, nodes and infrastructure like an assembly line of a production unit. The uninterrupted process of urbanization of the Siliguri region is the result of a perfect bending of these forestated criteria. Siliguri alone would not have been able to trigger this massive expansion process around it. Privilege of an important strategic location, proximity of Bagdogra airport, Asian Highway-II project, expansion of NH-31 under AH-II, establishment of numbers of new and alternate access points of Siliguri, emergence of fast growing towns surrounding Siliguri, economic supremacy over entire North Bengal, powerful connectivity with Himalayas and Northeast, significant development of tourism and resultant the importance of Siliguri increased as a transit hub; altogether these factors are responsible for today's picture of Siliguri and adjacent areas.

Jalpaiguri after partition of India, lost the fulcrum over the region and entire focus shifted to Siliguri due to better location and communicative advantages. Still this city exists in a pocket, southeast of Siliguri. Jalpaiguri is also growing but at a much slower rate. Recently the gravity has shifted and Jalpaiguri has started focusing on building local heavy physical infrastructure and logistics services so that dependency on Siliguri can be lowered and at least a situation of competitiveness can be created over time. This healthy competitiveness and mutual transit between two cities will accelerate the merging of this city into Siliguri in future.

Shivmadir, being a rapidly developed town between Siliguri and Bagdogra holds a strong economic backing in terms of business, transport and export-import. This town has a bright future as if Greater Siliguri emerges, it will be a gravity node and integral part of that cosmopolis as Jalpaiguri will also become a part of this colossal coalescence of Siliguri Cosmopolitan. All five clusters discussed throughout the paper are fulcrums of future urban expansion and formation of a cosmopolis, driven by Siliguri. The first cluster which is supposed to be based on the Kendriya vidyalaya, already has multiple economic and lifestyle nodes, followed by cluster-2, cluster-5, cluster-3 and 4 respectively. Apart from this, being a strategically very crucial and vibrant region (chicken neck corridor), Siliguri gravitates special attention of the central government towering over the state government, for intense military and security reasons throughout the year. The area is sandwiched within international influences from all directions. Being the only entrance to northeast India, apart from just dialogues and diplomatic affairs, the central government has started taking tough calls regarding safeguarding the sovereignty, safety and regional peace over the region and therefore it has become one of the most significant and prioritized regions of India. This over fulcrumming nature of this region caters to a conducive and justified ambience of urban expansion. Being the second largest city of West Bengal and an unparalleled connectivity from all directions, apart from these, being the hub of multi layered simultaneous economic system Siliguri attracts numerous people from different parts of India as the city provides an all season favoured ambience for start ups, business and trades.

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