Site Specification, Planning and Development of a planned town in Kashmir

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Abstract

Urban planning is a technical and political process concerned with the development and use of land, protection and use of the environment for public welfare especially keeping the residing needs in view. The focus for development on preferred locations in the regions of Himalayas has increased during the last few decades due to urbanization, population increase, and high influx of tourists. These preferred locations are converted into hill towns. This unprecedented development has resulted in deterioration of living conditions, and environmental and visual quality in hill towns. This particular Hill City Planning project is aimed at overcoming this problem by reviving the location and infrastructure development keeping in view the usage of local endowments, be they natural or existing artificial ones. It is chosen to be executed in the combined landscape of hills and planes at the doorway of Kashmir Valley particularly around Hiller-Shahabad station. The project is aimed at indicating the arrangements of various components or units of a town. It also includes ways and means to be adopted for the establishment of new towns and improvement of existing localities in the area or for extension of the towns. Here wide options of settlements have been discussed and ways of establishing a new city on hills with every possible and required measure for livelihood.

Keywords: Hill Town, Urban Development, Residential Building, Infrastructure Development, Local Resources.

I. Introduction

The term town planning is referred to indicate the arrangement of different components or comprising factions of a town in such a way that the town as a whole attains the significance of a live organism. It also includes ways and means to be adopted for the improvement of the existing towns or for the extension of the towns. Therefore, the knowledge of town planning proves to be very helpful in achieving the best available advantages of the situation of the town with respect to surrounding environments, land and other conditions. Planning generally means pre-reasoning and pre-ordering things before an event takes place so as to achieve satisfactory results in various dimensions like health, convenience, comfort and happiness of all living beings. By careful planning, we eradicate the mistakes of the past and be wiser in the future. Town planning is thought to be an art of shaping and
guiding the overall growth and development of the town creating the buildings and environments in order to meet the various needs such as social, cultural, economic and recreational etc. and to provide healthy conditions for both rich and poor to live, to work and to play or relax, thus bringing about the social and economic wellbeing for the majority of mankind. In this project, the site for the project plan is chosen at a place which contains various small factions of land. The region lies in the lap of Pir Panjal Range and comes the first view of Kashmir just as the Jawahar tunnel ends on the side of Kashmir. From the titanic view point, one can view the beautiful area spread across a vast expanse over hills and plains together. The site is nearest and the first toll post into the Kashmir valley on Jammu-Srinagar National Highway lies here. This region subsumes various areas with local names like Omoh, regions around Verinag Feeder road, Sadi wara, Kokagund, Verinag, Kralmar, Wawathur, Gochan, Changoo, Bragam, Nowpora, Shangrin etc which are all included in the confinement of the project city boundaries.

II. Review of literature

There are several examples of construction projects involving Hill Towns in Himalayas. The projects as such or in parts have been articulated along with their pros and cones by various firms, organizations and authors. Some of such glimpses are highlighted in the following review components.

1. Development in hill towns: According to Ashwani Kumar and Pushplata (2015) Building Regulations for Hill Towns of India, HSBC Journal, Volume 11, Issue 2 any area having an altitude of more than 600 m from the mean sea level or an average slope of 30° may be classified as hilly in India, which includes the Himalayas, the Central Highlands, the Deccan Plateau and the north eastern hill ranges.

2. Issues of development in Himalayan hill towns: As per Ashwani Kumar et al. in Building Regulations for Hill Towns of India, HSBC Journal, Volume 11, Issue 2, (2015) the various issues/ problems faced by hill towns due to high urbanization and rapid development are heavy pressure on existing infrastructure facilities, hill stations being mostly located in ecologically sensitive zones, hill stations presently facing problems of congestion etc.

3. Building regulations in hill towns: According to Ashwani Kumar et al. in Building Regulations for Hill Towns of India, HSBC Journal, Volume 11, Issue 2, (2015) many of the issues of existing development in hill towns are due to the absence of appropriate building regulation, enforcement of inappropriate building regulations or non-compliance of existing building regulations.

4. Overcrowding: Overcrowding thongs the existing cities. Hence need for new settlements arises with immigration and expansion. From Leisure, economy and colonial urbanism: Darjeeling, 1835–1930, by Nandita Bhattacharya, we have discussed a part of report highlighting the development of a small town in Darjeeling named Kurseong which was developed as a way out for evading overcrowding in Darjeeling.
5. Citation of a similar existing plan: Development for Kasauli Planning Area: A similar plan of a hill town named Kasauli in Himachal Pradesh under the title is cited for the reference from the office of the Director, Town and Country Planning, Himachal Pradesh.

III. Methodology

The methodology involves different dimensions of studies which cater to various requirements that pave way for the demarcation of a roadmap for the execution of the project. The study involves a detailed study of events which form the basis of town planning. Methodology actually refers to the plan which depicts the actual methods which are followed to gain the required ends. The study involves a systematic advance which starts right from the foundation of the idea to the most sophisticated advances and modifications involved in the course of the planning of the anticipated project. Following are the various steps followed:

1. Survey: By survey is meant to collect the data and information based on spot observation. To draw a mental picture of the region, the town and its various elements like residential and working areas, the survey serves a broad canvas picturing the present state of the town and to provide proper means for its development, in future. The survey data so collected can be analyzed and will be represented in the form of maps, charts, tables and models. It includes functional survey, social survey and territorial survey.

2. Zoning: Zoning is defined as the creation by law, or the sections or zones such as residential, commercial, industrial, civic, institutional and recreational in which the regulations prevent misuse of lands and buildings and limit their heights and densities of populations differing in different zones. Any planned city should involve residential zone, commercial zone, industrial zone, civic zone, institutional zone and recreational zone. The project zoning has been done in the upcoming approach. The zoning has been undertaken in the area for the project which measures about 40 km² and has led to demarcation of boundaries and allocation of plots to certain zone. These involve various divisions and are depicted below:

i) Sector Alpha: Sector Alpha is a core residential sector in which the residential options are deemed as per volition. This sector provides residential options in form of self constructed villas without any prior division of plots or even the demarcation of boundary. This sector is the core residential area of the project with plots not demarcated for the reason that desired plot sizes and shapes (though rarely) be provided to the people demanding such a type of residing facility. This sector lies at the bank of river jhelum which flows on the northern side of the area. The topography and general makeup of this area is quite unique and distinct with trees lining different plots. The plots are in continuity and surround an already existing village named poolia. The anticipated community development will take place around this village. This sector will not be too densely populated and will be considered as a notably eminent tycoon area owing to its location and demographic features. The road plan of the sector consists of a road that connects it to the sector beta and the Duru-Verinag road. The stress will
be laid on maintaining the tree cover in the area and the plots will be shaped accordingly in view of the area of plot required by the customer.

There is a very unique feature of sector Alpha in this project. This sector contains a dam which was built for agricultural purpose. This dam is in the form of a trapezoidal rectangular tank. Its width is 60 meters and its length is 200 meters. It is used for irrigational purposes. It can also be used for electric power production as the supply of water is perennial.

ii) Sector Beta: Sector Beta is a sector next to sector alpha towards the south. This sector consists of two parts. One is the residential area and the other is the civic zone of the sector. Sector Beta has a planned residential area to ease the process of plot distribution and construction. The plots in this sector are demarcated by the development authority as a sample so that there remains no other issue of replanning which is generally a very tedious task. The other part of the sector is the civic zone.

This sector consists of two zones i.e. residential zone and civic zone but since we are discussing housing so we will mention the features of residential zone of this sector here. This sector comes on the southern side of the sector alpha. It is surrounded by other sectors namely sector rho 2 on the western side. In this sector there will be two types of roads. One will be double lane which will be separated by the islands in the middle with rich tree cover. The other roads which will be running into the interior of the sector on inside routes will be single lane. The standard lane width which will be followed is 3.75m per lane. This sector contains plots of various sizes. The different sized plots vary in price. The smallest of the plots are of square shape with side of about 50 feet. There are such 138 plots in sector beta. These plots will be supporting villas of the people which will be three storeys. These villas will be constructed as per authority plan and rented out or sold to families in due number of stories to accommodate more working population. This is done with a view that residential towers are not constructed in this zone. As an estimate this sector is thought to be accommodating about 2000 people.

Other than this there are about 44 plots which are kept for agricultural recreation for making the sector self reliant. People can acquire desired plots from these long strips and practice kitchen gardening.

In addition to this, there are about 8 big plots which will be used for parking, on spot fire fighting facilities, small market catering to daily needs of the residents. Other plots will be made into gardens and used for recreational purpose. The rest of the area which not specified in the plan map will be continued as agricultural land.

The civic zone of this sector includes all the public buildings mostly administrative buildings such as municipality or corporation, town hall, secretariat, law courts, post offices, auditorium etc. The area reserved for civic centre is almost in the heart of residential areas to facilitate easy access to the residents. There are a total of eight plots in the sector which are specified for particular uses. While designing this sector, the architectural excellence is laid focus. A rectangular patch of land is
selected and at the centre of it stands plot 2 which is sandwiched between plot 1. Plot 4, plot 3 and plot 5. The central plot is square in shape and centre of all the attention of the visitors. It will host an auditorium which will be made circular (as shown in the plan below). The road will run around the auditorium area and lead to plot and plot 3. Plot 1 is specified for court. It has a vast expanse and the shape of the building is specified in the plan. There is ample space provided for foreground in the plot 1. Similarly, plot 3 is identical to that of plot 1 which is kept for building a museum that shall contain the historic, scientific and other antiques. In both plot 1 and plot 3 foregrounds, there is a big roundabout and two big fountains around which the roads run. Plot 7 provides space for a central town hall with ample space around. There is a main approach road between plot 7 and plot 6. Plot 6 is kept reserved for parking and has enough space so as to accommodate almost all vehicles visiting the civic centre. Plot 8 is kept for post office and the entry is provided from main road not from inside of the rectangular plot. It can however be linked. Plots 4 and 5 are reserved for the rest of the government offices.

iii) Sector Gamma: This sector is the institutional area and consists of plots for construction of schools and colleges. Sector gamma is an area which specified for educational buildings like schools and colleges. For this purpose, a picturesque and quaint area in the lap of mountains is specified by hills so as to make it a serene environment for studies. This is located on the southern side of road connecting the villages of Badhar moona and sadiwara. This sector is further divided into two sections by a road that runs in middle to reach lower munda. The eastern plots are kept for the colleges and the western side is reserved for the schools. There are about eleven such plots for the schools and six plots for colleges. The establishment of colleges is subject to allowance by the government education department but as an estimate, there should be colleges of different streams present like the technical colleges, science colleges, arts colleges etc. As a requirement of land, these plots can be combined for a single college or university or can be even divided subject to shortage. At the end of the college plots and away from the bustle of educational zone, a plot is kept for the library. This library will be independent of the schools and colleges and will be served as a central library of the whole town. The establishment of this library requires a compilation of books touching almost every subject and The advantage of this zone is that even at present there is satisfactory road connectivity to the area and infrastructure development options are plenty. As per the proposed plan grid pattern of roads will be followed in this sector. After the city is completely developed the transport system will be on route the sector gamma and continuous services will be provided for the students residing in the residential areas of the city. The point worthy of mentioning here is that the schools or colleges provided are assumed to be private owned by the people living in the project city for the convenience of local residents.

iv) Sector Delta: Sector Delta is a residential Zone which lies on the other side of river Jhelum. It consists of two parts which are interconnected namely Delta 1 and Delta 2. This sector is a core residential area.

This sector is a very unique one owing to its location that places its residential area between the bareen and seldom planted hill on the northern side of the river jhelum flowing through the valley.
region. This sector is proposed to be connected through two routes. One directly from the dooru and the other from the end of bridge connecting the two banks of jhelum river. This sector is divided into two zones i.e. Delta 1 and Delta 2.

Delta 1 lies at the direct access from dooru town. This is the most finely planned area of the town with all of the plots demarcated. Since this is the largest of the residential sectors, the roads are quite wide with two lane road on both direction with island separating the two directions. This is the main road that runs through the sector delta 1. There is a central round about which diverts the traffic into different areas of the sector. The standard size of the lane is followed i.e., 3.75 m. Rest of the roads running into the sector are double lane with no islands in between. These roads reach each and every spot of the sector and provides door to door service for the residence. As per the proposed plan, grid pattern of roads will be followed in Delta 1. In this sector there are two types of residential plots. One type of plots are square shaped with side of about 50 feet. In the sector delta , there about 652 such plots. Here in this sector, these plots will be directly sold out the people for construction of villas for residential purposes. There other type of plots in this part of sector i.e. delta 1 are also square but are larger in size than the former ones. The dimension of side is above 60 feet. In delta 1 there are about 150 such plots. These are costlier. Yet another type of plots available for residential purpose are even larger. They are rectangular in shape with dimensions of about 60×80 feet and can accommodate quite a large villa with enough space around for gardening or similar purposes. In this portion of the sector, there about 32 such plots. In addition to these there are 17 long strips of land which are kept for agricultural recreation and kitchen gardening. People can acquire these pieces of land and practice farming or kitchen gardening. There are two very big plots kept for parking purpose. The sector is lined by vegetation at every nook and corner. There are green belts separating residential areas from main roads. There are public parks which are located surrounding the houses and also within the neighborhoods. The roundabouts are decorated and maintained by the development authority. There is a big plot combining delta 1 and delta 2. It is kept for local market. Delta 1 is estimated to be accommodating about 4000 people.

Delta 2 is located next to Delta 1 on the eastern side on the same side of the river. It is a unique in a sense that it is like a residential society which combines the villa plots and residential flats in the high rise buildings. There are four small parking plots in this area. Pertaining to the residential plots, the number is 95. These are the small square shaped plots same as in delta 1. The next i.e. larger square shaped plots are about 25 in number and the large rectangular ones will be about 20 in number. There are three plots for residential high rise buildings anticipated to be about 10 stories high. Each of these have at least 50 flats in one floor. Delta 2 though small in size, accommodates highest number of people due to high rise buildings. In delta 2 as well, grid pattern is followed. An anticipated figure is about 8000 people residing in this area. So a total of about 12000 people will be residing in sector Delta. The layout of the sector Delta is illustrated in the following plan.

v) Sector Omega: This is a sector which caters to shopping needs of whole new project town. It consists of three divisions namely C Omega 1, C Omega 2 and C Omega 3. This sector contains business Centre and shopping centre of the town.
C Omega stands for Capital Omega. It is named so because most of the economic activity and capital revenue is centered on this sector. This is developed into a huge market area. This sector contains business centre and shopping centre. Both of these include same marketing activity of selling and buying the products and may look alike but there is a big difference between business centre and shopping centre. The biggest advantage of the site selected for the business and shopping centres is that the railway station lies almost within the sector which makes it very easy to import and export goods. Hiller Shahabad is the name of railway station which is literally the first railway station inside the valley and falls almost within the sector C omega. Due to this railway station, the site of sector C Omega acquires immense importance. The sector C Omega is divided into three further divisions' i.e. C Omega 1, C Omega 2 and C Omega 3. Let us discuss all of them one by one along with illustrations.

C Omega 1 is an area which is a business centre along with a small portion kept for shopping centre of daily usage mode. It harbors different types of shops and business units of small as well as high economic stature. C Omega 1 is divided into five zones depending upon the kind of business activity which allotted these zones. These include: Omega 1, Omega 2, Omega 3, Omega 4 and Omega 5. There is a very large square in the middle which is completely surrounded by sectors Omega1 to Omega5. This will be turned into a central garden cum assembly area where the visitors may take a break. This square is named as orchard square.

Omega 1 is the most frequented of all the zones because it contains a central parking which accommodates the vehicle coming into C Omega 1. It contains almost more than 120 shops and the buildings are firstly thought to be single storied but construction will be undertaken so as to support more than one storey. It is done with a view that since this is the first planned market established in Kashmir, its demand may grow and more traders may be attracted towards C Omega 1. Omega will mostly contain karyana stores and dry fruit shops which are aimed at exporting the Kashmir’s native dry fruit. The shops can be combined to give a large mansion to a business man depending upon the options available at the time of lease. Omega 1 also contains freezer rooms and ware houses. Ware houses can be used by the shop and store owners of Omega 1. But freezer rooms are particularly meant to be used by shopkeepers of Omega 2.

Omega 2 is next to Omega 1 and is separated by a road in middle. Omega 2 contains mostly fruit shops and ware houses. It doesn’t contain freezer rooms. The fruit sellers and business men store fruits in the ware houses for a short period and in freezer rooms for long time. Omega 2 is a very important zone as it centres the fruit trade of Kashmir and can very possibly emerge as the joint fruit mandi of Kashmir since it is planned and anticipated to accommodate large number of sellers. In Omega 2 there are almost 80 shops of average size and about 40 shops which are larger. These will also be constructed as single storey but provision in foundation will be that of more than one storey so that whenever need arises, the stories can be extended so as to accommodate more business men.

Next to Omega 2 in anti clock wise direction is Omega 3. This is a non vegetarian market selling chicken and mutton. There are slaughter houses and freezer rooms in this region. This region is made
big to accommodate about 180 shops. This market will not only cater to needs of project city but since it is a business centre and not a shopping centre, it is quite natural to understand that these business units have been established at such a large scale with a view of exporting the products. So the meat traders like the fruit market can set up large business to export the meat to whole of the valley and even other parts of state and country. It is quite possible as the railway station is only a few kilometers away and goods transportation is very easy. The business men can also store meat in the freezer rooms that will be made available to them in Omega 3.

Omega 4 is next to Omega 3 and contains a huge vegetable mandi which is aimed at receiving the vegetable produce of whole Kashmir and dispatching it and at times exporting it as well. It will also receive vegetables from outside the state as this is the first place from where vehicles and trains pass while entering Kashmir. It also contains shops which are kept there for bakery shops and food cafeterias catering to the visitors, and since the sector is well frequented, the business of cafeterias and small scale restaurants is expected to grow.

Next to Omega 4 is Omega 5 which touches Omega 1. Omega 5 is more a shopping centre than a business centre. It is reserved for meeting the daily requirements of the local population. It will harbor clothing shops, hardware stores, most importantly, the departmental stores and other necessary shopping units like milk and milk products etc.

C Omega 2 is another area lying between C Omega 1, C Omega 3 and rho 1. C Omega 2 houses banks and residential flats for the employees. It also contains plots for private business offices and offices for other purposes. The road pattern on the outside is adjusted as per the tree cover and topography of the area. On the inside there will be grid pattern. The plan of this sector is illustrated here. The plots specified for banks are kept open depending upon the area of plot required by the bank.

C Omega 3 is somewhat larger region which is solely a shopping centre. It contains a central market place which is surrounded by plots for shopping malls and hotels. The central market contains a central circular park with a row of restaurants surrounding it. The row of restaurants will in turn be surrounded by a row of shops which will be directly taken by brands displaying their outfits and many more articles. The road pattern which is followed in the central market is radial and circular pattern. The concept of central market is really astounding because a bustling market surrounded by high rise malls and hotels will be quite attractive in a place like Kashmir and not only foreign tourists but also the locals will be quite attracted by the pleasant and congenial atmosphere in such a market. This whole region i.e. C Omega 3 is connected by roads from all sides which makes it quite easy and convenient for people to enter and leave the area. C Omega 2 also harbors the largest fire station in the town. It is provided here due to the reason that from here it has got easy access to anywhere among the non residential areas. Residential areas are generally provided with small scale fire fighting units. In case of any emergency, fire brigades can be dispatched immediately from here. Next to fire station there is a huge parking meant for easing the visitors with parking problems.
vi) Sector Rho: This sector lies almost in the heart of the anticipated town. It consists of two divisions i.e., Rho 1 and Rho 2 each of them having a residential zone and a Hospital area with authority hospitals (government hospitals) and also the non-authority i.e., private hospitals.

Sector rho is an area which is developed partly into a medicinal area and residential area. The residential aspects have been discussed earlier. This sector is divided into rho 1 and rho 2. Rho 1 lies on the side of the sector C Omega 3 and C Omega 2. This sector houses plots for private hospitals only. Furthermore, there is a medical market in this sector which will be developed into shops where medicinal facilities would be made available. It is encircled in the plan. Rho 2 lies on the opposite side i.e. eastern direction and has a very big plot for government hospital. There is a big strip of land in form of two plots which will be made into parks so that recreation is served at the hospital area, Furthermore there is a piece of land named authority medical market and labs. It generally contains all the testing labs and also the shops for selling medicines.

vii) Batagund Industrial Area: This is the industrial area for the town and is thought to be accommodating all the industries which run the economy and production of articles that are required in the town. Worth mentioning here is that only those industries will be allowed to establish themselves which cater to living needs of the people of this project town not any mass production company.

In this case there are no heavy industries allowed to be setup in the region as being part of the planning project. It is due to the reason that our primary aim to lay emphasis on the city and making it self-reliant. For this purpose an industrial area is setup only a few kilometres away and only light industries are allowed in the area like those manufacturing the products of domestic use, furniture, assembling of small machines, knitted goods, boots, products of confectionary etc. This area is located at batagund which stands only a few kilometres away and also road connectivity is up to mark. It is from here that products are supplied to the town and also the surplus amount is exported depending on the production unit.

There is another area kept for industrial purpose. It is located in sector C Omega 3 which is the shopping centre. Here minor industries like bakeries, laundries etc. are allowed because they don’t create any kind of nuisance to the inhabitants and are required to be near the market place. There is a very big plot next to the fire station in the sector C Omega 3 which is reserved for the minor industries.

viii) Recreational Area: In the project, the recreational area is planned in a vast area. It borders and lies towards south east of sector beta. There are two types of recreational areas in the sector i.e. passive recreational area which includes public parks and active recreational areas which include play grounds, ice sports stadium, foot ball stadium, cricket stadium, indoor games stadium, basket ball courts, badminton courts and tennis courts.
IV. Master plan

A development plan or a master plan for a town plan may be defined as a general plan for the future layout of a city showing both the existing and proposed streets and roads, open spaces, public buildings etc. A development plan is prepared either for the improvement or a new town to be developed on virgin soil. Thus, a development plan aims at controlling the future growth of a town along pre conceived and pre determined paths.

To give graphical representation to various ideas and proposals contained in the development plan of a town, various maps and drawings are to be prepared. Following are the details contained in the usual drawings prepared for the development plan: Boundaries of land of different types such as residential, agricultural, industrial, etc., different zones, landscape features, location of public buildings and town centres, open spaces including parks and playgrounds, position of natural springs, rivers and streams, road systems; etc.

![Master Plan](image-url)
V. Summary and conclusion

Site specification, infrastructure development and planning of a town is an intensive planning of a town in the hills of Himalayan region. This project is chosen to be executed in the state of Jammu and Kashmir because of the reason that no city has been planned in the region so far fulfilling the requirements of complete planning. Since in the state like Jammu and Kashmir, there is no sudden population explosion or inflow, so planning an area solely with a need to accommodate the growing population gets marginalized. There are some regions which are planned e.g. part of Jammu city, part of Bandipora town etc. but these are only the extensions of cities and towns with no independent existence. The site specification has been done considering the various factors.. Here another factor i.e. providing residential, economic and regional centres, which they have not experienced, in the past becomes a priority. So keeping this in view, a location within the boundaries of Kashmir Valley is selected which shall behold the regional and cultural values, architectural influences and modification, modern day needs and future expectations. For this purpose, a place which lies at the gate way of Kashmir is selected. This lies near the famous spring called Verinag. This region is well connected by roadways and railways with the first railway station within the boundaries of the area selected.

The town shall introduce a new way and standard of living for the people. Here every facility for modern day living will be provided with a blend of local traditions and culture.

The housing opportunities are plenty with many options to choose from e.g. privately constructed villas, rented villas, built up houses, residential towers etc. The residential sectors are placed at serene locations. This place will be developed as an economic hub with a large scale business including export of local entities and import of foreign goods and location caters well for the purpose. There shall be shopping malls and other light shopping complexes in addition to business areas. In addition, there are separate sectors each for institutional purposes, hospital requirements, industrial needs, recreational purpose etc.

VI. References