

A REVIEW OF CHANDIGARH- PLANNED CITY OF INDIA

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Abstract: Cities of emerging economies are their engines of growth, because if villages cater to agriculture and allied activities, then cities to the industry and service sector. Expansion of markets, international assistance and aid, globalization, etc. all contribute to the rapid urbanization and simultaneously to the problems associated therewith. With the premature expansion of cities, in the absence of proper planning and preparedness, the challenges and repercussions of this haphazard growth become more evident and serious. In India, Chandigarh is one of the planned cities to solve problems possible and practical solution in the form of townships, for such ballooning cities.

Keywords: Le Corbusier, Capital Complex, Les Sept-Vice Circulation

I. INTRODUCTION

CHANDIGARH, THE DREAM CITY OF INDIA'S FIRST PRIME MINISTER, SH. JAWAHARLAL NEHRU, WAS PLANNED BY THE FAMOUS FRENCH ARCHITECT LE CORBUSIER. PICTURESQUELY LOCATED AT THE FOOTHILLS OF SHIVALIKS, IT IS KNOWN AS ONE OF THE BEST EXPERIMENTS IN URBAN PLANNING AND MODERN ARCHITECTURE IN THE TWENTIETH CENTURY IN INDIA.

The construction of capital city of joint Punjab was started in early 50s. The city Chandigarh was declared a union territory in the year 1966 with joint capital of both the states of Punjab and Haryana. Chandigarh derives its name from the temple of "Chandi Mandir" located in the vicinity of the site selected for the city. The deity 'Chandi', the goddess of power and a fort of 'garh' laying beyond the temple gave the city its name "Chandigarh-The City Beautiful".

II. SITE SELECTION

WITH THE PARTITION IN THE SUBCONTINENT, LAHORE, THE CAPITAL OF UNDIVIDED PUNJAB FELL WITHIN PAKISTAN, LEAVING EAST PUNJAB WITHOUT A CAPITAL. TO SELECT A SUITABLE SITE, THE GOVT. OF PUNJAB APPOINTED A COMMITTEE IN 1948 UNDER THE CHAIRMANSHIP OF P.L VERMA, CHIEF ENGINEER TO ASSESS AND EVALUATE THE EXISTING TOWNS IN THE STATE FOR SETTING UP THE PROPOSED CAPITAL OF PUNJAB. HOWEVER, NONE WAS FOUND SUITABLE ON THE BASIS OF SEVERAL REASONS, SUCH AS MILITARY VULNERABILITY, SHORTAGE OF DRINKING WATER, INACCESSIBILITY, INABILITY TO COPE INFLUX OF LARGE NUMBER OF REFUGEES ETC. SITE WAS SELECTED IN 1948 TAKING INTO ACCOUNT VARIOUS ATTRIBUTES SUCH AS ITS CENTRAL LOCATION IN THE STATE, PROXIMITY TO THE NATIONAL CAPITAL &

AVAILABILITY OF SUFFICIENT WATER SUPPLY, FERTILE OF SOIL, GRADIENT OF LAND FOR NATURAL DRAINAGE, BEAUTIFUL SITE WITH THE PANORAMA OF BLUE HILLS AS BACKDROP & MODERATE CLIMATE. IT WAS DECIDED TO BUILT A NEW CAPITAL CITY CALLED CHANDIGARH ABOUT 240 KMS. NORTH OF NEW DELHI ON A GENTLY SLOPING TERRAIN WITH FOOTHILLS OF THE HIMALAYAS THE SHIVALIK RANGE OF THE NORTH AND TWO SEASONAL RIVULETS FLOWING ON ITS TWO SIDES APPROXIMATELY 7-8 KMS APART. THE GEOGRAPHICAL LOCATION OF THE CITY IS 30 DEGREE 50' N LATITUDE AND 76 DEGREE 48' LONGITUDE AND IT LIES AT AN ALTITUDE VARYING FROM 304.8 TO 365.76 METERS ABOVE SEA LEVEL. THE AREA OF UNION TERRITORY OF CHANDIGARH IS 114 SQ KM. ONLY WITH 22 VILLAGES FALLING IN THE JURISDICTION OF UNION TERRITORY.

III. PLANNER

The master plan of the city was developed by American architect planner Albert Mayer and a Polish born architect Mathew Nowicki. After Nowicki's death, Swiss born French architect and planner - Le Corbusier assumed the task of creating the layout and design of the buildings of Chandigarh in 1951. He was assisted by three senior architects, Maxwell Fry, his wife Jane B Drew and Corbusier's cousin, Pierre Jeanneret. These senior architects were supported by a team of young Indian architect and planner consisting of M.N. Sharma, A. R. Prabhawalkar, U.E. Chowdhary, J.S. Dethe, B.P. Mathur, Aditya Prakash, N.S. Lanbha and others.

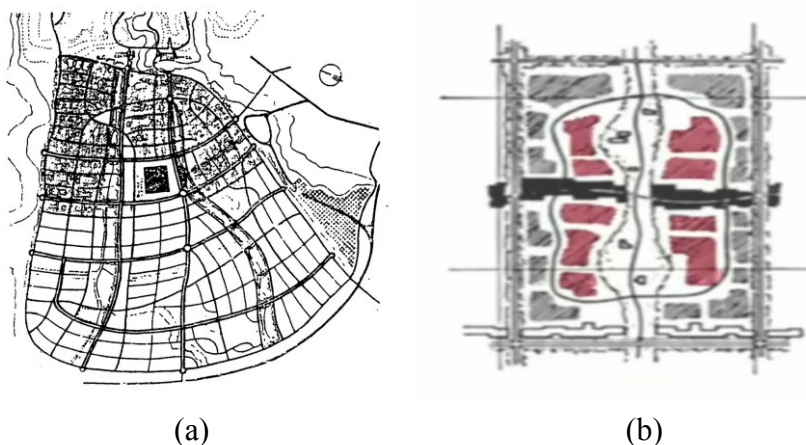


Figure 1: Plan by (a)Mayer And(b) Le Corbusier
Source: Chandigarh Master Plan – 2031 Draft

IV. LE CORBUSIER'S PLANNING

The Master plan prepared by Le Corbusier was broadly similar to the one prepared by the team of planners led by Albert Mayer and Mathew Novicki except that the shape of the city plan was modified from one with a curving road network to rectangular shape with a grid iron pattern for the fast traffic roads, besides reducing its area for reason of economy. The city plan was conceived as post war 'Garden City' wherein vertical and high rise buildings were ruled out, keeping in view the socio economic-conditions and living habits of the people. Due to economic constraints, the master plan was to be realized in two phases, catering to a total population of half a million. Phase-I consisting of 30 low density sector spread over an area of 9000 acres (Sector 1 to 30) for 1,50,000 people whereas Phase-II

consisting of 17 considerably high density Sectors (Sectors 31 to 47) spread over an area of 6000 acres for a population of 3,50,000.

Le Corbusier conceived the master plan of Chandigarh as analogous to human body, with a clearly defined

- head (the Capital Complex, Sector 1),
- heart (the City Centre Sector-17),
- lungs (the leisure valley, innumerable open spaces and sector greens),
- the intellect (the cultural and educational institutions),
- the circulatory system (the network of roads, the 7Vs) and
- the viscera (the Industrial Area).

The primary module of city's design is a **Sector**, a neighborhood unit of size 800 meters x 1200 meters. Each SECTOR is a self-sufficient unit having shops, school, health centers and places of recreations and worship.

- **Head-The Capital Complex**

The Capital Complex is the focal point of the city, both visually and symbolically whose architectural whose architecture is considering to be the most representative of Le Corbusier's work. The Capitol Complex is the embodiment of the spirit of exaltation, power & permanence experienced by Indians on acquiring self government after long, bitter struggle for freedom. The Capitol area was designed as a great pedestrian plaza with motorized traffic confined to sunken trenches. The complex is planned on a cross axis wherein rigid symmetry has been avoided in placement of various buildings. The three major components of the Capitol are the Assembly (Legislation), the Secretariat (Administration) and the High Court (Judiciary).

- **The High Court**

The High Court building is L-shaped in plan with the long façade facing the capitol plaza. The building has a rectilinear frame with eight nos. courtrooms located on the main facade, separated from the larger 'Chief Justice' Court by a monumental, pillared entrance, extending to the full height of the entrance. The dimensions of the overall design were governed by the Modular combined with triangular regulating lines. The High Court building, when completed in 1956 proved to be insufficient in space. Therefore, an extension (annex) was proposed and completed in 1962 in which additional courtroom spaces were provided, this is a brick structure consisting of a group of blocks receding to the rear of the High Court block, neither asserting visually, nor disrupting the existing Layout plan.

- **The circulatory system**

Le Corbusier's traffic system followed Mayer's lines but was more elaborate; he called it Les Sept-Vice Circulation, or Seven Vs. Le Corbusier had identified the motor car as the central factor of modern town planning. The 7Vs are no longer the sinister instruments of death, but become an organized hierarchy of roads which can bring modern traffic circulation under control'.

- **Living**

Le Corbusier planned that every dwelling should have three elements of Sun, Space and Greenery. The housing in the city can be sub-divided into two parts Government housing and Private Housing. Government housing in the city was initially divided into 13 categories

ranging from house for the Chief Minister to the lowest paid class-IV employee. In addition hostels and flats for members of the Legislature were also planned.

V. CONCLUSION

- It seems that the planning of the Chandigarh is said to be successful compared to the other plan city of the India.
- There is a need to provide good governance to the city. To achieve this proper planning of the city is required.
- Due to unexpected population growth, the planning of Chandigarh is modified. And the sector no. is extended up to 81. And the result capacity of water treatment plan, water distribution system etc. has to be updated.

REFERENCES

- [01] Karnik, "Performance of TCP congestion control with rate feedback: TCP/ABR and rate adaptive TCP/IP," M. Eng. thesis, Indian Institute of Science, Bangalore, India, Jan. 1999.
- [02] Government of India (2006). 'Chandigarh Development Plan, Finance Secretary', Jawahar Lal Nehru National Renewal Mission, Ministry of Urban Development, Government of India.
- [03] Municipal Corporation Chandigarh Retrieved 25 August 2010 from <http://mcchandigarh.gov.in/working.htm>
- [04] Jerry, A. and Nathanson, M.S., (2003). Basic Environmental Technology, Prentice – Hall of India Private Limited, New Delhi.
- [05] Kathirvale S., Yunus MNM, Sopian K., S, AH (2003). "Energy Potential from Municipal Solid Waste in Malaysia. Renewable Energy".29, 559-567.
- [06] Garg V., "Perspectives of Municipal Solid Management In India: A Case Study Of Chandigarh"
- [07] Sandhu, K. (2010). "A Project Called Delay." Chandigarh Tribune
- [08] Chandigarh City Develop Plan-2031.
- [09] Report on formulating a master plan for Chandigarh by Town and country planning organization.
- [10] www.chandigarh.govt.in
- [11] www.bdonline.co.uk
- [12] www.tourism.chandigarh.govt.in
- [13] www.highcourtchd.gov.in