

Critical Analysis of Land Use Planning along Kundli Manesar Palwal Expressway

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Abstract - Globalization and liberalization of Indian economy has accelerated investment in different parts of the country. The constraints of space and high costs associated with it are causing spill-over of economic activities from urban economic centers which could be absorbed by neighboring states in haphazard way if it is not well planned in a sustainable way. Delhi is the major economic urban center in north India. With shift in Indian economy from agriculture to service industries and burst of population, Delhi is having lot of opportunities for economic activities and growth in different sectors within Delhi as well as for cities in other neighboring states with economic opportunities isochrones of different values centering Delhi. NCR is a high intensity, multi-level and multi-modal travel region. There is high intensity of intra-regional movement within NCR amongst Delhi and the regional centers & sub-regional centers and amongst themselves. Kundali – Manesar – Palwal (KMP) Expressway has been planned by NCR Planning board with the objective of uniform distribution of splurge of the economic activities bursting out of Delhi's Growth. Proposal for KMP global Corridor by NCR planning board is not executed properly and participation of neighboring states which surrounds Delhi are in rush to absorb the spill - over effect of the development as fast as possible and want to take its largest share. For absorbing the aforesaid benefits, Government of Haryana, which surrounds Delhi from three sides, have proposed 13 theme Cities near the KMP corridor, which may adversely affect the mission of NCR Planning Board and envisaged sustainable development. The paper critically examines the land use planning by Town and Country Planning Haryana along KMP expressway and suggests alternatives.

Keywords – Expressway, Region, Spill-over effect, Sustainable development, Theme cities.

I. INTRODUCTION

Transport affects our daily lives in its myriad forms. It influences economic development, population distribution, the shape of cities, energy consumption, access to markets and quality of life. It contributes substantially to gross domestic product, absorbs large investments and provides employment for millions of people. Globalization and liberalization of Indian economy has accelerated investment in different parts of the country. The constraints of space and high costs associated with it are causing spill-over of economic activities from urban economic centers which could be absorbed by neighboring states in haphazard way if it is not well planned in a sustainable way. Delhi is the major economic urban center in north India. With shift in Indian economy from agriculture to service industries and burst of population, Delhi is having lot of opportunities for economic activities and growth in different sectors within Delhi as well as for cities in other neighboring states with economic opportunities isochrones of different values centering Delhi.

For the purpose of achieving sustainable development of the region affected by Delhi's growth and to distribute this economic impulse uniformly National Capital Regional Planning Board was constituted. NCR is a high intensity, multi-level and multi-modal travel region. There is high intensity of intra-regional movement within NCR amongst Delhi and the regional centers & sub-regional centers and amongst themselves. KMP Expressway has been planned by NCR Planning board with the objective of uniform distribution of splurge of the economic activities bursting out of Delhi's Growth. One of the major objectives of the proposed Expressway is to provide smooth and quick transportation of surplus food grains, milk and milk products, fruits and vegetables from Haryana, Punjab, Himachal Pradesh and Jammu & Kashmir to other parts of the country without slaying efforts in transportation crossing Delhi, environmental degradation because of the pollution due to this transportation, burden on Delhi's infrastructure facilities.

Envisaged proposal for KMP global Corridor by NCR planning board is not executed properly and participation of neighboring states which surrounds Delhi are in rush to absorb the spill-over effect of the development as fast as

possible and want to take its largest share. For absorbing the aforesaid benefits Government of Haryana which surrounds Delhi from three sides have proposed 13 Theme Cities near the KMP corridor which may adversely affect the mission of NCR Planning Board and envisaged sustainable development.

For the purpose of understanding the existing proposal of land-use along KMP by T&CP Haryana the study of the draft development plan 2021 AD has been done.

II. STUDY OF KMP GLOBAL CORRIDOR DRAFT DEVELOPMENT PLAN 2021 AD

The alignment is located in Sonipat, Jhajjar, Gurgaon and Faridabad district of Haryana. The KMP corridor covers a portion of the Haryana sub-region & majority of ecologically sensitive area of the sub-region fall in the corridor.

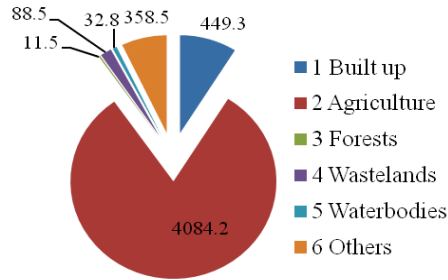


Figure 1. Existing Land-use (in sq. km.) analysis for Existing proposal by T&CP Haryana

Table: 1- Proposed Demographic profile of various districts of Haryana for 2021

Districts Town Names	Proposed Population 2021 Development plan	Proposed Population 2021 NCR Plan
Faridabad	2,900,275	2,500,000
Rohtak	748,501	600,000
Gurgaon	3,700,000	1,650,000
Rewari	450,000	400,000
Panipat	776812	700000
Palwal	538328	400000
Jhajjar	478777	-
Sonepat	1450000	100000

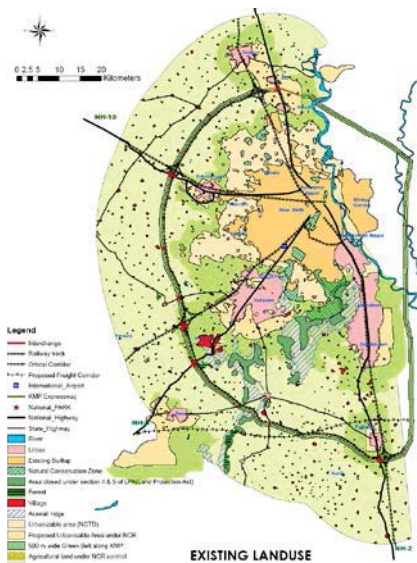


Figure 2. Existing land-use of NCR along KMP



Figure 3. Hierarchical system of settlements around NCT in Haryana

The existing land use analysis through the remote sensing data indicates that the "agricultural use", which includes cultivated land, fallow, plantation, farmhouses and horticulture being the predominant use of land, constitutes 79.52%, (24,04,964 hectares) of the total land area of NCR as shown in Fig. 1.

As can be seen from the demographic profile (Table -1), existing land use (Fig. 2) and hierarchical system of settlements around NCT (Fig. 3), the growth of NCR is towards Gurgaon-Manesar, Faridabad-Palwal, and the proposal also doesn't focus on uniform distribution of economic activities, infrastructure facilities, growth opportunities for the region.

III. ANALYSIS OF EXISTING LAND-USE PROPOSAL OF T&CP HARYANA AROUND KMP AND ALTERNATIVES

By through study of the KMP Global corridor draft development plan 2021 AD following inference has been drawn by us:

A. Population Migration due to Theme Cities in NCR

Proposals are made for the expressways around Delhi and within Delhi in the form of KMP expressway. Orbital rail corridors have been proposed. Rapid rail connectivity has been proposed for the better connectivity of the region. NCR planning board proposal was for releasing the pressure on the existing and proposed infrastructure facilities on NCT and share the economic development with the region.

Although in the proposal of the theme cities, residential facilities for 66558 habitants are proposed. But, in actual when these cities will be fully functional they will attract more population as they are theme cities, and as per their brief, these cities will require specialist manpower. The special manpower demand cannot be fulfilled by the habitants of nearby villages and cities. So, this will be counter the proposals of NCRPB as well as will burden existing infrastructure facilities of the region.

B. Land-use of Abutting Land to KMP and Utility of KMP

Land suitability matrix of the report of KMP global corridor shows that land abutting KMP corridor is highly fertile. This region feeds Delhi with milk and other agro products. Addition of more population to this region will eat up this fertile land. So, the utility of KMP corridor should have been kept as transportation facility and the land around Delhi might be left for the natural development of existing population using magnet cities around Delhi as counter-magnet for population migration by using proposed transport linkages for the regional development, which will also fulfill the goal of NCR planning. 30 to 35 km strip around urban area are mostly engaged in vegetable farming & milk production & its supply to urban area.

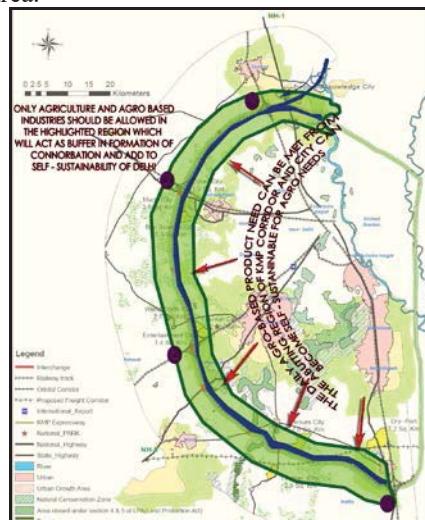


Figure 4. Proposed agriculture zone and canal along KMP by authors

In Sonapat, international agriculture market is under development. Three new agro based spokes should be proposed uniformly distributed along KMP, which may be at Bhadurgarh, Pataudi & Palwal. These cities will consist storage

facility, food processing and packing units, milk production & processing units, seed development units, cotton units, animal husbandry.

This fertile land can be kept for the purpose of agriculture or agro based industries which can keep feeding Delhi for its daily needs. As the addition of transportation cost to the daily need products will increase the rates of products. Also the processing units setup for the agriculture of the region in nearby zone will add to the value of the products. This can be decided at policy level that no further CLU shall be issued in this region. (Fig. 4)

B.1 NCR environment

Conservation of green area around NCR will lead to reduction in deterioration of NCR environment and will add to breathing spaces for the region.

B.2 Migration from rural to urban

The development of agricultural belt and agro-based industries will help in reduction in migration from rural to urban area by strengthening the rural economy. It will help in shaping the agriculture sector as a industry.

C.1 Ground Water Recharge System for NCT

Area along Yamuna has high potential for ground water recharge. No development should be allowed in this area. A separate canal system should be developed along KMP which will recharge ground water of the agricultural belt as well as NCR during rainy season (Fig. 5). Along with this rain water harvesting system for this region shall also be developed which will boost the ground water.



Figure 5. Proposed water supply and drainage system for NCT by authors

C.2 Sewage water disposal

NCR produces huge amount of sewage water, so, the drainage system of Delhi and the cities abutting Delhi should be directed towards this agricultural land which will help in growth of crops and will act as natural filtration system for water.

D. Analysis of Location of Proposed Theme Cities along KMP Global Corridor

Although the aforesaid proposal cannot be implemented completely because of implementation of some of the proposed theme cities by government of Haryana, so for integration of current proposal and my proposal, analysis of the locations of theme cities along KMP corridor has been done and new locations are proposed.

D.1 Location of Fashion City

Location of cities proposed is not proper. Panipat is also well connected with national capital Delhi and new proposed Delhi-Mumbai industrial corridor by road and rail. KMP expressway is approximately 40 km from Panipat.

Fashion city should be near Panipat (Fig. 6) as it already has potential to survive the new proposal & special policies like production of raw material & export of finished goods. This will lead to more no of people move towards Panipat & Panipat will develop like a hub of textile industry. Development of fashion city at Panipat will lead a catalytic development to diminishing Panipat textile industries.

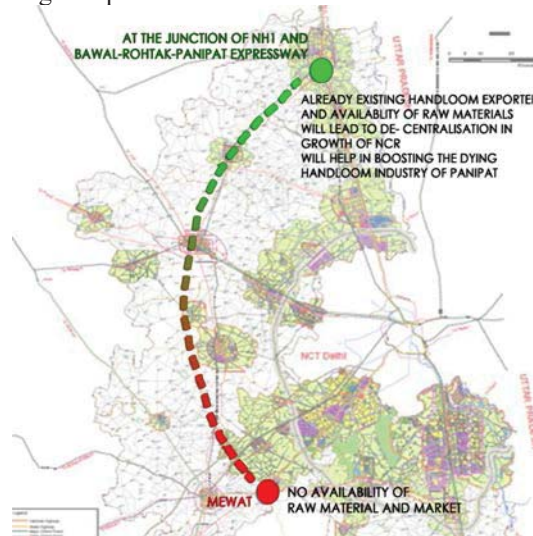


Figure 6. Proposed location for Fashion City by authors

D.2 Location of Medical City

There is uneven distribution of social infrastructure in term of medical facility provided in the region. So, for even distribution of resource it should be shifted in Rewari. There is no super specialist hospital in this region. Proposed Medicity at Rewari covers a large catchment area of industries. It covers Rewari & Mahendergarh districts of Haryana & Neemrana & Bhiwadi town of Alwar district of Rajasthan. (Fig. 7)

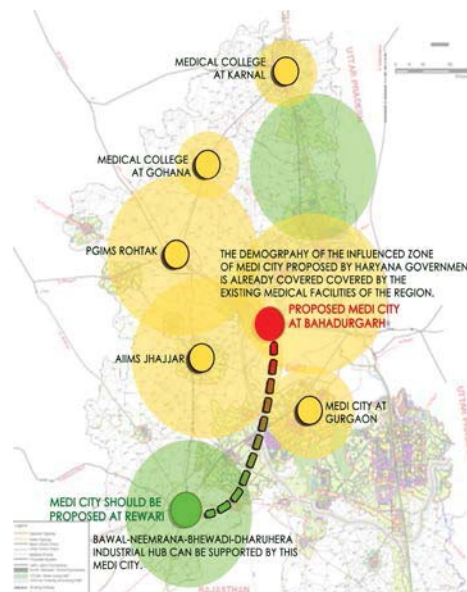


Figure 7. Proposed location for Medical City by authors

Bhadurgarh is very near to Delhi and Rohtak. Also the population of Bhadurgarh is not that much large which can support the sustainability of Medicity. On the other hand Bawal-Neemrana-Bhiwadi-Dharuhera have large industrial area (10000hact. Developed) & good economic base which can support the expensive medical facility also. Water requirement for this city can be met by developing the catchment area of Shaabi River. Already a reservoir is constructed by Haryana government in past in Dharuhera but the reservoir is not functional. This will help in rejuvenating the dead Shaabi River again and will also accomplish water requirement of a new proposed town.

D.3 Location of Leisure City

As per KMP Draft development plan location of leisure city is at near to Nuh town of district Mewat. There is no supporting facility is available at region. No physical features are present at current proposed location. So, Location of leisure should be along Damdama Lake (Fig. 8). As area around Damdama lake is hilly area which provides picturesque views & helps in tourism development. Also, Damdama Lake has large water catchment area and has the potential to support the water requirement for this city. City has low built up area which helps in restoring environment.



Figure 8. Proposed location for Leisure City by authors

D.4 Location of World Trade City and Entertainment City

EIA of these commercial cities was not done properly as it is very near to Sultanpur national bird sanctuary which houses lot of foreign birds. This area is low line area which can be used as a ground water recharge zone. Area around Sultanpur can be conserve as open & green area. Because Guragaon city have only 3-4 % green area left which is much lower than min required value of 10%. In Gurgaon Manesar urban development plan no area is reserved for open area. City has already crossed the maximum allowable pollution limit in 2007& stile increase with the increase in traffic & construction activity make the environment highly polluted.

So, city required green spaces at least for providing fresh air to its residents. So a green buffer is extremely important around the city. Also, the water level of this region is depleting at the alarming rate. The cluster of cities situated inner side of KMP (toward Gurgaon) which generate employment for five lakh population. But there is no provision of housing which lead to congestion of already congested road. The proposed city may adversely impact and degrade the existing situation (like in Noida Yamuna river front).

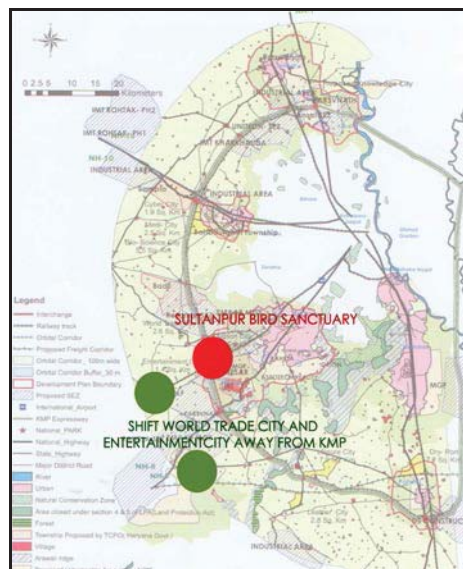


Figure 9. Proposed location for World Trade City and Entertainment City

World trade city & fashion city shall be shifted in Dharuhera towards Bawal (Fig. 9). Rewari has second lowest growth after Jhajjar in Haryana sub region of NCR. Growth rate of Rewari is approx 10 % in last decade on the other side, growth of neighboring town Gurgaon exceeds 70 %. These cities may boost the growth of the town and restrict the migration toward NCR.

IV. CONCLUSION

The inclusion of various districts in NCR should be under some development strategy instead making political decisions to take advantage of economic impulse from NCT without pragmatic basis. The NCR planning should be governed by national body NCRPB and should not be left in the hands of different states. Short term decisions should be avoided at regional level and viability of long term sustainable solutions to be crosschecked for better future. The benchmarking of various planning decisions should be done for various cities and regions affected by these cities in developing countries.

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