

Evaluation of Integrated Township by Comparison: A Review

Khultej H. Gurav¹, Prof. M. D. Mata²

PG Scholar, Department of Civil Engineering, SSGBCOET, Bhusawal, Maharashtra, India¹

Professor, Department of Civil Engineering, SSGBCOET, Bhusawal, Maharashtra, India²

Abstract— An integrated township on the sub urban areas of a to a great extent populated urban metropolitan city is the new rising pattern in the urban land situation. As a rule, coordinated townships can be characterized as "lodging plans in the public arena in urban areas of the express." The thought is conceptualized around the Live-Work-Play-Learn topic. That is, the City is imagined to give all the obliged enhancements to live, work, play and learn, making it an incorporated group whereby essential and strong capacities join to frame a smooth self-supporting city. A coordinated township is a self-reasonable township for the most part started by private engineers with a specific end goal to give, ahead of time, the courtesies and offices required by a completely prepared township. Means to concentrate the clients' observation with reference to what are the basic elements they need in a "perfect" coordinated township. This incorporates both the inward parts of a coordinated township, similar to the offices and enhancements gave, and in addition the external factors like area, network and brand esteem and so forth. The review depends on the overviews led on two distinctive coordinated townships in Pune city. Around fifty occupants spread crosswise over various wage aggregates over the picked townships have been reviewed for the review. After all the outcome development amongst Lavasa and Magarpatta city to demonstrate the genuine distinction between two major township in Pune India.

Keywords— Integrated township, sub urban areas, Live- Work-Play-Learn, external factors.

I. INTRODUCTION

The most recent in the land in the city is the idea of incorporated township. It's got up to speed so quick in the last couple of year and given the fast acknowledgment of the idea, the greater part of the ventures are being exhibited to forthcoming purchasers as incorporated townships. Strangely, a few undertakings in the city that in certainty are little independent private, additionally wind up including the standard of incorporated township. An incorporated township on the sub urban areas of a generally populated urban metropolitan city is the new developing pattern in the urban land situation. All in all, coordinated townships can be characterized as "lodging plans in the public eye in urban areas of the express." The thought is conceptualized around the Live-Work-Play-Learn topic. That is, the City is conceived to give all the obliged conveniences to live, work, play and learn, making it a coordinated group whereby essential and steady capacities intertwine to shape a smooth self-supporting city. A coordinated township is a self-economical township for the most part started by private engineers with a specific end goal to give, ahead of time, the conveniences and offices required by a completely prepped township.

Definition of Township- A Township for the most part alludes to a little geographic territory or an independent land property, going in size from 10 km² to 150 km². A township venture can be in a private possession or an open proprietorship or both. A township is regularly an independent unit and incorporates every one of the offices and pleasantries like schools, doctor's facilities, clubs, and shops and so on.

Scope - Coordinated townships normally includes private, business, recreational and different components important to make a conductive situation for living. The interest for private, business, office and corporate space is on rise and therefore there is colossal chance to create coordinated township extends and off late, interest for moderate lodging has likewise observed increment.

II. LITERATURE SURVEY

Amit Ashok Hasape , et.al. - An Integrated Township is a self-manageable township to give Amenities and Facilities (Residential, Commercial, Recreational, Public and so forth) required by a completely prepared Township. Coordinated

Townships can be characterized as "Lodging plans out in the open private organization to give moderate lodging to different segments of the general public in urban areas of the State". [1]

Rhythm Singh, et.al.- As of late, the idea of "Coordinated Townships" has been turning out to be progressively mainstream. Coordinated Townships are a structure of private, business, institutional, shopping and, now and then, modern areas. The courtesies which accompany these incorporated townships are exceedingly helpful for the occupants, and a noteworthy explanation behind their esteem; thus there is an expanded enthusiasm for coordinated townships, both from the side of engineers and in addition the clients. [2]

Ramakrishna Nallathiga, et.al.- India is experiencing a quick populace development and a going with urbanization, which converts into more populace required to be suited on urban space. As existing Cities are now thickly populated and have restricted focal framework, there exists more prominent potential for advancing urban advancement in a decentralized way through satellite townships. [3]

Deepali J. Chavan, et.al. - Building maintainable homes and making practical settlements through township arranging, conservative city designs, and urban combination have pulled in extensive concentration lately. Over and over again the townships are arranged today has been dismissed in Sustainable arranging perspective or next coming eras and thought its own particular life. [4]

Takaruzo Munyanyiwa, et.al. - Township tourism to a specific degree has been in presence in Zimbabwe since the accomplishment of freedom from pioneer governs in 1980. It has however not been efficient to wind up distinctly important and manageable for the advantage of normal nearby inhabitants. In the 1980's it was as Harare City visits that included such areas as Mbare and Mupedzan hamo Markets in Mbare high thickness suburb and also the adjusting rocks in Epworth high thickness township. The choice and consideration of a few houses in the high thickness suburb of High fields, that were once in the past possessed by freedom war saints and patriots and transforming them into traveler offices can along these lines not be said to be the start of township tourism in Zimbabwe. [5]

Gandhi Zarana Hitesh, et.al. - Presently a day's all urban areas of world confronting the issue of urbanization. Creating nations like India is additionally confronting this issue of urbanization. Huge urban communities are getting over swarmed under the urbanization. An expected 160 million individuals have moved to India's urban areas in the most recent two decades, and another 230 million are anticipated to move there inside the following 20 years. The exponential ascent in the quantity of city occupants is prompting to a steadily expanding interest for lodging and urban foundation. [6]

Pallavi Tak Rai - Monetary improvement and dynamism get patterns of pseudo urbanization to any economy, where urban focuses get to be center points of financial movement and motors of development however in the meantime, deluge of the development swells additionally set in inclinations of degeneration in the urban areas, where ecological supportability takes a rearward sitting arrangement and monetary execution increases most astounding need. [7]

III. GUIDELINES FOR TOWNSHIP DEVELOPMENT

1. Regarding the extent of territory under the class plotted and flatted advancement, the arrangement has now been made in the rules offering adaptability to the Promoter to decide the extent of zone to be given under plotted improvement and flatted advancement. In like manner, general roof of 20% gave before to flatted improvement has now been expelled.
2. Land utilize table accommodating extent of areas under various uses have additionally been altered in light of (1) above.
3. However, the width of the administration path from 8 mts. to 11 mt. on either side of the segment streets have not been changed considering its suggestion for the street width and zone which will go under the area streets. Under the present rules, least street width has been kept as 150 ft. (46 mts.) when contrasted with (100 ft.) 30 mts. given in the

current segments. The width of the administration street has been kept as 8 mts. rather than 11 mts. considering that berms on either side of the street between the segment street and the administration street should be shared, diminishing the necessity of general width of the street. The vehicle conveying limit of the street in either case will stay unaltered (52 mt. and 46 mt) and there will be no diminishment notwithstanding when street width of 150 ft. (46 mts.) is given.

Rules For Approval/Completion Of Internal Development Works In Townships:

1. Submission of Detailed Project Report (DPR)-Keeping in mind the end goal to guarantee quality advancement, it is fundamental that the engineer submits a Detailed Project Report (DPR) alongside application for endorsement to the concerned urban neighborhood body. Taking after points of interest are required in the DPR
 - (a) Layout arrange indicating points of interest of zone proposed to be used for plots, streets, open space for stop, garden and play ground and other open offices (like school, healing facility and so on.)
 - (b) Details appearing, the advancement in the encompassing territory (no less than 100 meters range) alongside its superimposition on area arranges (if existing).
 - (c) Estimate of expected populace in the township and necessity of enhancements according to the predominant standard endorsed by Government.
 - (d) Details of inward improvement fill in according to the particular specified underneath.
 - (e) Details of eco well disposed pleasantries to be given.
 - (f) Plan demonstrating HFL of real lakes, water body (if pertinent).

Technical Specifications for Internal Development Works :

- (a) Construction of Roads and Boundary Wall
 - i. Townships may have a compound divider around the township with gated passage/exit. However if there should be an occurrence of any part streets or open streets going through the Township, the development of overall population might not be confined.
 - ii. All the inner street systems including draft division arrange/end-all strategy streets inside the township plan are to be created by the engineer. The division streets are to be suited in the plan. On the off chance that there is a leaving street range system and area arrange/zonal arrangement are not readied, then in the event of township plans there ought to be a focal spine street having width at least 24 mtrs. up to a length of 1000 mtrs. furthermore, 30 mtrs., if length is more than 1000 mtrs.
 - iii. All the inner streets ought to be least 9 mtrs where the length of the street is up to 100 mtrs and 12 mtrs where the street length is more than 100 mtrs and 18 mtrs where the length is more than 400 mtrs.
 - iv. However, with respect to as conceivable no line of plots more than 200 mtrs long expect zonal arrangement/area arrange primary blood vessel streets having width 18 M and above.
- (b) Power Supply and Street Lighting
 - i. In the township conspire the engineer ought to be accommodate a plot of land (approx 1000 to 1500 sq mtrs per 20 hectares) at a reasonable area to the power specialists at no cost so that the electric sub-station for the township can be set up. The plot territory will be considered in offices zone of the design arrange.
 - ii. The advancement of zap, power system and power stack prerequisite in any township range might be as per the standards, rules and directions of State power office. After the fulfillment of the zap work, the designer might handover the total framework to the concerned State power organization.
 - iii. Street lights-every one of the streets having width over 24 meters should have a divider and also the road post settled on the divider having arrangement of underground cabling. Different streets will have single lights posts raised on either side of the street. The separation between two posts ought not me more than 30 meters.

(c) Water supply

- i. All the water lines ought to be underground having an arrangement of giving associations with the plot-holder. The sizes of water pipe ought to be according to standards set around equipped specialist (PHED standards).
- ii. The township ought to have underground water tank and over head water tank according to PHED standards. The township ought to likewise have arrangement for Telephones, Gas pipeline and so on
- iii. The finish water supply might be as per the specialized rules of the PHED.
- iv. After the finish of the water supply plot, the designer may handover the laid circulation and capacity framework to the PHED/ULB/private administrator.

(d) Sewerage and Drainage

- i. All the plots in the township ought to be very much associated with the underground sewerage line with appropriate incline with the consent of sewerage treatment plant in the township.
- ii. The sewerage line ought to typically be found near the limit mass of the plots (inside around 10 ft) with arrangement for association from plots.

(e) Horticulture and Plantation

All streets ought to have estate tree monitors on both sides having least two trees for each plot subject to least of 30 trees for each section of land of the gross zone. Trees of statures more than 5 ft. ought to be planted. Every one of the parks ought to be created by the engineer and Maintained by the designer till the Township is finished and given over to the ULB or to the Resident Welfare Association/Society.

(f) Solid Waste Management

The designer must submit a nitty gritty arrangement for the transfer of strong waste administration and guarantee its execution till the Scheme is given over to the ULB/Resident Welfare Body or whatever other substance.

(g) Rainwater Harvesting And Water Recycling

"Group water collecting structures" ought to be built by designer and all water outlets and wastes ought to be associated in such a route in order to reuse the water for planting, washing and so forth after treatment. This ought to be entirely implemented by the ULB. Wherever attainable double water supply framework ought to be embraced by the engineer - one for new water and the other for reused treated waste water.

(h) Construction of Dwelling Units

The engineer should create and develop no less than 10 % staying units of the aggregate units/plots in the township (more than 10 hectares).

- (i) Solar Heating System - In the proposed conspire sun powered warming framework might likewise be given according to the arrangements of winning building controls or according to the arrangements in such manner produced using time to time.

Completion Certificate-The internal development works carried out by the developer should be as per the specifications mentioned above or as per requirement of ULB. On completion of the Internal Development works, the developer must submit a certificate from Registered Chartered Engineer. Such certificate shall be required at the time of handing over of the scheme for maintenance to the ULB. /RWA.

IV. CASE STUDY

1. **History Of Magarpatta City-** Magarpatta was initially numerous plots of land claimed by an agriculturist group called "Magar", "Tupe" and different territories. The land they worked has been under the Pune civil ward since 1960, however it was still a farming zone. In any case, in 1982, the Pune Municipal Corporation stamped it as a 'future urban sable zone' in its draft improvement arrange for, which implied that the administration could undoubtedly procure the land under the Urban Land Ceiling Act? The Magar tribe and their prompt neighbors, containing 123 families

concluded that they would build up the land themselves. They pooled 400 sections of land (162 ha) before asking for draftsman Hafeez Contractor to draft a private township arrange for, which was submitted to the branches of the state organization for endorsement. They mooted the possibility of an organization instead of an agreeable so that every family got offers equivalent to the measure of their landholding. The organization was enlisted as the Magarpatta Township Development and Construction Company Limited; Satish Magar is its overseeing chief.

Table. 1Details information about Magarpatta City developers

Sr. No.		
01	Master Planner	Mr. Satish Magar , New Delhi
02	Architects	Magarpatta Township Development and construction
03	Legal	Little and Co., Mumbai
04	Fire Consultants	Maharashtra Fire Service Personnel Welfare Association,
05	Structural	J. P. Rane Associates, Pune
06	Landscape Designer	Mr Satish Magar , New Delhi
07	Town Centre Magarpata	Everstone Advisors, Mumbai
08	Solid Waste Management	MITCON, Pune
09	Environment	NEERI, Pune
10	Bankers	Indian Bank, State Bank of India, HDFC, LIC

- 2. Location and Connectivity-** Magarpatta City is a small township spread over area of 430 acre. It is located on Pune-Solapur highway and is very close to the outskirts of Pune City in the state of Maharashtra (India). What is novel about this project is that farmers are shareholders in the 430-acre township project. The large picturesque township has been sanctioned by the Maharashtra government and is estimated to cost Rs 3,000 crore. Magarpatta City is far away from pollution and traffic congestion. But, it is within reach in terms of connectivity and location. It is conveniently accessible from all corners of the Pune City.



Fig.1 Location of Magarpatta City at Pune

- Pune-Solapur Expressway 4 Kms.
- Airport 10 Kms. Approximately.
- Pune railway station 7 Kms.

- 3. Town Center Magarpatta-** Magarpatta is the Second Township to be affirmed and worked under the Maharashtra Government's Special Township Policy in eighth March 2006. The Project worth Rs.3,000 crore. The whole town

ship is spread more than 430 sections of land and will be a self containing property having private, business region, schools, school, doctor's facility, eateries and games complex inside the township. Ground breaking strategy of Magarpatta is planned by Mr.Satish Magar. Town Center Magarpatta, utilizes a blend of Indian and Western feel with Indian outline, which makes the phenomenal township inside the city of Pune. The principal offerings of Magarpatta Towers 1-10 has outlined by Magarpatta Township Development and development Company Ltd.



Fig.2 Master Plan of Magarpatta City

Magarpatta is divided into three visible sections. Present day Magarpatta City consists of three primary real estate entities listed below:

- 1) Residential
- 2) Commercial
- 3) Amenity

Other than the above mentioned entities, Magarpatta has a large circular garden named Aditi Gardens which lies in the geometric centre of the Cyber city circle. Magarpatta has two schools for primary and secondary education. The Noble Hospital also comes directly under the Magarpatta umbrella association. Carpooling is catching up in the suburb. For corporate employees, mebuddie.com provides carpooling services across the city as well as for intercity travel.

4. Residential- The first offerings of Magarpatta Township will have 20 towers, each between 22-25 stories high; with the first phase of Magarpatta Township will include a choice of 760 apartments of 2, 2.5, 3, 3.5 and 4 bedroom luxury apartments. Incorporated unique design elements such as special 3-dimensional layering effect, glass corners, spacious rooms, planters planned in the living room, separate study rooms, etc. allowing a greater comfort.

Phase I - Magarpatta Residential District Phase I houses six exquisite neighborhoods, each named after a unique raga- Mangal Bhairav, Sarang, Madhuvanti, Lalit, Asawari, and Shubh Kalyan with each raga representing the unique attributes of the particular neighborhood.

Phase II - Magarpatta Residential District Phase II will have Pent Houses, Pre-designed Bungalows, Villas even lawns. There are some buildings and layouts, shows how Magarpatta worked phase wise construction.

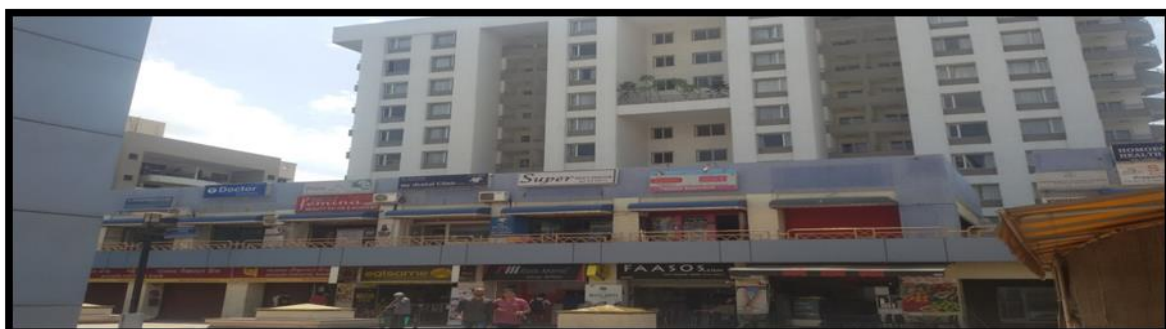


Fig. 3 Residential view of Magarpatta City

Aspire tower 1-20, 2, 2.5, 3.5 BHK, apartments starting from Rs.63.15 lakhs.



Fig.4 Layout Plan of Magarpatta City

Pune’s First High-rise, Glass Towers -Made up of 10 elegant 18 to 22 storey towers, Magarpatta Towers 1-10 offer a choice of 674 apartments of 2, 2.5, 3, 3.5 and 4 bedroom luxury. Designed by international architects, Magarpatta Township Development and construction Company Ltd.

Trendy Homes – Towers 30-35

2and 2.5 BHK Apartments, Starting from Rs. 32.68 lakh

Project Information

- Landscape area: 5 acres
- No. of Towers: 6 (20 storey’s each)
- 8 apartments/ floor
- Total area: 8 acres



Fig.5 Existing images of towers.

5. Amenities –

- i. Secondary and Primary School
- ii. Crematorium
- iii. Police Station
- iv. Shopping Complex
- v. Town Hall
- vi. Medical Centre



Fig. 6 Image Showing Entrance of Magarpatta



Fig.7 City Image Showing Magarpatta City Map



Fig.8 Image Showing central point Magarpatta city



Fig.9 Image Showing Direction Board of Magarpatta city



Fig.10 Image Showing Gas pipeline supply of Magarpatta city



Fig.11 Image Showing Residential Solar Water Heater of Magarpatta City Fig.12 Image Showing Residential Biogas System of Magarpatta City

V. REVIEW ANALYSIS

1. To Study the concept of integrated township and all regulation aspect.

- (a) To study all regulation about the township according to government sectors.
- (b) Study of current real estate scenario and trends in India.
- (c) Major aspects acting on the real estate development.

2. Live case study on Lavasa city and Magarpatta city at pune.

- (a) Collect the all survey data from Lavasa, Pune and develop the mainating plan for Lavasa and Magarpatta city.
- (b) Sources of finance for real estate development.
- (c) Problem formulation- a live case is being taken out and it is analyzed with certain assumptions.

3. Comparison for Evaluation of above case study

- (a) Market analysis
- (b) Technical analysis
- (c) Financial analysis
- (d) Environmental analysis

VI. CONCLUSION

After the detail ponders looking into it investigations of Magarpatta city and the study filled by the client, the conclusion has been drawn.

1. From above hypothesis it is infer that, the coordinated township is the best answer for the issue of urbanization
2. Magarpatta, are impressive cases of incorporated township improvement each appeared because of a urge, one reason being fast urbanization of the Pune city.
3. The populace our nation is expanding immensely, that in urban areas and the heap of human exercises like expanding vehicles, expanding waste, expanding contamination and so on. Subsequently there is a need of lessening this heap on urban communities; townships may one of the arrangements.
4. There is a major issue of transfer of family unit squander, biomedical waste, modern strong waste and so forth in Pune and in addition in numerous metropolitan urban communities in India. This issue might be understood on vast scale by building up the self manageable townships in such urban communities
5. If the incorporated township is give manageability idea then it is best alternative for solid living condition with sound environment.
6. Integrated Township is the township with private, business opportunity with sound leaving condition and solid environment

7. The significance is additionally given on the development detail, add up to region dispersion, ecological supportable improvement, security and innovation utilized by the client.
8. As for each the review client expects every one of the offices and solaces and the existence without worry to be there in a township.
9. The exertion ought to be given for helpful, charming and peaceful life for a family.
10. Township area ought to be with the end goal that, the common assets ought to be use for society and it's ought to be recyclable/renewable.

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