

# Transfer of Development Rights: An Effective Tool for Sustainable Urban Development

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**Abstract:** A rapid growth of any society or community leads to improve the living standard and healthiness of the society. This rapid growth can be achieved by many of the ways. One of these is to accelerate the growth of infrastructure development and this development can be achieved by providing proper channel to the growth of the public and private infrastructure of the area. Many times this infrastructure development is affected by the land available for the development and improper land use. To accelerate the growth of the city with respect to the infrastructure, the TDR is one of the tools that can be used. The Urban and Regional Development Plans Formulation & Implementation (URDPFI) Volume-I Explain the definition of Transfer of Development Rights (TDR) is a method of land development which separates the development potential of a particular package of land from it and allows its use elsewhere within the defined zones of the city (URDPFI, 2011). This TDR allows the owner of the land to handover the rights of development of the particular land in exchange of another land or money. The one side of TDR is that it directly affects the traders and vendors and on the other hand indirectly affects the entire local economy which operates in a market setting. Recently Hon. Prime minister declared about the development of 100 smart cities across the India. One can plan these cities with maximum utilization of this effective tool of TDR. Nashik is a religious city with large number of variety of population. This population needs infrastructure for different use in day today life. City is having very limited space to develop because of the water scarcity in summer season. This adds additional load on the land at Godavari river bank i.e. old Nashik. So getting the solution on this problem and to providing the infrastructure, the TDR can be the effective tool.

**Keywords:** Transfer of development rights, floor space index, urban development, Infrastructure, Special economic zone

## I. INTRODUCTION

The basic thing behind every growing country is development of infrastructure in country. India is a rapidly growing country with large economical growth and will be super power in upcoming days. It is estimated that India will become the world's third major financial capital up to 2020. With freedom of government towards rules and regulations and a purposeful policy to encourage infrastructure development lead to sustainable infrastructural development. Today the infrastructure sectors having excellent opportunities with great investment planned. Public private partnerships are an important in the development of the sector as well as they are benefiting from government. Transfer of Development Rights (TDR) is the land based instrument can be used to

improve the sustainability and efficiency of land use in proper way with respect to the infrastructural development.

## II. INFRASTRUCTURAL DEVELOPMENT IN INDIA

India, the country with fastest growth in last 25 years, this growth produces the burden on the infrastructure of the country namely railway, highways, electricity production and distribution, Airports, irrigation system, water supply and sanitation system. All of the above infrastructural facilities are already in trouble because of the lack of management and insufficient quantity of the infrastructure which tends to increase in pressure on infrastructural development of the India. In the 12<sup>th</sup> five year plan of the India having proposed investment in infrastructural development about Rs. 5574663/- Cr. with estimated GDP rate 8.18 % with awareness of that infrastructure is explanation to enable financial growth. Figure 1 shows the projected investment in the infrastructural development in proposed 12<sup>th</sup> five year plan. In last five year plan investment was Rs. 2424277/- Cr. which is about 43 % of total investment in 12<sup>th</sup> five year plan. Figure 2 shows the investment in percentage of GDP in 12<sup>th</sup> five year plan. In 11<sup>th</sup> plan the GDP rate was 7.21 % and projected GDP rate in 12<sup>th</sup> five year plan is about 8.18 %. A figure also shows the systematic and constant growth in investment. Private investment is also proposed in the infrastructural development in India through the Public Private Partnerships. This will lead to encourage the private sectors to come in to infrastructure development sector for better development and effective as well as efficient services for common people.

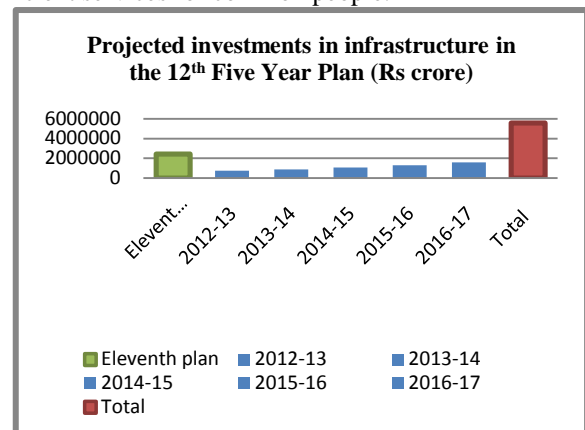


Figure 1:- Investments Projected in 12th Five Year Plan for infrastructure

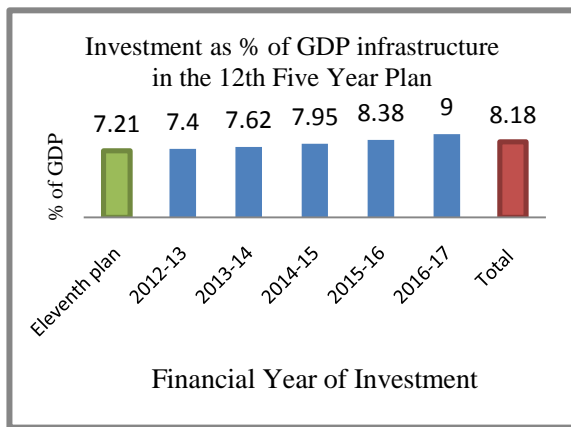


Figure 2:- Investment as % of GDP infrastructure in the 12th Five Year Plan

### III. TDR (TRANSFER OF DEVELOPMENT RIGHTS )

The UDPFI Guidelines of Ministry of urban development, Government of India define Transfer of Development Rights as Transferable Development Right means a development right to transfer the potential of a plot designated for a public purpose in a plan, expressed in terms of total permissible built space calculated on the basis of Floor Space Index or Floor Area Ratio allowable for that plot, for utilization by the owner himself or by way of transfer by him to someone else from the present location to a specified area in the plan, as additional built space over and above the permissible limit in lieu of compensation for the surrender of the concerned plot free from all encumbrances to the planning and development authority. This is a method of land development which segregates the development prospective of a particular bundle of land from it and makes available the use of it in other zone of the city. With using TDR tool one can sell the rights of development of a specific land with exchange of money to another person. This process is carried out with respect to the FSI allowed in the area and with assuming the all rules and regulation of the municipal authorities. The developer can get additional built-up area to development in the zone of development. TDR also helps to rezoning of the area and redevelopment of the area in inner part of the city. It also keeps control on the unwanted development in the area. This is the best tool that can be used for the preservation of the land. However most of the TDR programs are depend up on the response and active support of the society where program has to be implementing so the careful use give the better success of the TDR Program. TDR program not only effect directly to the seller and buyers but also indirectly affects the people those are working in the industry of land financing, people those are working on construction sites, proprietors of the small shops and all the labors of the industry. So when TDR is introduced in any economy system it boosts the system directly as well as indirectly.

### IV. NECESSITY OF TDR

The Indian population is rising by more than a 5 billion people every decade. This rate of increase in the

population having very heavy impact on the Indian agricultural lands, forest land, wild life, environment as well as the health of the society. This growth of population affect the primary infrastructure and public facilities like road network, drinking water, sanitation system, health facility of the government. To tackle this problem the central government established the ministry for urban and rural development and prepares well definite plans for achievement of proper development. The development ministry forms the Urban Development plan formulation and implementation Authority for urban development. In 1966 the Authority published his guidelines of Development. In early of 1990's the authority realize that there is a need of some extra techniques for preservation of the open land and reserved land for prevention of environment harm. In India the land acquisition act was the major issue while acquiring the land of farmers and landowner for development of the area. There are many complexity and disputes arise in the process of the land acquisition process. So avoid this all things the TDR concept is introduced in India first time. Mumbai was the first city who implemented the concept of TDR in the development of the slum of the Mumbai.

### V. ADVANTAGES OF TDR

1. Preservation of Land
2. More Flexible
3. Potential to Compensate
4. Development without harm to nature

### VI. DISADVANTAGES OF TDR

1. The results of the any TDR program are indecisive.
2. The TDR program designed for one locality cannot be used for another locality of same population as thinking and expectations of the society are vary from place to place and region to region.
3. It is very difficult to find out the seller and buyer of the land as it is personal constrain of every land owner.
4. For successful implementation of the TDR program huge up gradation of market knowledge is required.

### VII. LITERATURE REVIEW

An extensive literature evaluation has been carried out to set up a well define begin to follow the projected study. The focused of literature review is on investigation of Transferable development right program, the current practice of the implementation of the Transferable development rights, methodology used to implementation of the TDR program. Michael A. Slavney (2010) explains the relation between transfer of development rights and open space preservation. Transfer of Development Rights techniques for protects open space. Transfer of development right contents the rearrangement of development prospective from an area chosen for open space conservation to an area chosen for development. The figure explain the detailed about sending area and receiving area. The developer wants to develop land in receiving area can buy the development rights available

from sending area. The TDR enable the more valuable development with respect to the more efficient land use. The rates of a TDR are characteristically set on the open market rate which is related to the boost in the value of the receiving area. Transferable Development Rights are not a common open space conservation tool - principally because of its complication but can be use as a tool if the municipal authorities are comfortable with this technique.

[1] Ramakrishna Nallathiga (2006) explains the Concept of TDR as Most of the government agencies and departments are endowed with limited amount of land; more so, in an urban area wherein private ownership of land tends to out shadows public ownership. Hence, land would have to be acquired from private parties for public purposes. Experience of TDR utilization: In Mumbai the TDR utilized against the development of road is about 1073360 sq. m. similarly 491080 sq. m. for reservation of land and 560965 sq. m. for slum development. The following figure illustrates the details of utilization of Transfer of development rights in Mumbai. Figure 6 illustrates the cost and benefits of the TDR utilization in the Mumbai city. The Cost of development of roads handed over by TDR is about 60.25 Crore. The Cost of improvement of reservations handed over by TDR is 139.5 Crore. The acquisition costs saved by TDR assuming market land rate is 720 crore and the acquisition costs saved by TDR assuming ready reckoner rate is 1841 crore. [2]

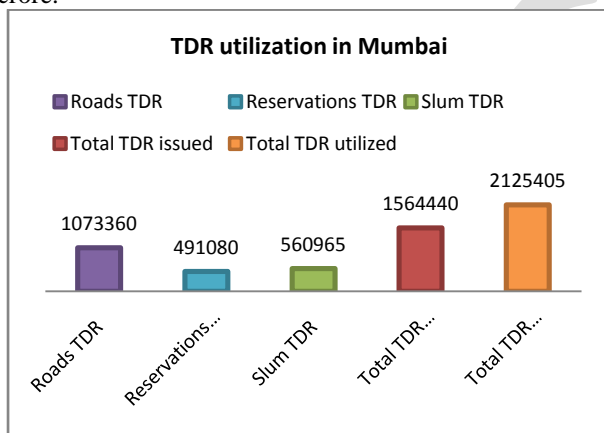


Figure 3: Details of Use of TDR in Mumbai

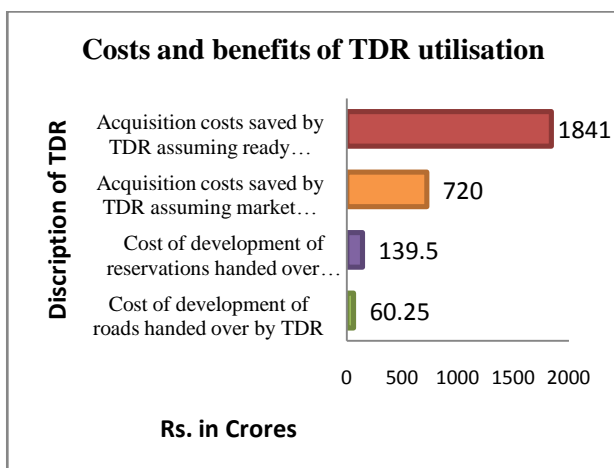


Figure 4: Benefits of TDR utilization as Cost savings

Tingting Huang (2011) was presented to the University of Florida for the degree of Master of Science in architectural studies in 2010. The study consist the extensive literature review, methodology of TDR programs case study and comparison between United States and China. [3] Aditya Jain (2007) investigates the effect of privatization of infrastructural development in India. Author to analysis the possibility of infrastructural development with private sector participation. In early of decade 1991-2000, India has slowly opened up the market with economical reformation by relaxing the government control on export and FDI. Introducing the Privatization in public-owned sectors and allowing the PPP in sectors like the Electricity generation, Transportation system is slowly transforming the scenario of infrastructure development in country. [4] IDFC document released on December 2010 (2010) the linking of TDR with FSI is studied for the region of PCMC, Pune. To obtain the sustainable and effective use of TDR in city limit the Transferable Development Rights is linked to F.S.I. The proprietor of a reserved land or surrendered land for construction of road network as well as widening of the road will be entitled to Floor Space index in the terms of a Development Right Certificate. This DCR may use or sell to any other person by the land owner. So TDR is nothing but the floating Floor space index that can be buying and sold developers at current market price. The price of transferable development rights can be worked out by the method of demand and supply gap analysis with respect to the market analysis. [5] Michael R. Carter (1999) explains in all the changeable issues that restrain financial concert in low profits and center financial system, property rights over land in most important by many calculations. The effects of property rights have rigorous on the safety with which individuals hold rights on land. The author try to widen the focus of previous hard work to include transfer rights, income and other rights that. Transfer rights also facilitate factor price equalization. This paper's econometric analysis of household level panel data from China largely corroborates these theoretical propositions concerning transfer rights. With its finding that transfer rights seem to matter more than tenure security, the empirical analysis also suggests some novel directions for future property rights reform in China. [6] Vicki Been and John Infranca (2012) explain the transferable development rights program implemented in New York and study about post zoning. In first part of the study author explain the purpose and the structure of TDR program in the city. Because of the high rise railway line some plot owner unable to develop their plots as they have restriction on development. With the help of TDRs program the can transfer their development to another place. A numerous TDRs programs are exists in the city, some of them are as follows [7] Jeff Aken (2008) published paper is the one of the paper form a series of five papers being developed by the Cascade Land Conservancy to assist the committee in its review with supporting to plan a TDR program. The Washington State government has direction for the state's Department of Community, Trade and Economic Development (CTED) to produce a regional transfer of development rights (TDR) program in central Puget

Sound. [8] Antonio Tavares (2003) travel around the economic influence favoring the use of Transferable Development Rights programs, discusses the complexity in putting into practice these programs in Europe, where rules and regulation has been preferred in land reservation to market-based solutions, and presents provisional theory to explain the acceptance of Transferable Development Rights programs in society. Local governments in Europe and elsewhere are faced with the urgency to preserve land as environmentally sensitive areas, agriculture uses, open space and historic landmarks. The difference in monetary value between the land's current use and the development value is very often so large that it makes virtually impossible for landowners to resist selling. [9]

### VIII. STUDY OF TDR AVAILABLE IN NASHIK

The city of Grapes, Wine capital of India, the city of Prabhu Ram and so on..... This is the identity of Nashik. Nashik is the city of Maharashtra state situated in the northern Maharashtra and play an important role of supplier of vegetables to the Mumbai. Geographically the city is located at the bank of Godavari river in western ghat of Maharashtra with coordinates 20°0'0" N 73.78°0'0"E and near about 180 kilometer from capital of Maharashtra and 202 kilometer from capital of education i.e. Mumbai and Pune respectively. It is district headquarters and also an administrative headquarters of Nashik Division.

#### 8.1 Infrastructural Development of Nashik

The RDP of the Nashik district is pending at the door of ministry of Town planning in the Mantralaya in Mumbai waiting for the approval of state government. As state earlier the Nashik is the well-known diagonally the country for its type of weather and climate of the city. So there is a need of developed well planned with beautiful city. The road network mention in the development plan is not fully developed till date and now a day's municipal corporation taking lot of efforts to complete the DP roads in the city. Because of the KumbhMela held in the Nashik in next year, major fund will received by Nashik during this period. Not only fund work alone, there must be proper utilization and planning is also necessity and important. One of the major issues of infrastructure is the road networks and flyovers in the city. There is a needed to construct small flyover at selected and important location to help resolving the traffic problem of the city. Today, Nashik city is at the phase where it can be developed very healthy.

#### 8.2 SEZ Nashik

The SEZ is located in Sinnar Taluka in Nasik district. It is Maharashtra's first multi-product SEZ establish for improvement and development of the following sectors

- Textiles industries
- Electronics and electrical Sector
- Automobile and auto component Industries
- Pharmaceuticals and bio-tech Companies

- Food processing Plants

This Special Economical Zone is Spread over a 2500 acres with provision of well developed infrastructure for maximizing production and minimizing logistics redundancy which stabilize and develop the overall business performance efficiency. It is being developed by IndiaBulls with MIDC and with the premier Industrial Infrastructure Development agency of GoM having huge experience of developing Industrial land in Maharashtra

8.3 TDR in Nashik City: The TDR issued by the Municipal Corporation of Nashik is listed in appendix D. the total Transferable rights issued by the NMC is 1810614.56 sq. m. Nashik City is divided in to four zones namely A Zone, B Zone, C, Zone and D Zone. The rates of TDR for the zone are different. Following figure 8 shows TDR in the different zones of the TDR in Nashik.

#### 8.3.1 TDR by Zones

The Nashik city is divided in the total 4 zones for distribution of the Transferable Deployment Rights as follows.

A) 'A' type Zone: The A type Zone consists of all crowded area within the municipal limits of the Nasik

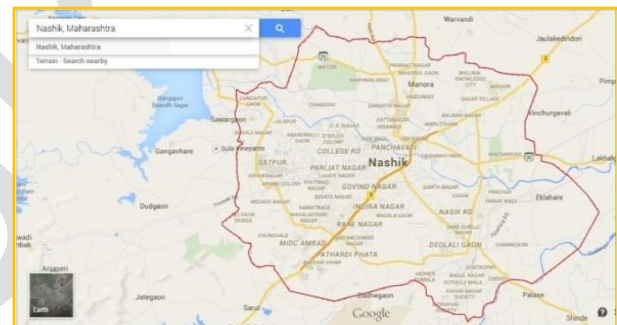


Figure -5 Municipal Limit of the Nashik City

city. Municipal authority shown as such in the development plan excluding the area under Gaothan / congested area of village Makhmalabad, Mhasurl, Adgaon, Manpur, Dasak, Panchak, Anandwali, Gangapur, Satpur, Kamathwada, Ambad Khurd, Wadale, Chededi, Deolali, Pimpalgaonkhamb, Dahegaon etc. which are situated at the outskirts of the corporation limit.

The Area under Town planning scheme, Nasik No. 1 is also included in the Zone A.

B) 'B' type Zone: Zone B consists of Area under Town planning scheme, Nasik No. 2, Area of village Deolali, bounded within the municipal limits as given below

- Towards East: By Railway line
- Towards North: By Nasik Pune Road
- Towards West: By Mahatma Gandhi Road (Lam Road)
- Towards South: Subhash road from M.G. Town hall to Railway station.

C) 'C' type Zone: Zone C Consists Areas within the limits of the erstwhile Municipal Councils Nashik, Nashik road, Deolali & Satpur excluding areas of sectors A & B.



D) 'D' type Zone: The D Zone consists of Remaining areas within the limits of Nashik Municipal Corporation. Following are the area of TDR in terms of FSI in different zones of the Nashik city.

### 8.3.2 Zone wise TDR Nashik city

A Type Zone TDR – 33244.51 Sq. m.

B Type Zone TDR – 231996.07 Sq. m.

C Type Zone TDR – 855866.50 Sq. m.

D Type Zone TDR – 689507.48 Sq. m.

This shows that approximately half of total TDR is available in C type zone of the city. So there is a scope for infrastructural development in C type zone. Around 38 % is available in D type zone and 13 % in B type zone. The detailed list of TDR issued in the city limit is attached in Appendix C. following graphs shows the some statistics about TDR given against the different reservations and graphs of TDR allocated in span of Years from 2000 to till date.

## IX. RULES FOR TDR IN NASHIK

1. For any type of the development with the use of TDR, a component certificate of the authority need to the land developer.
2. FSI allowed is to the developer for the development of the land is as per the allowed TDR by GoM and Town development authority of the India.
3. Development Rights Certificates (DRC's) shall be issued by the commissioner of the municipal council which includes the FSI allowed, Area.
4. When the owner also develops/constructs the amenity on the surrendered plot at his cost, subjects to such stipulations as may be prescribed by the commissioner/Appropriate Authority
5. The surrendered reserved land, for which a DRC is to be issued, shall absolutely vest in the corporation/ appropriate Authority.
6. Where the Corporation is the Appropriate Authority, the land shall absolutely vest in the corporation.
7. Where the State Government, Govt./Undertaking/Organization/Department etc. is the appropriate authority, the land shall be absolutely vested in the State Government.
8. Where the Appropriate Authority is other than in (a) and (b) above, the land shall absolutely vest in the Corporation shall hand over the said land to the Appropriate Authority.
9. No TDR for Town planning scheme reservations/proposals shall be allowed.

## X. WORKING AND CALCULATION OF TDR

TDR is the rights of the land in terms of Floor Space Index and must be added to the area of development in specific zone. TDR works better when there are well define Sending area and Receiving Area. Sending area

may be the area under reservation, or land used for the public infrastructure and receiving are is the area where development is expected from developers. In the limit of Nashik municipal council, authority formulize the zones of the city with respect to the TDR this zones are work as a block of TDR.

## XI. DEVELOPMENT RIGHT CERTIFICATE

The Development right certificate is the certificate given by the competent authority of government against the surrender of land for the development of infrastructure in the interest of the public. Such certificate is awarded to the property holder for selling the rights to the person who wish to buy the rights in terms of Floor space index. The Performa of the Development Right certificate is attached in Appendix B. also the documents required for obtaining the DRC is also attached in Appendix C

The documents are as follows

1. Application for development right certificate
2. Application for permission for development right Certificate
3. Form to accompany application for grant of development Right certificate under D.C. Regulation
4. Form of certificate to be signed, by the licensed surveyor / Architect
5. Performa for affidavit to be given by owner
6. Compliance report of the owner
7. Registered undertaking on
8. Grant of development right certificate
9. This is the list of document which is required to submit by the land owner who wishes to obtain Development Right Certificate.

## XII. CONCLUSION

Cities are rising very rapidly due to availability of jobs and business opportunities in the urban area. The population of the rural area is migrating themselves towards the urban center. It is duty of corporation to provide the sufficient and proper infrastructure to this population to increase the life style of the people. TDR is one of the effective land based instrument which give very effective solution to acquisition issues of land in urban area. This help to minimize the conflicts in between municipal body and land owner. This paper explains the total TDR Land available in the Nashik City. It is seem that Zone A of the city having very less TDR available this mean the development of infrastructure is sufficient in the zone A and there is no requirement of land for further development. Zone B having moderate development of infrastructure, as 13 % TDR is available in the zone But Zone C and Zone D requires more attention as they have very less infrastructure development, as Zone C have 47 % TDR available and Zone D have 38 % TDR available. There is a scope to work in zone C and D and with effective use of TDR concept the proper development can be achieve very effectively. The TDR can be used in various projects with different quantity in different slot. In

the above case study the TDR of 696.00 Sq.M. is used in six different slots with different quantity. This ultimately available more flexible environment to development of the area and zones of the city.

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