Bangalore: Note on Land Use Issues

From : Alain Bertaud
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http://alain-bertaud.com/
http://alainbertaud.com/

One of the major objectives of the GOK is to improve efficiency in the use of land. Government can contribute to land use efficiency by:

1. removing regulatory and fiscal obstacles that increase real estate transaction costs, and as a consequence decrease the supply of land and floor space;
2. Auditing regulations and land development practices to promote a spatial development pattern consistent with the social and economic objectives of the government

However, a review of real estate regulatory and fiscal practice cannot be done in a vacuum. Proposed reforms should always refer to an explicit spatial government policy.

I. The Government urban spatial policy should be explicit

The government's spatial policy should be guided by clearly declared social and economic objectives. The State government should formulate its spatial policy at the State level and at the municipal level. A spatial policy is a political document, not a technical one, it should therefore be formulated or at least endorsed by a political body. However, the implementation of a spatial policy has many technical and financial implications, which should be fully explored at the time the policy is formulated.

1. Spatial policy at the state level

At the state level, the past policy has been to direct urban growth and infrastructure investment to favor smaller cities and to follow a somewhat abstract concept of "spatial equity", i.e. to distribute urban growth evenly across the state, while ignoring market signals, locational comparative advantages and economy of scale.

For instance, the concern for "spatial equity" was recently expressed (June 2001) in a study on urbanization[1]:

> *"The decentralization of economic growth and spatially based equity considerations are important policy concerns of the state. Indeed, there is an explicit geographical thrust to the state policy regime. For example, various counter-magnets and growth areas beyond Bangalore have been designated. Incentives to attract investment are greater for backward areas, and various types of industries are to be promoted in particular locations."*

It would be important for GOK to recognize explicitly that the spatial policy has changed and that locational comparative advantages and economy of scale are not only recognized as the major asset of Karnataka's urban areas but will be actively supported by the provision of an adequate physical and social infrastructure.

2. Spatial policy at the city level

At the city level the government should apply the same principles that at the state level and recognize that assets linked to locational advantages and economy of scale cannot be ignored. However, a spatial policy could also be guided by broader socio-economic objectives which are more directly linked to households' welfare and firms' productivity.

Let us give an example of urban objectives which have direct spatial implications.

- Urban infrastructure should be available to all, most of the cost will have to be directly recovered through user fees or tariff or indirectly through property taxes;
- All households should have access to a shelter developed and built legally;
- The urban environment should be protected by reducing pollution due to transport, and by preserving natural areas;

The first objective recognizes that the government has a direct responsibility in developing trunk urban infrastructure and in insuring that this infrastructure is used as

[1] "The Future of Urbanisation – Spread and Shape in Selected State", Centre for policy research, New Delhi, June 2001 a study supported by HDFC and IDFC

efficiently as possible. Spatially, this implies that existing infrastructure should be fully used. It follows that the government should favor a more intensive use of existing infrastructure, and should give a priority to infrastructure investments in areas already fully densified.

The second objective requires the government, first, to avoid restricting the supply of land, and second, to allow a consumption of land and floor space consistent with the income of the population. This implies allowing and servicing high residential densities which are the only one that the poor could afford.

The third objective implies that cities should develop in a compact form to reduce vehicular trip length. Dominantly monocentric cities allow an effective operation of public transport and therefore government should not promote the dispersion of employment just to avoid congestion in the city center.

The example above has been given for illustrative purpose only. GOK should formulate an explicit spatial policy which is consistent with its own socioeconomic objectives. While this policy could be different from the one inferred above, it appears to be likely to favor compact cities, redevelopment of the existing built-up area over large greenfield expansions, and developing an infrastructure to allow high residential densities and the development of an effective urban public transport.

Until now, land use regulations were designed with the objective to "avoid congestion". As a result, intensive land use was discouraged by imposing a low floor area ratio in the central areas of the city. The economic cost of under using centrally located urban areas proved to be so high that it could not really be enforced. Indian cities have developed at high central densities despite the low FAR imposed on the CBD. This was done either by ignoring the law or through informal payments creating de facto a system of para-fiscal taxation on land development. Some years ago, a report sponsored by the government of India was suggesting that inadequate urban regulations had contributed to the "criminalization of real estate" in India.

The State government should recognize the economic advantages offered by a concentrated development in the CBD of major cities, and explicitly reformulate its spatial policy by allowing an intensive development and recycling of land in the down town area of major cities. This intensive development must be followed by an upgrading of existing infrastructure designed to support high density. It should be noted that, for instance, doubling the FAR in downtown area will not necessarily result in doubling population or job density. While it may result in somewhat higher densities, it would more importantly allow households and firms to consume more floor space per person and per job, raising both households' welfare and job productivity. In India, the low floor area consumption per households is partially due to the inneficient use of land caused by restrictive FAR regulations.

II. Regulatory and fiscal obstacles to land use efficiency

Typically, comprehensive development plans (CDP) are more focused on new greenfield developments than on the redevelopment and constant transformation of the existing built-up area. However, more real assets and jobs are located in the already developed urban area than what is typically developed in periphery areas during the 10

years life of a typical CDP. A city welfare depends on its ability to constantly renew and adapt the land use and buildings of its down town area to ever changing economic conditions.

Old buildings consume often more energy and are ill adapted to modern technology, thus decreasing productivity. Modernizing a city and increasing its efficiency would be better achieved by favoring a constant renewal of the downtown area rather than by developing modern satellite towns at the periphery.

Many regulations and taxes act as a brake on the necessary recycling of land. Removing these obstacles to land redevelopment create often more floor space and at a lower cost than new greenfield development. The following list of identified obstacles is not exhaustive some more may be identified in a latter stage in the project.

a) Regulatory uncertainty

One of the problems faced by developers and individual households who want to develop or redevelop land is the uncertainty about the rules they will have to follow. Building rules should be simple to follow and building approval for most types of building should not require any administrative discretionary power. Only very large project like cinemas, shopping centers, etc should require specific rulings. Building legislation and the corresponding zoning maps should be widely available to the general public. Regulatory uncertainty distorts the land market, as the price of a plot of land depends entirely on what is allowed to be built on it. At the end the cost of uncertainty is either passed to the consumer, raising the cost of floor space, or worse, it may prevent transactions, thus freezing valuable land under obsolete use.

b) The cost and time for obtaining a building permit

The cost of obtaining a building permit includes the cost of fees to be paid, the costs of preparing the documents to be provided and the cost of visiting the relevant administrative offices. But often the higher cost is the length of time required between the time when a building permit has been deposed and the time when permission has been granted. The time required for getting a building permit and the uncertainty associated with it with it translates in higher transaction costs for real estate and contributes to decrease the number of transactions.

It has been suggested that for most building permits, professionals involved in the preparations of plans should be made responsible for following the law and that licensing professionals could become a substitute for scrutinizing individual permits. This seems a positive idea for medium and large projects which could not possibly be built without licensed professionals. But a large portion of what is built in a typical city of Karnataka are rather simple one or 2 floors buildings which do not necessarily required the services of licensed professional. The professional licensing system would significantly increase the cost of building these simple structures. It is also possible that professionals would have no interest in designing such small low cost buildings.

c) The cost of obtaining a subdivision permit

Subdivision permits are the responsibility of Development Authorities. This creates an obvious conflict of interest as they have to regulate their direct competitors.

On the other hand, providing a subdivision permit is more complex than providing a building permit and requires well trained professionals familiar with the

current and planned primary infrastructure layout of the city. It appears, however that many subdivisions are done without subdivision permits. The problem posed by the uncertainty about the law and regulations and the time required to obtain a subdivision permit is the same as the one described above for building permits.

d) Property tax

Property tax is essential to recover some of the costs of providing urban services. It is also an important device to promote land use efficiency. Plots of land which are fully serviced but not fully used impose a cost on the community. A property tax based on land market value provides a strong incentive to fully develop underused serviced land. A well designed property tax therefore, not only provides needed revenue to the city but also promote a more efficient use of land and infrastructure. When property tax is based both on land and built floor area, its effect on land use is somewhat diluted, as the land component of the tax is often too small to create an incentive to develop underused land. When property tax is based on built floor area only, it has no effect on land use efficiency as the tax does not apply to vacant serviced land.

e) Stamp duty

Karnataka's stamp duty is currently fixed at 12.5 percent. This is a very high rate which discourages transactions or encourages underreporting of real property value. The systematic underreporting of land prices is costly to the state and the municipalities as it prevents a fair evaluation of property taxes based on land values.

III. The spatial impact of land use regulations and land development practices

Land use regulations are often designed to prevent undesirable impact at the local neighborhood level. For instance, regulations often prevent the construction of tall buildings in a residential street. However, the same regulations have often an important impact on the overall shape of a city and on the overall efficiency of land use. This impact, often negative, is usually ignored. Under the project the Planning department should conduct a review of land use regulations and land development practices to identify their impact on the shape taken by urbanization.

a) Zoning plans

Zoning plans in India regulate mostly the Floor Area Ratio (FAR or Floor Space Index FSI) and the plot coverage. The overall spatial policy is reduced to the simple idea of “avoiding congestion” in the city center. As a consequence, the regulated FAR is often lower in the city center than in the periphery. This is contrary to all international practices and contradicts the most widely accepted theories on population distribution in cities based on the work of urban economists such as Alonso, Muth and Mills.

Bangalore zoning plan divides the city in 3 zones A, B, and C. Zone A covers the most densely populated areas of the city while zone C covers mostly the low density suburbs. (see Annex 1). The permitted FAR for residential areas is 60% higher in the suburban areas covered by zone C than in the downtown area of zone A. For commercial area the permissible FAR is 33% higher in the suburbs than in the center. The

consequence of this policy is to discourage the redevelopment of the best accessible land in the city and to encourage the development of dense suburbs. This policy requires large investments in infrastructure in suburban areas, increase the length of vehicular trips and decrease the financial viability of public transport.

The "avoid congestion" policy tends also to disperse jobs away from the city center and to concentrate them in small clusters in suburban areas. This type of urban pattern renders most type of public transport difficult to operate, because of the multiplicity of routes with different origin and destinations with few passengers per route. The polycentric pattern of job distribution favors 2 and 3 wheelers over buses and suburban trains, thus increasing trip length and pollution.

Older buildings in the city center are currently using an FAR higher than the regulated FAR in the zone they occupy, making legal redevelopment impossible without losing a significant area of floor space. The low FAR in the central area therefore renders redevelopment of obsolete buildings financially unviable.

Streets in central Bangalore are not narrower or of lesser areas than in other cities of Asia. Nor is the average density of Bangalore (about 200 p/ha) particularly high by Asian standards. There is therefore no justification to restrict FAR in this draconian way, given the negative side effects it has on the city. This impossibility of legally increasing floor space in central areas do not necessarily reduce density, it only decreases the amount of floor space consumed by households and firms, reducing households' welfare and firms' productivity.

The Planning Department should revise its FAR regulations following the new urban spatial policy formulated by GOK.

b) The impact of Development Authorities on city shape

Development Authorities have theoretically a quasi monopoly on land development in the suburban areas. Their development policy – where they select land to be developed and what density of jobs and population will result from their design and from demand – has therefore a very large impact on the future shape of the city. In Karnataka, however, it seems that Bangalore Development Authority (BDA) is the only development authority to have improved its operation in the last 3 years to the point of becoming a major player in land development. The total number of plots developed by BDA amount to about 40,000 since 1991, however 80% of the plots have been produced in the last 3 years. The total amount of land developed in the last 3 years represents about 6% of the total built up area of Bangalore. (see annex 2 for an assessment of the role of BDA in land development)

To reduce land acquisition and infrastructure costs BDA tends to acquire large adjacent tracts of vacant land. The Bangalore Development Authority acknowledges that they would not develop land in areas where they can assemble less than 1000 acres. Such large tracts of vacant land are not found in the immediate vicinity of the built-up area but rather in more distant suburbs. BDA therefore "leapfrog" large tracts of vacant land which are close to the city but not large enough to meet its efficiency criteria. Development Authorities would tend therefore for operational reason to develop land farther away from the center than what would happen if smaller developers were the only suppliers.

BDA has also an obligation to provide plots of land for all income groups. At the same time their own regulations oblige them to provide a fixed percentage area for parks and community facilities (which include schools but also shopping centers). The mix of plot and the overall land use results in an average gross density of about 33 plots per hectare. Officially each plot is designed for 1 household, the theoretical average density of a BDA scheme should therefore be around 180 people per hectare (assuming an household size of 5.5). Incidentally, this is just a little below the average built up density of Bangalore municipality. It could be said therefore that BDA schemes makes a reasonably efficient as far as density is concerned.

However if one applies the permissible FAR for area C where most of the schemes are built, the total residential floor space allowed by the prevailing zoning regulations would be about 5,500 m2 per hectare developed. On average, households in formal settlements consume about 60 m2 of floor space in Bangalore. Assuming that this average applies to BDA schemes, it would give a density when fully densified of about 500 p/ha, or about 2.5 times the design density and about 60% higher than the average density of downtown Bangalore.

Older BDA schemes are showing that this densification occurs in time and that in some streets at least many owners use the full permissible FAR and from visual inspection probably go even a little higher.

The combined action of restrictive zoning regulations in the center of town and BDA operational constraints results in a city where population and jobs are dispersed in pockets of high density suburbs.

IV. Action plan

1. Spatial policy

The State Town Planning Board should commission a study to reformulate explicitly the State urban spatial Policy at the state and local level. The TORs should be prepared by TPD and the study itself should be subcontracted to private consultants.

2. Data base

Base maps

The town planning department (TPD) will prepare a list, specifications and approximate costs for a first phase package of digital topographical base maps to be produced by contractors. This list will be based on the report “approach to Urban Mapping in Karnataka” already prepared by TPD in July 2001 and will take into account the maps and aerial photography already in the pipeline.

Additional spatial data.

For a selected number of strategic cities, TPD will prepare specifications to produce the following maps using an off the shelf GIS format:

- number of people per ward in the major cities of Karnataka (1 map per city) according to the 2000 census;
- spatial distribution of building permits updated every year
- Spatial distribution of land prices and rents, including land auctioned by Development Authorities

3. Comprehensive plans

TPD with the assistance of BDA will prepare a proposal to change the nature of Outline Development Plans (ODP) and Comprehensive Development Plans (CDP) to make them more operational and closer to the ground reality.

The focus of ODP and CDP should be, first, to analyze current land use and densities and development trends, and second, to propose a future land use plan which would be consistent with the spatial objective of the GOK and with market trends. The proposed plan should a projection of what is likely to happen rather than a blue print of what should happen in an ideal world. The focus of the CDP should be operational and should concentrate on identifying right of ways for trunk infrastructure: main roads, storm drainage, water, sewer and main public transport route. The CDP will also contain a zoning plan with revised FAR and plot coverage. Land use restrictions should be limited to 3 zones: normal built-up, environmentally protected areas, and noxious industry zone.

4. building permits and subdivision permits

TPD will conduct an audit of current building permits procedure and record the average or mean time required to obtain building permits. It will propose a reform in the procedure to shorten the time required and reduce the cost to comply with urban regulations.

5. Bangalore Development Authority

BDA will prepare a proposal to amend the land use regulations which govern land development projects (Bangalore Development Authority Act, 1976).

In particular in the definition of "Civic Amenity":

- Commercial areas should not be aggregated with community facilities, and their area should be dependent on the site opportunities and not a fixed percentage of developed land.
- Areas reserved for schools should be based on projected population and not aggregated to other facilities under a fixed percentage.
- For small size schemes designed by most private developers, the contribution in land for community facilities should replaced by an impact fee in cash which should be used to purchase land in adequate quantities and adequate locations based on projected populations. BDA should establish the area threshold below which contribution in land to community facilities is inefficient.

In addition, BDA will propose a change in procedure for auctioning land and should envisage to auction entire blocks of well located land to developers, rather than auctioning individual plots.

BDA will propose to change the pricing system of the larger plots to make them closer to their potential bid price. This would allow BDA to improve its financial situation while increasing the number of smaller plots, including EWS for which there is much demand.

BDA should prepare a site plan manual which would aim at improving the design quality of site layout. The manual will cover the following topics among others:

- Integration of roads and infrastructure between BDA schemes and already existing private land development schemes;
- Integration of BDA infrastructure, in particular storm drainage with the overall urban infrastructure network;
- Improving the understanding of market value of different location when locating commercial plots;
- Guidelines to calculate the areas for schools and community facilities based on densities and neighborhood population size;

BDA will also propose how to use the "cut off details" table used for allotment to infer demands for specific plot size and prices. The "cut off detail" dated April 2002 shows that applicants for EWS plots and for 30' X 40' plots have to applies more often that others applicants to obtain a plot. This suggests that there is a higher demand for these type of plots than for other types.

6. dissemination of information

The town planning department will propose an agenda for disseminating information to the general public. That includes clear documents on permit process, master plans, zoning maps and access to all the data base which do not raise a privacy issue, like urban census data , topographical maps, building permit trends etc.

While the basic information would be prepared by relevant departments, its graphic production and distribution could be subcontracted to the private sector. In Rio de Janeiro, for instance, all municipal information, maps, reports and forms are distributed by private book stores.

7. training

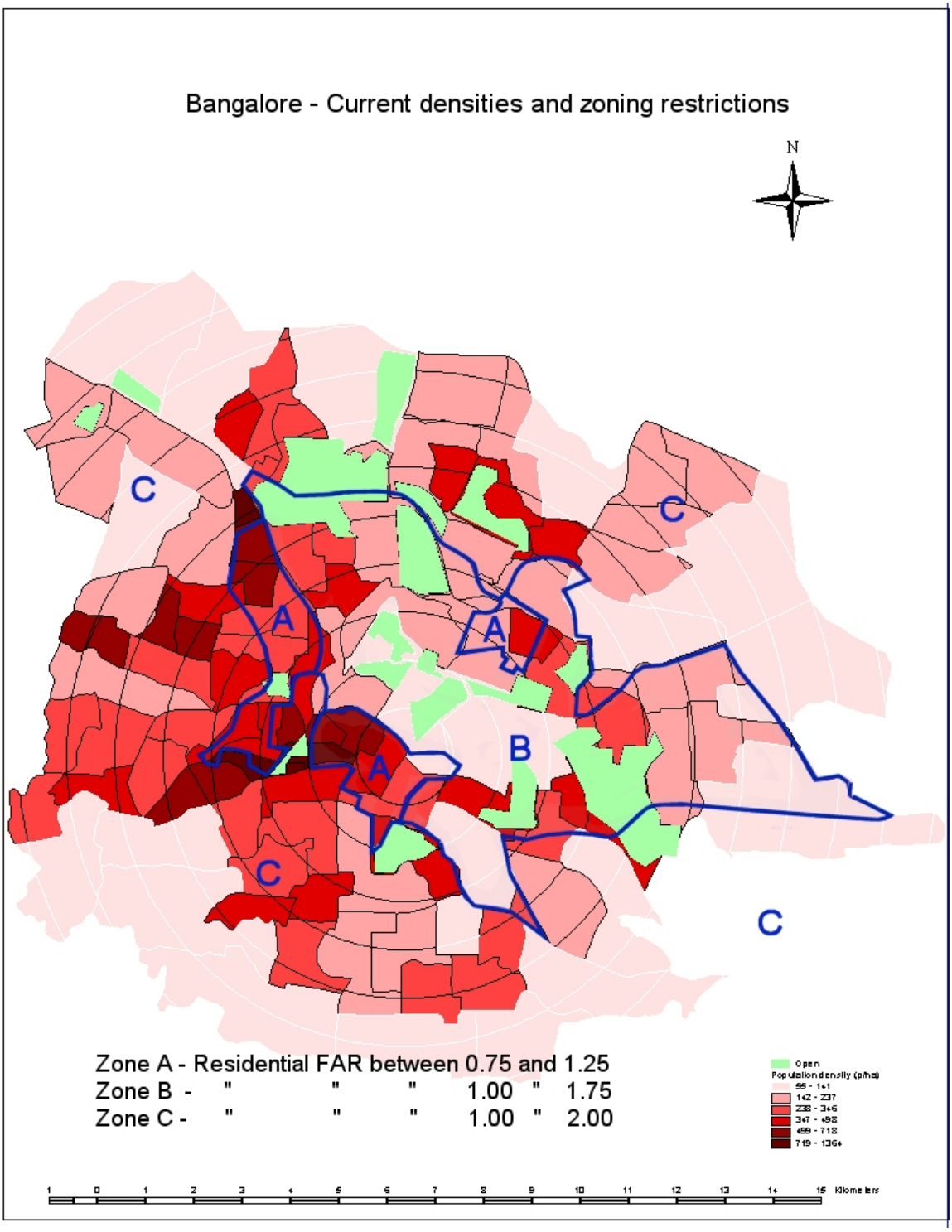
Urban planners from the TPD and DAs should receive training in

- real estate valuation, and commercial site plan design. This training would help them evaluate the cost and benefits of regulations already on the book or planned.
- GIS and urban data management. While most of these activities should be subcontracted it is important that officers understand the possibilities and limits of this technology in order to supervise contracts.
- Contracting for outsourcing of site layout design and the preparation of CDPs.

BDA should develop a training program based on its current practice for other DAs in the major towns of Karnataka. The training program will focus on

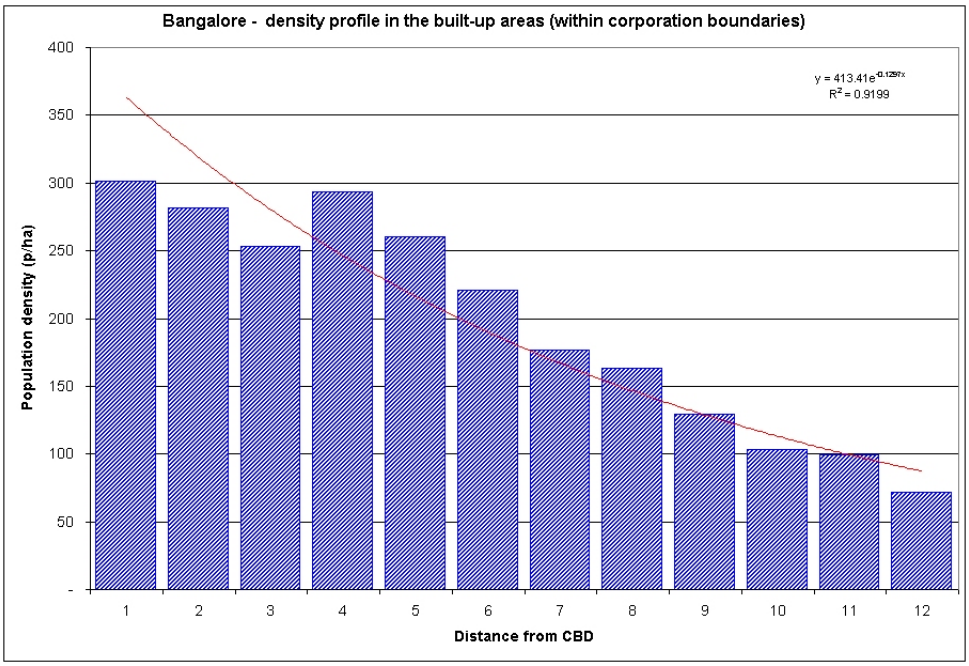
- land acquisition procedure
- auctions of commercial plots
- transparency in beneficiary selection
- cash flow management

Annex 1: Bangalore Zoning regulations and densities



Bangalore Comprehensive Development Plan 1999 - Zoning Regulations

Plot size in square meters				Road Wdth (m)		Residential		Commercial		Public Buildings	
						Max. plot coverage	Max FAR	Max. plot coverage	Max FAR	Max. plot coverage	Max FAR
						Area A: Intensely developed					
up to	240			up to	6	65%	0.75	65%	1.00	60%	1.00
over	240	upto	500	over	6	60%	0.75	60%	1.00	55%	1.00
over	500	upto	750	over	9	60%	1.00	60%	1.25	50%	1.00
over	750	upto	1000	over	12	60%	1.00	60%	1.25	50%	1.25
over	1000			over	15	60%	1.25	55%	1.50	45%	1.25
						Area B: Moderatly developed					
up to	240			up to	9	65%	1.00	65%	1.25	60%	1.00
over	240	upto	500	over	9	60%	1.25	60%	1.50	55%	1.25
over	500	upto	750	over	12	60%	1.25	60%	1.50	50%	1.25
over	750	upto	1000	over	15	60%	1.50	60%	1.75	50%	1.50
over	1000			over	18	60%	1.75	55%	1.75	45%	1.50
						Area C: sparsely developed					
up to	240			up to	9	65%	1.00	65%	1.25	60%	1.25
over	240	upto	500	over	9	60%	1.25	60%	1.50	55%	1.50
over	500	upto	750	over	12	60%	1.50	60%	1.75	50%	1.50
over	750	upto	1000	over	15	60%	1.50	60%	1.75	50%	1.80
over	1000			over	18	60%	2.00	55%	2.00	45%	1.80



Annex 1- Bangalore Development Authority: an assessment of its role in land development

Bangalore Development Authority (BDA) was not really relevant as a land development agency from 1991 until the year 2000. Since 2000, BDA has developed on average 1,000 acres of land a year. BDA has improved its operation in a spectacular manner, not only in the quantity of output, but also in auctioning the portion of land authorized by its statutes and in the transparency obtained in the allotment of plots. BDA is apparently financially self sufficient, and should remain so in the foreseeable future.

Although, the share of private developers in total area developed per year is not known, it is obvious that BDA is now playing a crucial role in shaping the Bangalore of the future. It is legitimate to ask whether the role of BDA should continue as it is, or whether its role should be changed in the long run and whether land development should be better left to the private sector while BDA concentrate on land use planning and control.

The role of BDA should be judged in the context of land development practice in urban India. BDA as it operates shows strength and weaknesses:

Strength:

- ability to develop large tract of land every year with adequate infrastructure and land reserve for community facilities
- financially self sufficient
- transparency in plot allotments
- provides a significant number of plots affordable to EWS categories in socially integrated schemes

Weaknesses:

- tend to become a monopolist
- has a conflict of interest in regulating private sector land development
- its operational preferences for operating on very large tract of land may lead to excessive sprawl in the future;
- its self financing ability might well be served by land use regulations restricting redevelopment of the city center thus pushing new intensive commercial development toward BDA schemes.

The major advantage of BDA is its ability to develop primary infrastructure in greenfield and possibly to link together small private developments with a coherent network of infrastructure (this role could be strengthened by better site planning practices). Municipalities are too weak financially to develop themselves the primary infrastructure required for greenfield development; they are not able either to reserve and protect the right of ways for essential primary infrastructure. The private sector, just emerging from the illegality of operating under the Urban Land Ceiling Act, is still too weak to play the crucial role in land development which is expected in other countries.

In the context of urban India, therefore, an organization like BDA has a crucial role to play. Its dual role as regulator and developer creates a clear conflict of interest.

However, its hand on experience in land development could also help it to develop realistic regulations which do not sacrifice financial viability to planning utopia.

It is not known at the moment how many plots developed by BDA are still vacant. The penalty formerly imposed on plot allottees who failed to built on their plot within a given time has been invalidated by the courts – rightly so. Because BDA is selling most of its plots at "cost plus" rather than at their market value, the difference between the buyer's costs for a plot and its immediate resale value is very large, at least 100% larger in most cases and for some larger plots up to 20 times the buying prices. Recent auctions of well located large plots have reached a market value of Rs 30,000 per m2 while adjacent plots were sold to buyers at the standard price of Rs1,590 per m2.

Given the large gains for the potential allottees it is not surprising that there is a great demand for BDA plots. However it is possible that the demand for BDA plots reflects more a demand for high return investment than a demand for land for shelter. BDA should monitor systematically its plot vacancy rate, and their market sale value in order not to expand infrastructure ad infinitum for servicing vacant plots.

BDA should also review its pricing policy for larger plots and make the sale price closer to market value. This would allow BDA to purchase more expansive land in closer location. BDA should also explore the possibility of selecting land adjacent to the right of way of the most important primary infrastructure to be built. BDA could then finance the systematic construction of a priority network of primary infrastructure. BDA role could then evolve from a plot producer to a builder and financier of urban primary infrastructure network. Honk Kong metro has been entirely financed by real estate development along metro stations, why not envisage an equivalent operation in India to develop the grid of primary infrastructure network that municipalities are unable to finance from their weak tax base?