

# Urbanisation in Goa

## *The Past 2000 Years: a Short Review*

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THIS article is a short review of urbanisation in Goa. I don't claim that it is exhaustive in structure and content—I don't have the expertise of the urban geographer or sociologist. It is only a part of my effort to understand the dynamics of what I prefer to label as Goan urbanism. This is a term derived from Alchin's *Indus urbanism*. It may or may not be acceptable to scholars since Goa is a miniscule area and Goan society is a microscopic entity, population wise. Some ideas on the process of Goan urbanism are presented here and the rest would take time to crystallise and develop. I have omitted maps, flowcharts, statistical tables and graphs to simplify the narrative. The approach is generally chronological because that helps me to locate the events in space and time. At the end I have given a partial list of references cited or used. This list is only indicative of the type of sources or resources available to any researcher of Goan Urbanism or urbanisation in Goa. All the towns mentioned have been visited to gain firsthand experience of their conditions and the historic sites and monuments mentioned are all familiar to me. So, this is not purely a desktop 'cut and paste' job.

Urbanism is a complex anthropogenic process. An urban area evolves spatio-temporally from a nuclear settlement. City is the term which expresses urbanism—the phenomenon of urbanisation. Perhaps the best known and oldest city in the world, Jericho originated in the Palestine as a small, walled settlement and then spread outwards. A city expands like a crystal growing from a saturated solution by accreting layers upon layers of cultural and economic artefacts. The history of urbanisation in the Indian subcontinent begins with the Indus urbanism (Chakrabarti, 1998). Both Chakrabarti and Thakur (1981) have studied the process of urbanisation in ancient India.

The state of Goa falls in the ancient Aparanta or Konkan region. The historical geography of Goa has changed over the past 2000 years.

The area of the state today is extensively truncated. This article confines itself to the idea of Goa as "Gomant", "Gomantaka", and "Gopaka", a geopolitical identity from the beginning of the rule of the Imperial Mauryas of Pataliputra (2200 years before the present). I restrict myself to the land between Terekhol river to the Kali river as the age-old average metastable boundaries of ancient Goa. There is a connection between the geostrategic location of Goa on the central west coast (Kamat, 2001, a) and its' reputation as a string of islands with deep, safe ports and navigable estuaries. This communication network promoted intercoastal maritime trade and commerce (Kamat, 2001,b). So the origin, evolution and development of urbanism in Goa has to be studied from these three perspectives—location, communication and trade.

### **The Constraints of Changing Boundaries**

The land of Goa today with its present hydrography is a mosaic of submergent and emergent landmasses (GSI, Hyderabad, 1980). Looking back into the violent ecological history of the genesis of the land of Goa, it has to be pointed out that between six to ten thousand years before the present time, large parts of coastal Goa were submerged under the sea. Thus it is difficult to assess whether any protohistoric Indus-Harrapan settlement existed on these submerged landmasses. This is an area of Marine Archaeology. I have reasons to suspect a Mediterranean influence in Goa because of the symbolic, morphological and stylistic similarity or homology between the petroglyphs at the Usgalimol rock art site and the forms found in a belt stretching from the Island of Crete to Lothal in Gujarat (Kamat, 2001,c). Apparently, Dravidian influences reached Goa during the prehistoric period of early settlements. The thick and almost impenetrable forests in the valleys and foothills of the western ghats excluded the possibility of development of any urban centre. That left the midland part, the coastal plains and the flood-plains and banks of the rivers as ideal areas for founding stable settlements with a higher population density. Population and its rapid growth, either naturally or through migrations, is one of the factors that can drive urbanism. Unless there are surplus natural resources to accommodate the growing population it is difficult for any settlement to expand further. It is almost certain that the unitary power of the Mauryan rule which opened Dakshinapatha or South India to trade routes and connected the hinterland areas to coastal ports acted as a catalyst for urbanism in Goa.

## **Ancient Goan Urbanism**

So far the only prototype of a typical walled city has been found at Chandor in Salcete taluka in South Goa district on the banks of the Paroda or Kushavati river. The cultural layers observed speak of a city with Satavahana, Bhoja, Badami Chalukyas and Goa Kadamba influences. Archaeological notices of the city of Chandrapur are found from only 7<sup>th</sup> to the 8<sup>th</sup> century A.D. Chandrapur at its zenith might have had a population of 25,000 to 75,000, spread from Cavorim to Curtorim. It mainly depended on trade from the port to the Ghats, using the Dighi ghat connecting Goa to the Deccan markets (Supa, Banavasi, Bijapur, Hampi).

The Arab cosmographers translated Chandrapur as Sindabur in their records. Besides the citadel, the royal quarters, the temples, the tanks, the markets and the fort, the city between 500 AD to 1000 AD must have had other utilitarian structures. But time and land use change has wiped out these vestiges. On the basis of research by Thakur (1981) and Chakrabarti (1998), we can only speculate about the planning of this ancient city in Goa.

## **The First Catastrophe of Goan Urbanism**

There are several speculations about the ruin of ancient Chandrapur. But the main reason according to my findings is the massive deforestation in the drainage basin of the Paroda river leading to heavy sediment flow and then floods.

A question may arise about the root cause of deforestation. This was the result of the brick-making industry and the operations of kilns. Excavations at Chandor have unearthed very ancient bricks. The fort walls were built with these kiln-fired bricks. Millions of these had to be produced for defense and residential purposes. Naturally the hills had to be stripped of firewood. It has been assumed that the Goa Kadamba king Jaikeshi, the first, shifted the capital from Chandrapur to Gopaka on the island of Tiswadi because of heavy siltation in the Paroda river. But nobody had identified the source of this silt. Chandrapur suffered because the population could not exploit the natural resources sustainably.

There must have been recurrent floods and there was no technology to dredge the river to remove the silt. So, once the navigability and depth of the port was lost, the city lost its glamour and importance. After the 11<sup>th</sup> century there are a few records mentioning this city.

### **Prosperous Medieval Goan Urbanism**

The foundation of a typical, compact trade outpost was laid by the Arab merchant guilds on the island of Tiswadi in the later part of 10<sup>th</sup> century. The founder of the Goa Kadamba dynasty, King Shasthadeva the first had noticed the prosperity of this trading colony. What followed was a unique secular alliance between the naval might of the Arab merchant-sailors and the military capacity of the Goa Kadambas. When Jaikeshi the first decided to make Gopaka as his capital, he had carefully calculated the advantages. A visit to the museum of the society of Pilar is sufficient to prove the glory of the medieval port city of Gopakapattana. Inscriptions indicate that it conducted trade with fourteen ports in the Indian ocean region—from Bengal to the Persian Gulf. (For a detailed description of the city of Gopakapattana, readers may consult my published paper, 'Gopakapattana Through the Ages' [1986]). The port city of Gopakapattana, also known as Gopaka or Govapuri, might have had a population of 25,000 to 100,000 between the 10<sup>th</sup> and 14<sup>th</sup> centuries. The quantum of trade in the port city was sufficient to support such a dense population.

### **The Second Catastrophe in Goan Urbanism**

The ecological tragedy of Chandrapur was probably repeated at Gopakapattana. But this time it was not the brick industry causing the deforestation but the massive land disturbance as a result of civil work construction. The port on the banks of the Zuari, extending from the present ward Zuari to Dandiwado up to the Zuari bridge, could not support the ships because of accumulated siltation by the year 1300 AD.. This was natural because the Kadamba kings executed massive civil works. They built the temples of Govanatha, Chamunda, Somanatha, Murtinarayana and excavated the land to put up three huge artificial reservoirs. The natural outlet for all the silt and sediment is the river of Santan or Siridao which meets the Zuari near Goa Velha. All the silt carried by this river directly entered the port area. This silt deposit accumulated over the years—perhaps for more than a century. This caused a change in the depth profile of the port. The ships could not be brought close to the docks. Deep anchorages in the Zuari river proved hazardous to the loading and unloading of goods. Consequently the merchant guilds found another location on the opposite side of the island, to the north, at the village of Ela. This is how the nucleus of the city of old Goa was laid in the 14<sup>th</sup> century. The port facilities at Old Goa

might have been developed by Yusuf Adilshah before the conquest by the Portuguese. But during the Vijayanagara period itself, Gopakapattna had lost its importance and the port at Ela was at a developing stage.

### **Moving Towards the City State—Growth of the City of Old Goa**

There is huge amount of literature on the history of the city of Old Goa which is now restricted to a small circumference. The boundaries of the city once extended from Ribandar to Banastarim and from the Arch of the viceroys to Carambolim village. From the 14<sup>th</sup> to the middle of the 15<sup>th</sup> century the city must have had a population of more than a hundred thousand. Before the Dutch blockade the population must have doubled as the period (1540-1635 AD) was the golden age of this cosmopolitan port city. The city was then described as the “greatest exchange port for precious stones in Asia” (Cunha, 2001). After the Dutch blockade, the city lost its charm. The institution of the inquisition terrorized the trading class. There are several accounts of the environmental, social, cultural and moral decay of this port city from the 17<sup>th</sup> century. These show that urbanisation had failed again miserably as new epidemics emerged and nothing was done to restore public hygiene and sanitation. In contrast to the previous two capital cities which had fallen in ruins because of siltation, the case of Old Goa was different. It was a man-made urban disaster—in drainage, sanitation and public health. Thousands of residents succumbed to epidemics of typhoid, cholera, plague and possibly malaria. At the end of the 18<sup>th</sup> century Old Goa lost its character as an urban centre. Today it is difficult to believe that in the beginning of the 16<sup>th</sup> century the same place was compared to Lisbon and Antwerp. The decay of the past has left its indelible imprint on the face of this once great city which is now reduced to a tourist destination. In the history of Goan and Indian sub-continental urbanism, the place of the port city of Old Goa cannot be dismissed. It is to Goan history what Athens is to Greece or Bombay to Maharashtra. The lessons that the Portuguese learnt from the decay of Old Goa were applied in founding the new townships in the 19<sup>th</sup> and 20<sup>th</sup> century.

### **Colonial Urbanism in Goa**

Panjim, Mapusa, Margao, Ponda and Marmagoa emerged as small towns in the middle of the 19<sup>th</sup> century. The infrastructural developments in British India then impacted on Goa. The railway-line pushed the growth of Margao and Marmagoa. The development of better roads

improved communications between markets. Panjim grew as a port first and then as a centre of administration. Ponda became the focal marketing point for agro commodities. Mapusa became a trade emporium for north Goa. The Portuguese influence in town planning and architecture is still seen in the old wards, streets, avenues, gardens and civil buildings or markets of these cities.

### *Processes Influencing Urbanisation*

The history of urbanisation in India reveals, broadly, four processes at work:

1. The emergence of new social relationship among people in the cities and between people in cities and those in the villages through a process of social change;
2. The rise and fall of cities with changes in the political order;
3. The growth of cities based on new productive processes which alter the economic base of the city;
4. The physical spread of cities with the inflow of migrants who come in search of a livelihood as well as a new way of life.

In the wake of the history of Goan urbanism, it could be said that the first three processes were active from 500 to 1500 AD. The first two and the last were active in the 20<sup>th</sup> century and processes 3 and 4 became dominant after the liberation of Goa from Portuguese colonial rule. These became the major driving forces of urbanisation.

### **The Past 50 Years of Urbanisation in Goa**

There were only five towns in 1950. In the 2001 census we have 44— an increase of almost nine times. The percentage of the urban population was 12.96 in 1950. In 2001 it has reached 49.77, an almost fourfold rise. The 1961 to 1971 decade opened new economic opportunities. This decade saw a 133 % rise in the urban population as compared to the pre-liberation period. A chain of big civil projects was launched during this decade, from new roads, culverts and bridges to school buildings and dams.

In 1965 tourism entered Goa and by the end of that decade it was firmly established.

The 1971-1981 decade had a lower growth of urban population. There was social unrest, agitations, political instability (1978-80), environmental problems and lesser opportunities for migration. Construction activities in the cities had just began but these signalled

that malaria would rear its head as an epidemic in later years. There were only three cases of malaria in Goa in 1965 and about 35 in 1971. As urbanisation picked up in 1976, Goa reported 2012 cases of malaria, mostly from the towns. These include 135 falciparum patients. *P. falciparum* emerged on the urbanisation horizon as a grim indicator that it would later play havoc if unchecked. And that is what happened. In 1991 the urban population went up to 41.02 per cent. The 1981-1991 decade saw the proliferation of urban malaria into epidemic proportions. In 1986 Panaji had 352 cases and in 1988 a stupendous 5677 or just about 15 per cent of the city's population. In the same period (1986-1988) Margao, which was developing fast, had 13 cases, Mapusa 45, Vasco 74 and, interestingly, the concrete jungle mushrooming from the sands of Candolim reported a massive 30-fold increase in malaria cases—from just 11 to 339! The infection profile of *P. falciparum* also matched the growth rate of urbanisation— from just three cases to 287 in two years!.

This period also the growing problem of sprawling slums in Navelim, Curti, Chimbél, Porvorim, Baina and Zuarinagar. Then there were cases of floods in Bicholim and Sanquelim. Massive beach erosion destroyed half of Panaji's scenic Campal beach. The absence of a policy to conserve notified period buildings led to the removal of many urban landmarks like the senate building in Panaji. Unprecedented flooding became a reality in the heart of the capital city.

Lastly we have to look at the present status of urbanisation. There is now a radical demographic transition. Goa has become the most urbanised state in the country. Mizoram stands second. Spatially, a composite index of urbanisation or CIU can be used to measure the level of urbanisation. For Goa it was +6.03 in 1981 and +15 in 1991. The scale for CIU ranges from -10 (minus ten) to +20 (plus twenty). Goa has nearly reached +20 in 2001. A high positive CIU indicates a very high level of urbanisation in terms of spatial trends. What Old Goa lost in the 19th century, another port city Marmagoa has gained in 2001 by acquiring the status of Goa's first Class I city. This class comprises the elite cities in India with a population of 100,000 or more.

It is a tragedy of Goan society and culture that despite a long history of urbanization, no town has emerged as a primate city. A primate city is defined as a dominant economic, political, social and cultural nerve centre. None of the towns in Goa deserve this status.

Another important indicator of urbanisation is the index of primacy

(IOP) for the cities. This is a simple ratio which one gets by dividing the population of the largest city by the population of the second largest city.

The three largest cities in Goa according to the 2001 census are Marmagao, Margao and Panaji. There is no possibility of any of these towns growing to primate status in the future.

### **The Present as a Key to the Future**

The history of urbanisation in Goa has a clear message in the 2001 census figures. The coastal belt is rapidly urbanizing. New towns are now emerging from suburban pockets—Aldona, Bandora, Carapur, Colvale, Goa Velha, Parcem, Saligao, Sanquelim, Aquem and Davorlim. The urban outgrowth of Panaji is spreading in the direction of Old Goa and Bambolim. The outgrowth from Porvorim is spreading to slowly merge with the expansion of Mapusa and Guirim. Margao is merging with Benaullim and Colva as an outgrowth from Nuvem is radiating towards Verna industrial estate. Ponda, Bandora and Curti are likely to emerge as a single urban entity. The thin lines separating Sinqerim, Candolim, Calangute, Baga and Chapora are getting smudged with congested urban growth.

These trends are certainly ominous because such unregulated urbanisation is unsustainable. Only three towns have something to show in the name of municipal sewage treatment. Solid waste disposal is a burning issue. The urban air quality has deteriorated and the traffic system is clogged. There is genuine fear of new epidemics like leptospirosis and viral hepatitis. Urban drainage systems have collapsed and urban watersheds are getting converted and destroyed. The precious urban aquifers in Panaji, Mapusa, Margao and Ponda are being polluted due to ill-designed and ill-maintained soak-pits. The untreated sewage and effluents from the cities is a poison for the estuaries—Mandovi, Mapusa and Sal.

There is considerable pressure on the natural ecosystems in and around the cities—the mangroves and sand dunes near Panaji, the mangroves near Mapusa, the coconut orchards and paddy fields near Margao. The proposed sports city in the low-lying khazan lands on the outskirts of Panaji is considered as a sure environmental disaster for the city and the outlying villages of Calapur, Mercedes and Taleigao.

Urban green belts and virgin patches of vegetation, grasslands and forests are disappearing. There are very few newly planted and



surviving trees. Old trees, near the roadside, are being cut mercilessly. Deprived of the roadside tree cover, urban areas wear a barren look. Traditional pastures and community commons for cattle have been converted into housing and industrial estates sending the flocks of milch animals on to streets. The open spaces in the cities are under pressure from the real estate lobby.

It is difficult to predict whether a new catastrophe will strike the coastal towns in Goa. Low lying areas face the threat of submergence in the next fifty years due to the rise of the sea level. Urban floods are already a reality. Malaria shows no signs of retreating. The cities may be threatened by public health related dangers. These are unpredictable like the plague in Surat. The quality of drinking water in urban areas is unreliable. The culture of bottled water indicates that urbanisation has a new dimension related to clean drinking water and the fear of waterborne diseases.

At the same time a new urban consciousness is emerging. There are new citizen action groups like the PMCA in Panaji and Margao and Lokmata in Margao. Civil society in the urban areas of Goa are increasingly sensitised on the issues of quality of life and civic facilities. This is an encouraging trend which is likely to be strengthened in future.

### **Towards Sustainable Cities**

Urbanisation is a global phenomenon. There were only four cities in the world in 1850 with a population of a million or more. In 1950 there were 100. And in 2000 there are a thousand. The UN helps member states in planning sustainable urbanisation through UNEP's sustainable cities programme. Miracles are possible—as demonstrated by Mr. Rao in Surat and Mr. Chandrashekhar in Thane. There is neither a policy for sustainable urbanisation in Goa nor master plans for sustainable city development. Instead of waiting for catastrophes—natural or man-made to occur, it is time to assess the significance of the 2001 census finding that now 50% of Goa is urbanised. What next? Will this rate of growth, from 12.96% to 49.77% in 50 years, ensure for us a better quality of life in the future? Or will this be a forerunner to disaster?

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