Settlers of Noman’s land, Vulnerabilities of an urbanized village – The case of Bengare in Mangalore, Coastal Karnataka, India
By Gururaja Budhya∗♦

Introduction:

1) Development Climate of Coastal Karnataka:
The Coastal Karnataka (between latitude 12”45’ and 14”00’N) region in South India is located between the Arabian Sea and the world’s important ecological hotspot ‘Western Ghats’. This region has 22 west flowing rivers, and different agro-ecological zones ranging from coastal – hillocks – Western Ghats (Singh, 1994). The region has the highest literacy rate in the state (DKZP, 2001), known to be having the enterprising people, the region has made invaluable contribution to the Indian banking sector by fostering 23 banks and producing a large number of bankers of professional excellence (Tingalaya, 2001).

The commissioning of an all weather Port in 1974 in Mangalore and an action plan in 1975 to develop an industrial area to diffuse the growth effect of the port has set the tone of development. A range of major, medium industries and a free trade zone have been proposed along with other infrastructure development activities in the region (Planning department, 1981). By 1995 the district (present Mangalore and Udupi districts) possessed 9 big, 34 medium and 9,000 small industries (DFEE&Danida, 1994). The industrialization process has been resisted by the peoples’ movement and the ‘Save Western Ghats March’ lead by the great visionary the late Shri.Kota Shivarama Karanth in 1987.

Though a few big industries have withdrawn, the region is still the destination for investment1. In line with the development an infrastructure development project is presently being implemented in 10 towns of Coastal Karnataka (with a loan from Asian Development Bank) (NEDECO/DHV, 1998), a Special Economic Zone (SEZ) on the coast recently (Bhatta, 2003) and the ‘Global Investor’s meet’ to attract investments in Tourism, Food processing and Cashew industries (Udayavani, July 2003).

The urban areas are clustered around Mangalore and Udupi districts along the coast. 75% of the urban population is situated in or near these two cities. In 1991, the population of Mangalore and other urban areas constituted about 28% of the district’s population (Census, 1991). Coastal Karnataka is fast emerging as an urbanized region, urban and industrial growth is concentrated along a narrow coastal strip, 300 kms long from Mangalore to Karwar.

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1 In service & manufacturing sectors in Karnataka – Dakshina Kannada leads by 36% (Centre for PolicyResearch, 2001).
The modern Mangalore:
Mangalore is a trading centre since 3rd Century B.C., with links to West Asia. The modern Mangalore began in 1799 A.D. after the British captured it from Tipu Sultan, the then ruler of Mysore state, the old capital of Karnataka (Gazetteer, 1971). In last three decades Mangalore has expanded beyond Gurpur River (North), Nethravathi River (South), and the Arabian Sea on the west. The Mangalore Municipality came into existence in the year 1866 A.D. (1sq mile, 28,000 population), became Corporation in 1980 (73.6 sq kms) and has grown to 132.45 sq kms with a population of 0.41 million, (4,18,500, MCC, 2003).

The city is well connected by road, rail and air facilities. The growth of education, medicine, nursing, social work institutions have increased the inflow of population. Most of the wetlands and gardens of Mangalore have been utilized for constructing houses, industries, commercial establishments and public buildings needed for the increasing population. The expansion of the city and the high rise buildings has brought land use changes. Mangalore Urban Development Authority \(^2\) has been facilitating the expansion of the ‘annexation’ of neighboring areas into the city. During one such ‘annexation’, ‘Bengare’, on western part was added to the Mangalore City Corporation (MCC) in 1996. The following section looks into the growth of the Bengare, specifically Tota-Bengare.

2) Bengare – From Noman’s land to a Vibrant community settlement:
Bengare was once a barren sand-spit. It is formed due to the accumulation of silt from the Gurupur River and the Arabian Sea. The present Bengare is consisting four parts with distinct populations, Hindus of Mogaveera community with some Muslims and Christians in Tota-Bengare; Muslims in Kasaba-Bengare; Harijans and non-Muslims in Kudroli-Bengare and mixed groups with various populations in Bokkapatna-Bengare. The Mangalore Port authorities confirm the existence of northern portion of present Bengare (consisting Kudroli & Bokkapatna – Bengares), as the southern portion was vacant (personal communication). This southern portion was called ‘Bolamgere’ and was used as a graveyard by the residents of Mangalore (BMS, 1996). The formation of Tota-Bengare and Kasaba-Bengare on the southern side is about 130 years. This land was not accorded a status of a ‘village’ as it could always be taken back by the sea.

a) Pushed from the Mainland to Nomans’ land:
The Mangalore has one of the ancient ports during Tipu’s time (Gazetteer, 1971) facilitating the transportation of goods and passengers within India and outside world since the early century. The mainland adjacent to the Gurpur River has been an important location for trade & commerce. Along the Port, the ‘Bunder’ area, which has been a trading centre, the British built Railways for transportation of goods and people. \(^3\) A Railway Goods Shed was planned next to the Port for easy transportation of goods during 1860AD – 1880AD.

\(^2\) MUDA, formed in 1984 to regulate the expansion of Mangalore. After 74th Constitutional Amendment, this planning function is transferred to the Mangalore City Corporation.

\(^3\) Mangalore was brought under the Madras Presidency by 1799AD.
Construction of Railway Goods shed meant providing alternate living space for a few families of Mogaveera fishermen families. These families opted for the southern location of the barren sand-spit next to the river for its proximity to the sea, river (Punanchittaya, Venkataraja, 1993), trading port and fishing port. The formal permission to stay on the sand-spit came from Port authority (with a condition to vacate within 24 hours notice). Soon the area has become a place for fishing and related economic activities with people from other communities coming to settle. A few dry fish stock yards, salt rooms and fish oil expelling units made their presence on the land. There was plague and other contagious diseases, the government ordered shifting of the houses between the stock yards and salt rooms. This paved way for forming the ‘southern’ and ‘northern’ settlements on the sandspit, called as Tota-Bengare and Kasaba-Bengare respectively. Then in 1890, the Madras Government constructed a salt yard on Tota-Bengare and also allowed the dry fish processing (BVBVS, 1986).

According to the Port authority, the settlers increased from 120 families in 1954 to 880 (authorized) and 330 (un-authorised) families (license holders) in Bengare (all 4 settlements) in 1989. The 1991 Census acknowledge the presence of 1,085 households with a population of 7,857 in Bengare, an area of 1.59 sq kms.

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<thead>
<tr>
<th>Population of Bengare#</th>
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<tr>
<td><strong>Male</strong></td>
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<tr>
<td>Popoulation</td>
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<tr>
<td>0-6 age group</td>
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<tr>
<td>Schedule castes</td>
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<td>Literate</td>
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<td>Main workers</td>
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#The information is for all the 4 settlements, Tota, Kasaba, Kudroli and Bokkapatna of Bengare.

**b) Local fishing economy:**

Tota – Bengare (southern portion) steadily growing with the additional settlers, so the local fishing economy of the area. The Port on Gurpur River was already providing water transportation to Gurpur (12kms upstream) and Pane Mangaluru (28kms upstream to Nethravathi River). The import and export of goods was carried out through the Port. The establishment of all weather Port - New Mangalore Port Trust (NMPT) by Government of India (GOI) on the northern location of Bengare (adjacent to Tannerbhavi). The old Port Authority thus was brought under the Ports and Inland Water

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4 Served as body guards to the Queen Abbakkadevi of Ullal, the neighbouring town (BMS, 1996).
5 The dry fish was coming from Goa, Ratnagiri, Malavan and Karawar from further north.
Transport Department, Government of Karnataka (GOK) in 1980\(^6\). The earlier location of fishing port on at Mulihitlu, Nethravathi River was shifted adjacent to the Port in 1980, developing to the present Mangalore Fish landing centre. The Mangalore Fish landing centre accounts to 35\% of the total fish landings and 50-60\% of the total fishing effort in Karnataka (Project R7799).

The expanding domestic and export market for fish has increased livelihood opportunities. The neighboring Port still performs the role of exporting and importing goods, though the major international trade happens through NMPT. The confluence of both rivers into sea, the location for trade, fishing, business activities with forward-backward linkages has already made the location, a prominent ‘fishing economic hub’ of Mangalore.

The residents of Tota-Bengare (about 400+ households) are dependent on fishing economy, ranging from owning boats to fish marketing. Tota - Bengare is busy seen with women drying fish, boat repairs, and boat building activities on the river shore generating diversity of employment. Net making, engine repairs, boat driving, marketing, financing, catering, transportation, boat pulling and other related activities provide a minimum of employment to 200 people per boat (Economy study, 2001). There are about 100 fishing boats in Tota-Bengare and their fishing activities support another 20,000 of the mainland population.

There are number of cooperative societies formed to support the fishing activities for both men and women. ‘Rani-bale’ funds (bale means net) are a traditional cooperative system evolved for monsoon fishing (with out board engines). There are about 11 such groups of 30-35 people operating and sharing the fish catch. A part of the residents also work in shops, banks, and private and government offices in Mangalore. The evolution of the settlement, the growth of economy and linkages with city ensures sustained inter-dependency with the neighboring Fish landing centre.

As the larger fishermen community on the coast, the livelihoods of Tota – Bengare are threatened with the increased competition from mechanized trawlers, investments from non – fishermen, government policies, industrial pollution. Any impacts on the fish landing centre has a direct impact on the livelihoods of the Tota – Bengare community.

c) Hanging ‘titles’ and Threatened ‘livelihoods’:
The settlers of Tota – Bengare have begun residence on the sandspit with permission (as license holders) by paying annual rent from the Port authority on a temporary basis (should vacate with 24 hours notice). The settlers have invested on the construction of the houses (thatched, tiled, cement roof), but did not have the ownership of the land. The settlement obtained ration cards, cooking gas facility, school (1965), electricity (1981), telephone (1986), own transportation to the mainland (1985) etc in different time periods.

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\(^6\) During the same period, the fisheries sector in Karnataka received a boost with introduction of mechanized fishing, use of improved nets and centralized operations of fishing ports by the Fisheries Department. Earlier, the fishing villages were operating independently, fish catch being marketed directly from the sea shore.
The people could also vote during the assembly and parliament elections. But the major
difference is only in the ‘official status’, the settlement was not accorded a status of a
‘village’ by the government. The government felt this land would be claimed back by the
sea.

The larger developmental processes in the region contributed to the citizens’ demand for
‘title deeds’. The importance of Mangalore Fish landing centre, development projects,
shifting of the controlling authority etc have created ‘insecurity’ turning to a ‘hope’ for
claiming ownership on land.

Firstly, the establishment of the New Mangalore Port Trust by Government of India and
the subsequent transfer of Port Authority to Government of Karnataka. The officials say
that the land of the Port Authority is now governed by the laws of the State Government.
Realizing the scope for regularization of government lands, it is said that people have
started tapping the doors of the government for title deeds. The demand for land has
increased (cheap rental housing) due to the location of NMPT and other industries in the
northern portion of Bengare.

Secondly, the settlers have consistently made efforts to get the minimum facilities and
infrastructure since early ‘80s from the City Corporation. The locals recollect
approaching some 7 Mogaveera Corporators (Personal communication) of Mangalore
City Corporation seeking the addition of Bengare. The demand from all parts of Bengare
ensured entry into the agendas of Mangalore City Corporation and the local political
party with the state government. The settlers are also aware about the increase of land
rates due to the proximity to city and further benefits the City Corporation could provide
them. In 1995, Government of Karnataka (GOK) declared Bengare as a revenue village.
The district administration began land measurement and allotting survey numbers. Based
on the district administration’s survey, MCC has issued door numbers. The houses on the
western portion have not been allocated due to the Coastal Regulation Zone7. The
settlers are in a dialogue with the city and district administration on this matter.

Thirdly, while people are happy for the new status, the threat of two Barge Mounted
Karnataka allowed series of industrial investments in the region, mainly in the power
sector in early 1990s. The Environment Impact Assessment (EIA) of both the projects
have mentioned that the sand-spit is un-inhabited and without vegetation. Such claim by
the company is also due to the fact that the ‘Comprehensive Development Plan’ of
MUDA officially declares the sand-spit reserved for ‘Parks & Open spaces’. Such a
categorization has made it possible for the companies to use it for their benefit9. This

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7 CRZ, is a regulation brought out by Ministry of Forests, Ecology and Environment, GOI to protect the
fragile Indian coastline from development (Brochure, 2002).
8 A ‘barge-mounted’ power plant is one located both on a barge and on land. Naptha is used as a fuel to
generate electricity.
9 The environmentalists who thoroughly researched the project documents found that the information
provided in the EIAs were prepared by Consultants without making a visit to the spot. The information is
far from reality (BVSYM, 1999) and was not true. This was due to the fact that the same consultant
prepared both the proposals and found that the consultant had not visited the site at all.
was a shock to the settlers as establishing the power projects on the sand-spit means environmental consequences\textsuperscript{10} and another displacement. But for the matured environmental movement in the region, the alliance with the Non Governmental Organizations (NGOs) and the support of MCC made it possible (Budhya & Benjamin, 2000) for the local organizations to stall the power projects promoted by both State and Central governments.

It is a temporary relief for the settlers as the process of regularization is still not completed. \textbf{Though the district administration has begun issuing the door numbers, it is surprising to know that the transfer of land has not taken place from the Port Authority to the Revenue department.} The revenue officials at the Taluq office confirm that their records do not have a mention of the recognition of ‘Bengare’ as a revenue village. The Port Authority says that the settlers of Bengare have stopped paying the rent during 1989-1993 (amounts to Rs.18,00,000). The Port Authority says that only when the Revenue Department transfers the amount that the land will be transferred. It is learnt that the ‘files’ are moving between departments in the state capital, Bangalore. \textbf{Caught between the officials, this is a clear case of ‘hanging’ the ownership which makes the settlers vulnerable to further displacement.}

\textit{The response to the external threats, the local-non local governance dynamics is well observed in this situation. It is clear that the protecting livelihoods played an important role in demanding the titles. But it is also true that the regional industrialization projects, the growth of Mangalore, prominent location of fishing economy aspects have contributed to the sustained efforts of the settlers. The instability of their residence on a ‘barren land’ is a cause for more ‘vulnerable’ situations threatening their ‘livelihoods’}.

\textsuperscript{10} The naphtha effluents and the hot water released can cause havoc to the eco system.
Informal Vs Formal Community organizations of Tota - Bengare

The community organizations in Tota-Bengare have actively participated in all the struggles. Mogaveeras, traditionally a fishermen community, has a governance system evolved over 1,000 of years. ‘Gramsabha’, an assembly headed by a ‘Gurkar’. The word of Gurkar is final and binding. All the members of ‘Gramsabha’ have to contribute membership and take responsibilities for the religious, cultural, and economic activities. Tota-Bengare has ‘Neereshwalya’ and ‘Padu-hoige’ gramsabhas (there are also residents of about 10 other Gramsabhas). They are affiliated to the regional federation ‘Dakshina Kannada Mogaveera Mahajana Sabha (DKMMS)’, a cluster of 146 Gramsabhas spread over Karnataka Coast. The federation played an important role in fighting industrial pollution during 1990s and is actively involved in protecting fishermen rights.

The community has also initiated a close knit of ‘formal’ organizations to deal with the modern society. Bengare Mahajana Sabha (BMS) for overall welfare of Bengare; Bengare Mahajana Sabha Ferry Service (BMSFS)-operating ferry to the mainland; Bengare Vidyarthi Sangha (BVS)-Youth organization; Bengare Mahila Samaja (BMaS)-Womens’ organization; Sports clubs; Ranibale funds (small fishing boat associations); Cooperative societies etc. Sports persons from Tota-Bengare have made name in wrestling, weight lifting, body building, swimming, football, saving lives. They have represented District, University, State and National level bodies and acclaimed fame. The organizations have also undertaken activities such as free text book and cloth distribution, organizing sports trainings and cultural programmes etc (VHVS, 1996).

As Gramsabha acts as an internal regulator of the Mogaveera community, the other formal organizations have members from all other communities residing in Bengare. The line of control and linkages are well defined, are formal – informal in nature. The community has started an insurance scheme and receives contributions from each member. Rs.2,000 is given to the members of deceased. The Gramsabha extends financial support during monsoon to all the families.

The rise of Bengare from Noman's land to a vibrant community settlement is at the final stage of official recognition. The growth of the settlement looks like a smooth process outwardly, but not without strains and struggles. The prominent Fish landing centre provided an opportunity for an inter-dependent local economy. The establishment of NMPT and the proposed Power projects are two faces of the same coin. The former initiated the hope and the latter insecurity. The community used its political clout in the city and the region to start a more formal process to achieve a status. It is understood that the city political leadership viewed the settlement as a future 'electoral constituency', thus provided all help and support for their claims. The Mangalore City Corporation has taken a decision not to allow the establishment of two barge mounted power projects on Bengare could be viewed from this angle. The diversity of organizations and active community life indicates the vibrancy of the settlement.

3) Issues of the urbanized village:

a) Congested resource environment:

The narrow settlement of Tota-Bengare has about 400+ households.11 The expansion of the sand-spit began originally from the southern tip towards the northern side. The west ward expansion began after the reclamation of land on the sea side. Since the unified settlement on sand-spit is divided into Tota-Bengare and Kasaba-Bengare, the new

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comers have been encouraged by the settlers. There are paths running from east to west and parallel to the river and the sea. The informal, narrow paths are existent between house boundaries, which are evident while moving around.

The high density of population living in the settlement is causing pressure on resources and the quality of living. The Doctor who visits this settlement every day opines that the population is prone to Malaria; there are other diseases like skin rashes, gastroenteritis, etc. The settlement has many localized environmental problems ranging from Malaria to solid waste, title deed to street dogs issue.

Water wells and Latrine pits:
The community extracts the ground water through open wells and bore wells (available at 4ft). The water becomes saline during summer, because the continued use of water for residential purposes and decrease in ground water. It is observed that many houses have latrine pits (leach). The water usage has increased with the increasing households. The crowding of houses has reduced the distance between drinking water sources and the latrine pits. It is observed that there is faecal contamination to drinking water sources (Water testing, 2001).

More waters for leaching pits:
The new scheme for water supply to Bengare is in pipes. The KUDCEM (Karnataka Urban Development and Coastal Environmental Management) Project is implemented by KUIDFC (Karnataka Urban Infrastructure Development and Finance Corporation, a state agency) with a loan from Asian Development Bank (ADB). It is learnt that the scheme will be providing piped water to all the residents of Bengare and leach letrine pits to the 440 beneficiaries. The water contamination in Bengare is expected to take place with the additional available water, a treat to existing water resources. But the engineers (personal communication) think that leach latrine pits are the best solution. They feel that the poor soil quality does not allow the open drainage system and the under ground drainage system. The local Corporator expressed that he has brought this to the notice of the engineers of the KUIDFC.

Malaria:
The incidence of Malaria has been high in Tota – Bengare since last few years. This is due to the high movement of people from sand-spit to the city on a daily basis. The settlement provides an excellent breeding location for mosquitoes around houses and the boat parking areas. The littered tyres, bottles, plastic cans, coconut shells found to be active breeding points in a recent survey. It was found that about 150 houses have suffered malaria attacks more than once in last three years.

Solid waste:
The Tota – Bengare generates a solid waste (consumed by the settlers) which is disposed within the settlement. The dumping of wastes can be seen in/around houses, at the junctions of the paths, at the side of western and northern roads. The major sources of waste generation are from residence, boat yards, fish drying yards, etc. The items are

12 As mentioned by Corporator in the public meeting in Tota-Bengare on 26.8.2003.
brought from Mangalore for the consumption on the settlement. Disposing of non-organic wastes such as thermocole, plastic, scrap iron, glass, tyre, rubber, dead animal, garden waste, coconut palms, dry weed, twigs, fibre, tender coconut shells, wood, medicines etc is a problem. MCC has provided a few dust bins in the settlement after relentless efforts by the residents. But the contractor of City Corporation drops in rarely to clear the waste.

**Village wants city atmosphere:**
From a status of ‘nowhere’ to ‘recognition’ as a ward of Mangalore City Corporation have brought certain visible changes in the settlement. The process of legalization meant a good land holding, value for land. The locals say that a few of the local ‘bigwigs’ or ‘land mafia’ have been occupying the open lands, rent them and slowly make an application for the entitlement. Until a few years back, none of the houses had boundary walls, the whole area was a common access path. Recently (since became a ward), distinct house boundary walls are visible. There has been a shift from tiled houses to cement roof houses (most of the new houses are cement roofed).

**Water stagnation or Flooding:**
A new road is constructed parallel to the river to the boat parking yard. This is connected to the road on the west side. A footpath was also made (with designed cement blocks) from this road to the temple. Another road was constructed from the western main road to the foot ball ground. Boundary walls of houses have also affected the natural water drainage flow, creating water stagnation in the locality. The roads were cut in three places for the releasing the water. The fire engine could not reach the boat yard during a recent fire accident, as the poor quality road did not allow the vehicle to move. The residents along the road also complained of dust rising from the road during the summer. The residents are very happy with the Corporator for having done these roads and footpath. Only now they are realizing that these developments are causing problems. It is observed that the residents want their ward look like a ward in Mangalore city. The realization of the impacts of these developments still needs to settle in.

The situation in the neighboring settlements is not so different. In Kasaba – Bengare, water contamination, drainage (due to roads) and solid waste are the main problems. There is increasing instances of disposal of human excreta in dust bins. It is found that the excreta is collected at homes in ‘bags’ and thrown in the ‘dust bins’. It is observed that the women and children do not use the open beach site. They do not have the latrine pits at home. They have been used to the practice of using a bag to fill the excreta and dispose it in the dust bins, which is never cleared. The dust bins are found to be rotting with un-hygienic condition. The situation of Kudroli/Bokkapatna Bengare are found to be generating residential wastes, but not to the magnitude of Tota/Kasaba Bengares.

**Pouring gifts from the City:**
The Mangalore city generates about 100 tonnes of solid waste every day (NEDECO/DHV, 1998), which is disposed on the dumpsite on eastern locality, ‘Vamanjoor’. More than half of this waste escapes the collection process (thrown in the surface drains & storm water drains) only to reach the Gurupur river (also Nethravathi) through small streams and drains. The upstream wastes (wood, other bio wastes) and the
city wastes (plastic, paper, tyres etc) make a symbolic front door entry (accumulates on the river bank) to the sand-spit. The back door entry is made on the sea by piles of plastics and other wastes, sometimes dead cats and dogs. The fuel wood is collected by the residents and the other wastes collected by rag pickers. The residents complain the increase of stray dogs and are scared to visit the river side during late evenings. The unhygienic situation is a mark of respect for the formal relationship of Mangalore with the residents of Tota – Bengare.

What it means ‘Development’ to the course of river?
The monsoons in 1974 have caused a portion of the southern tip of Bengare to submerge in the water. A fisheries salt yard, about 30 households and the land was washed away. The locals say that about 30 families residing on the southern portion had to be shifted to the safer location on the sand-spit. An old person of Tota-Bengare, recollects the day, 'there was heavy rain fall, we realized that the flow of river increased and over flowing in to the sea through the sand-spit. The fishermen from Tota-Bengare and Ullal got together to shift all those families to the northern portion. The trench was made at the water level, the land mass washed away due to the force'. According to him, if not for their quick act, a major portion of the present southern tip would have got washed away. The 200 youth of the Bengare Vidyarthi Sangha Yuvaka Mandali also joined hands in this effort (BVSYM, 1999).

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<th>Construction of Break waters</th>
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<td>The state government constructed break waters on the river side of the spit and at the river mouth. The Gurpur River from Tanneerbhavi onwards was dredged by the Port Authority. The construction of break waters on the river and at the river mouth has widened the Bengare sand-spit. The accretion of land is observed on eastern bank of the river and western sea shore. Gifted with the additional land, the BMS has taken over the control of allocating the extra piece of land. The river bank is used for drying fish and parking boats. The western portion has been allocated to the residents of the expanded family. The district administration considers their occupation as ‘illegal’ and not permissible under CRZ.</td>
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The studies reveal that there is uplift of the coast of south Karnataka and Kerala due to the northerly tilt of Peninsula. The shifting of rivers and deepening of river valleys are due to the uplift along the Mangalore-Madras axis. In case of Nethravathi-Gurpur, the spit is more developing in a southerly direction and in the case of Pavanje-Shambhavi, Udyavara, Sita-Suvarna estuaries; the development is in a northerly direction (Bhat & Subramanya, 1993).

Based on interpreting the Indian Remote Sensing (IRS) digital products, the presence of submerged paleo-shorelines and paleo channels in the offshore region observed (Vinaya et al, 2003). It can be stated that the Gurpur and Nethravathi rivers had independent exits into Arabian sea. The 1st paleo channel- north (2.3km) of NMPT, the 2nd one to the south (2.5km) of NMPT both discharging directly into the sea. The 3rd to the south (3.3km) of second one and joining the paleo course of the Nethravathi forming a common exit to the sea. Nethravathi had its course further south (approx 2 km) of N-G estuary and was joining the sea further west, more than 4 km away from the present shoreline.

The coast line is under going changes due to natural and anthropogenic reasons. The advancement of the land and retreat of sea is observed on the west coast. The study of satellite imagery and air photos indicate that a majority of the streams assume a coast parallel attitude as they approach sea. Shifting of river mouths and development of barrier spits are observed (Bhat & Subramanya, 1993).

Another study based on topographical maps and Indian Remote Sensing satellite data products (Bhat & Subramanyaya, 2000) observed erosion of Tanneerbhavi and Bengare spits and accretion of Ullal spits (the other side of river mouth) during 1910-1949. A reversal trend, accretion of Bengare and erosion of Ullal spits observed during 1979-1988. The rapid widening of the Bengare beach and further narrowing of the Ullal spit observed after 1988. The reasons for changes in the morphology of the barrier spits are due to the human interference by way of construction of engineering structures. The breakwaters of New Mangalore Port Trust (during mid ‘70s), the break waters at the mouths of Nethravathi-Gurpur estuary, Udyavara estuary and sea walls elsewhere have contributed to the modification of shoreline. The Bengare spit which was a site of erosion turned into an accreting zone a subsequent to the construction of a sea wall at the southern tip of the spit and the breakwaters at the mouths of Nethravathi-Gurpur estuary. This also has resulted in shifting of erosion sites to the down drift (southern side).

The development activities mooted after the NMPT have brought considerable changes in the land use of the region. The growth of Mangalore city, increased demand for drinking water supplies prompted construction of a vented dam at Thumbe, on the upstream of Nethravathi. Another vented dam further up at Sarapady was constructed by Mangalore Refineries and Petro Chemicals Limited. These have contributed the less flow of water into the sea. The sand mining is observed on the upstream of Gurpur and Nethravathi rivers for the construction industry. The developmental activities of the Gurpur-Nethravathi river basin are contributing to the soil erosion more during the monsoons, carried by the river waters (Santosh & Reddy, 2002).
‘End of Pipe’ recipients of the environmental consequences:
The settlers of Noman’s land have been at the receiving end of the vulnerable situations. The compulsions of local developments during early 19th century have provided an alternate living space. This alternate living place has become a congested environment exposing the settlers to health risks. The major industrial developments of the region and the local economy have brought in change of landscape. The process of urbanization of the city and the region has further contributed to the losing, but changing landscape. The sand-spit is also gifted with the city wastes. The environmental consequences are of internal and external nature. The community has gone along the lines of urbanization and not able to realize the costs of health it means to them. The externalities have been caused mainly due to the regional industrialization and urban development activities mooted by the state. On the larger side the variation in monsoons resulting in loss of land.

Conclusion:
Private - Public partnership for building Vulnerable cities?
Looking at these processes, it is clear that the core focus of development is seen as the physical (industrial), visual (urban areas) development rather than overall development of people. The selection of the right location for livelihoods by the 'displaced' have brought continued sufferings. The local environmental issues, the industrialization process-another displacement threat, city development and the impacts due to the CRZ and other policies - have made the settlers constantly vulnerable.

The multiple developmental actions (promotion of industries, expansion of urban settlements) which are local/regional in nature brought the physical change in the environment. The cumulative impact of these actions always is received by those who are located at the 'end of pipe' (same as with 'slums' within the city). Though the local actions impact marginally, the accumulated impact of larger regional development actions are higher for ‘end of pipes’, as recipients of all outcomes. Of what the people perceived to be alternative, easy/free access, livable has been exposed and proved to be the ‘vulnerable’ for livelihoods and eco systems.

The continuation of present multiple development actions cannot be seen in isolation, but with the present private - public partnership model being promoted by the Government of Karnataka. The Bangalore Agenda Task Force (BATF) is claimed to be a success of making Bangalore a Global city. The model is being replicated in other regions of Karnataka. It is learnt that the Coastal Agenda Task Force consisting the educationists, industrialists, professionals have already submitted their 'report', which has impressed the Chief Minister of Karnataka the importance on Infrastructure Development on Karnataka coast. The predictions of the working committee for developing the hinterland of NMPT (Planning Department, 1981), industrialization efforts during ‘90s are on the line of exploiting the economic potential of the region. Fearing the resistance of people on industrialization, the implementation of the KUDCEM Project on urban infrastructure is seen as an indirect way of preparing the region for the next round of development.
The special purpose agencies such as KUIDFC (UDD Annual report, 2000) to implement the externally financed projects and involvement of other state agencies indicate the subject of ‘development’ being the domain of the State. The high level planning for development does not involve citizens in decision making (Budhya, 2001). Going through the experiences of resisting the mega industries and the environment pollution, there is maturity on part of the local movements from ‘total resistance’ to ‘claim the control over the decision making processes as a strategy (Budhya, 2001). The lack of transparency and involvement in the recent developmental project has lead to the formation of citizens’ ‘NGO Task Force’ in Mangalore questioning the highhandedness of the implementing agencies (Budhya, 2001).

It is observed that such huge development projects which either seeks to improve the quality of provision or extending the existing provisions are used principally to serve higher-income groups or industrial and commercial concerns (Satterthwaite, 2001). Some of the data shows that 70% of the multilateral bank funded projects are unlikely to provide long term social and economic benefits. And given the record, the multilateral bank will be an engine for economic failure, environmental destruction, indebtedness, and growing social and political instability throughout the Asia-Pacific region (Gorson & Lawrence, 2003).

'Co-opting' the local elites, 'visionaries' in decision making process is providing 'green signal' for the smooth sail of on going 'development projects'. These justifications make the smooth flow for obtaining huge sums of foreign loans for infrastructure development, establishing Info-Tech parks, Special Economic Zones. The private-public partnerships as envisaged by the government machinery are at the back drop of ‘Global thinking – Global funding’. This is the driving force for the ongoing industrialization-urbanization of the region. The priorities of such a process are not defined by the local concerns and relevance. The autonomy of the urban local governments is under consistent threat from the state domination. Such factors influencing the functioning of the urban areas would continue to pose more pressures on citizens groups (Budhya, 2003).

The pressures on the fragile coastal environment were well predicted way back (DFEE&Danida, 1994) and the implementation actions are at a back seat by the GOK. The impacts of urbanization, industrialization, agricultural practices, and utilization of natural resources such as land, water and contaminations are sometimes cumulative in nature, which are added to the Global Environment Change status kitty. With the 'Global' money fast flowing for the development of the region, so the sidelining the necessities of concerns-issues of people. The natural resources are being exploited at an alarming rate with many more examples of 'vulnerable people' and 'locations’ like Bengare, in and around Mangalore. But Bengare, the urbanized village needs the immediate attention of the centralized planners. As long as the 'decentralization' of governance becomes a reality, the partnerships of progress would continue to create 'vulnerable cities' out of sustainable cities.
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