

Planning Strategies for Developing Parvathy Puthanar Canal front as a People-Oriented Green Corridor: A Study of Kovalam-Akkulam Stretch

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ABSTRACT: People oriented green corridors are positioned to be one of the most in-demand green spaces, acting as recreation areas and as alternative path for bicycle commuters or walkers and posing new management challenges for the development of an adequate public use of these sites along with promoting biodiversity and habitat connection. Increased pressure for development in city areas is erasing open spaces from the city fabric (Indugeetha B. & Edward S., 2014) and thereby reducing chances for socio-economic development. Need for a proactive approach to create such a corridor in Thiruvananthapuram city is necessary, as the increase in population density and physical development is very evident along the west coast from various reports and studies. A people-oriented green corridor along the Parvathy Puthanar canal front provides not only as a space for social interaction, recreational activities but also improves the urban ecological quality. The present study focuses on the development potentials and issues in the Parvathy Puthanar canal stretch from Akkulam to Kovalam and aims to derive planning strategies and proposals to strengthen the nodes based on the study conducted. This project also aims to transform the neglected canal into a vibrant and vital focus of the city and thereby improves the image of the city.

KEYWORDS: People-oriented green corridor, urban open spaces, canal-front development

1. INTRODUCTION

Green corridors are linear routes with a primary purpose of providing opportunities for walking and cycling, either for leisure purposes or travel. Green corridors in urban areas are also critical habitats to support biodiversity. There is a correlation between people and urban open spaces. Open spaces being the breathing spaces in urban areas provides a range of benefits to its citizens, beyond the benefits that accrued to private developers. An imageable public space with good quality makes for an imageable city. All types of open spaces are to be secure and preserved, and should be well maintained. Otherwise they transmit a sense of insecurity, we will seldom return to these places. Arising public awareness and various ways in managing green public spaces has great potential in developing active green recreational spines across and along any city. Designed parks and other natural areas can be used for recreational needs; wetlands, low-lying areas, marshy lands and forest areas supply storm-water drainage and wildlife habitat.

A green corridor here is a continuous public park serving the recreational needs of the community. The presence of green open spaces or corridors in a city is important for the healthy physical, social and cultural development of its citizens, which is accepted world-

wide. Appropriate planning of a city, in consultation with the public, helps in conserving the stock of open spaces and also to create more, wherever necessary in order to serve the public need.

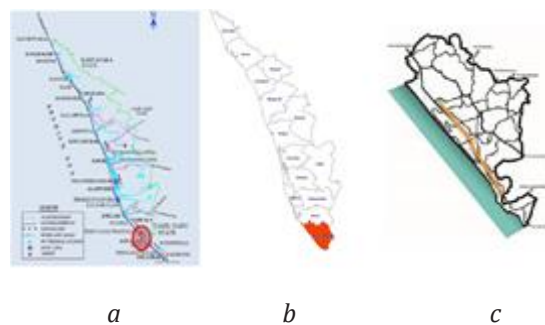


Figure 1: a) Map of Waterways in Kerala showing West Coast canal and Akkulam-Kovalam stretch. (Generated from Map of Inland Waterways System in Kerala, NATPAC, 2006) b) District Boundary map of Kerala showing location of Thiruvananthapuram (generated from the map retrieved from Google maps) c) Map of Thiruvananthapuram city showing Akkulam-Kovalam stretch. (Author generated)

Thiruvananthapuram, the capital city of Kerala is one among the fast urbanizing cities in the state and its urbanization rate is increasing every year, about

1.75 times greater than the state average. But the Thiruvananthapuram city lacks sufficient open spaces for public recreation and leisure activities. Revival of waterways has enormous potentials, especially in promoting tourism and water sports, employment generation, growth of traditional industries and decongestion of road system (Indugeetha B. & Edward S., 2014). Thiruvananthapuram is blessed with blue-green network. The definition for green corridor along the Akkulam-Kovalam stretch of the West Coast Canal, shown in Figure 1 (a), is framed as "a continuous open stretch of land along the canal with walkways and bicycle tracks on either side of the canal, connecting major tourist hubs in Thiruvananthapuram and a green corridor that support the conservation and development of the area's flora and fauna". This corridor should function in terms of recreation, access, nature conservation, socio-economic activities and visual amenity and should be an asset for the future.

The facilities for a people oriented green corridor should be based on the existing population and the projected population, to meet the future needs. Strategies of a people-oriented green corridor are:

- Encouraging and enabling local communities to become involved in and take action to share and increase the benefits of the city's recreation opportunities
- Managing and promoting responsible land uses
- Ensuring opportunities are available for all sections of the community

High quality and well placed recreational areas in the city can foster a positive impression of Thiruvananthapuram as a place to live, work and visit.

2. NEED FOR GREEN CORRIDOR IN A CITY

Green corridors are an attempt to mitigate negative effects of the built environment of cities. The corridors act as conservation for rapidly extreme intervention and development of the urban environment. People oriented green corridors have increasing importance in city developments due to the urban expansion. This increased pressure for development in city areas is erasing open spaces from the city fabric. Careful open space creation through participatory planning can improve both property values and quality of life of the local communities. Apart from recreation use, open space also allows to improve the quality of environment by allowing the penetration of sunlight

and air movement and it will also provide as planting areas for visual relief (Indugeetha B. & Edward S., 2014). Hence benefits of urban open spaces include imageability of the city, recreational benefits, ecological benefit and, aesthetic benefits. Overall it improves the public health through the achievement of these benefits. This land use element, urban open space, is important in a city with high intensity of development and high population density.

2.1 Vital role of People-oriented public spaces incities

The best way to humanize our cities and make our streets more communal is through reclaiming urban open spaces for people to support their activities and meet their daily recreational needs. We need such public areas, which are often more than anonymous spaces, in our cities where meetings and exchanges happen enhancing our relationships with each other giving meaning to our communities and urban landscapes.

2.2 Relevance of returning the streets to the people - some case studies

a. Seoul River Restoration Project, South Korea: One of the world's greatest urban design projects, Cheonggyecheon River linear park has been created by transforming a traffic-choked elevated freeway and concrete paved waterway into a lush, 3.6-mile-long "day-lit" stream corridor that attracts over 60,000 visitors daily. The restoration process has also provided huge boosts to local biodiversity and catalyzed economic development.

b. LA River Restoration and the Glendale Narrows Riverwalk: A concrete canal which was inaccessible to the public has now turned into one of the longest recreational zones in U.S. The river edge was walled up in the 19th century to protect the residents from flooding. The river is brought back with a series of dams, lakes and flood protection measures ensuring the safety of people's properties. Around 240 projects are brought along with this project to support the recreational needs of the local residents. Additional benefits of converting the river back to a natural state is that it creates new habitats for animals and birds, improve water and air quality and decrease urban heat island effect.

c. Banks of Seine, Paris: The goal of revitalization of Seine River waterfront in Paris was to return the river to residents. A 2.5km long road stretch has been closed and re-oriented toward people with art installations, sports facilities, space of musical performances, restaurants and open spaces for leisure.

d. Plaza projects: The two successful plaza projects the "Sunset Triangle Plaza" in Silver Lake and the "NoHo Plaza" in North Hollywood often involve closing the streets to cars,

completely transforming streets into people-oriented gathering spots with tables, chairs, umbrellas, greenery, and more.

e. The main square of the Obermais/Maia Alta neighbourhood: The municipality of Merano/Meran engaged children and local residents in several participatory workshops to co-create possible solutions for more people-oriented public space. In the main square where parking is done illegally by local residents was transformed into a playing area for youngsters through the construction of a skate ramp. Children are directly involved in each phase of the project as they are considered as key actor to build sustainable cities.

3. POSSIBILITIES OF A GOOD PUBLIC SPACE:

A good public space is one that reflects diversity in spaces and activities that are safe, encouraging people to live; creating the necessary conditions for recreation with permanence; which invites people to be on the street. A good public space should be essential in attracting people and needs to present at least ten possibilities, for making it people friendly. This includes various opportunities open to the public for their performances and to improve their health through recreation and interaction. Without these possibilities, these corridors may be left as dead passages without any single reason for them to stay. People will be on the street, only if, the street is safe and is universally accessible meeting various needs of all categories of the community. Basic principles for making a good public space:

- a. Integrating various uses – commercial, office, residential, recreational etc
- b. Scale of the space should be comparable to human scale
- c. Efficient and people-oriented lighting facilitates the occupancy of open spaces at night
- d. Active front facades connecting the streets, walkways and buildings
- e. Quality of space considering the scale of user groups
- f. Income generators for the nearby communities
- g. Should have an identity or image
- h. Green areas are strategic for urban drainage

and maintenance of biodiversity.

- i. Should also accommodate pedestrians, cyclists and facilitates them with resting places and other infrastructure
- j. Participatory planning – people to be involved while planning urban design projects

Urban open spaces continue to be vital for their well-being and they continue to be spaces for exchanges, co-existence and meetings. Quality of public spaces is an important pillar of sustainability of a city. Human activities need quality and clearly defined public space. People create and co-creates spaces, while the quality of space influences the character of the people.

Cities are realizing the value of human centric approach to urban planning, to create livelier, healthier, safer and sustainable cities. After years of neglecting the human dimension, there is growing awareness and willingness to create cities, first and foremost, for its people and their needs. A lively city, where most of its people travel by walk or bicycles, is a sustainable city.

4. NEED FOR A PEOPLE ORIENTED GREEN CORRIDOR IN THIRUVANANTHAPURAM CITY AND JUSTIFICATION OF PROJECT AREA THE

AKKULAM – KOVALAM STRETCH OF PARVATHY PUTHANAR CANALFRONT

Even though Thiruvananthapuram has many natural tourist destinations and a good blue-green network, it lacks in open spaces for its people's recreational activities. The crowd at the major recreation spaces, museum compound and Shangumugham beach, in Thiruvananthapuram city reveals the need for more public open spaces for recreation. The proposed green corridor lies in between these existing major recreation spaces as shown in Figure 2(a) and connects proposed tourist hub in the Thiruvananthapuram Master Plan [Draft], 2012 to Akkulam and Kovalam as shown in Figure 2(b). Population within Thiruvananthapuram city is concentrated in the coastal wards as shown in Figure 2(c), on the south of airport and the projected population for 2021 is concentrated in the coastal belt with high density (>5000 persons/SqKm). The suggested city form and direction of growth is also towards the coastal stretch.

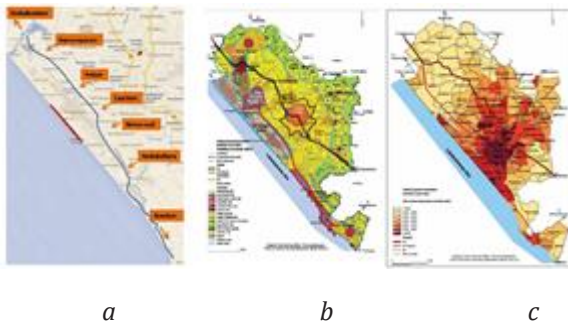


Figure 2: a) Location of museum compound, canal and Shangumugham beach. (Generated from Google map)

b) Proposed Development Concept (Trivandrum Master Plan [Draft], 2012) c) Distribution of Population Density among the wards in corporation (Trivandrum Master Plan [Draft], 2012)

4.1. Project area

The canal stretch from Akkulam to Kovalam (Figure 3) is at the Southern tip of the West Coast Canal and is about 17.82 km in length. It connects two major tourist hubs in the city, Veli tourist village and Kovalam beach and is accessible from various parts of the city. The waterway is running through International airport, historic boat jetties at Vallakadavu and Chakkai, Edayar Island, Poonthura fishing settlement, Poonthura estuary, Panathura old settlement of fishing community, Kovalam Quarry, Resorts at Kovalam shows high opportunity for developing it as a green corridor. There is a proposal to extend the National Waterway-III from Kollam to Kovalam by the Inland Water Authority of India.

This canal was the principal mode of transportation in olden days. With the introduction of the faster modes of transport like road and rail, the use of the waterways reduced significantly over the years and the use of waterways as a mode of transport was totally ignored. The canal is polluted and is clogged by the waste dumping into the canal and due to the growth of weeds.

Any planning along the canal front should aim to develop and conserve the canal and its environment.



Figure 3: Locations of Museum compound, Shangumugham beach and Parvathy Puthanar canal from Akkulam to Kovalam (Author generated from the Google map, 2012)

Development can be based on:

- Land use for providing proper zoning of different functions,
- Connectivity & transportation to link various destinations and as an alternative mode of transport,
- Tourism for economic as well as aesthetic benefits,
- Recreation to meet the needs of the local community
- Economy by providing more job opportunities through the introduction of various uses and functions including informal markets, shops etc.

The stretch is accessible from all parts of Thiruvananthapuram city. So the development of a recreation space along the canal from Akkulam to Kovalam provides a continuous open recreation zone for the public. In addition to reducing traffic congestion due to the crowd coming for recreation purposes in the city core it also reduces the pollution in the city. The revival of the canal also serves as an alternate mode of transportation and improves the water quality (Indugeetha B. & Edward S., 2014).

5. PLANNING CONCEPTS

From the area study findings planning concepts have been developed for framing strategies in bringing up a

people-oriented green corridor:

1. Give importance to identified existing recreation activities in the site and enhance it
2. Restrict unsuitable land uses like industries, etc.
3. Design walking trails and pedestrian amenities
4. Proper accessibility to the site at various nodes
5. While designing spaces, it should be given flexibility in change for activities based on time (day and night) and season(year)
6. Give priority for Green Development in the stretch
7. Bring canal oriented activities
8. Maintain canal depth and take necessary actions to prevent sewage flow into the canal
9. Intense street level activity and provision of open spaces to attract people all day long
10. Vegetated buffer zones between recreation zone and road/settlement
11. Maintain biodiversity by planting local trees and plants
12. Accessibility to nearby public buildings and parks

6. PLANNING STRATEGIES

Based on the Planning concepts evolved strategies were formulated for achieving the aim of the study.

Land use:

- 6.1. Rules and policies for a defined NDZ on both sides of the canal
- 6.2. Demand EIA clearance for new projects (between the defined NDZ and bypass road and between coastlines)
- 6.3. Existing government properties has to be preserved
- 6.4. Plan without major change in the existing land use

6.5. Promote green development for the Canal Zone

Land Acquisition:

1. Incentives and TDR for the land owners
2. Rehabilitation or equivalent incentives for the residents within 20 m from the canal
3. Houses for houseless and land for landless or equivalent benefits for the affected community
4. Avail financial support from NGO's and government for housing the poor

Connectivity:

1. Provide required width for the connecting roads at the identified traffic nodes considering the traffic volume

Pedestrian facilities:

1. Provide handrails & a level difference between the pedestrian pathway and road, if it lies adjacent
2. Street furniture, public toilets and refreshment have to be provided at regular interval

Canal quality:

1. Cleaning and maintaining the depth required for navigation should be ensured
2. Provide bioswales as part of the walking trail
3. Promote bio engineering techniques to anchor the soil on canal edge, which helps to maintain biodiversity
4. Provide reed rafts at broader sections of the canal to serve as a spawning and refuge areas for fish and also provide a habitat for nesting birds.
5. Allow only permeable materials for pavements and walkways

Sanitation:

1. Sanitation facilities and septic tank/ drainage facility have to be made compulsory

Activity:

1. Provide performance platforms and open spaces for community gatherings
2. Promote boating for transportation and tourism linking Veli - Chakkai- Vallakadu-Edayar-Panathura-Kovalam
3. Cycling tracks connecting boat jetties

4. Multiple destinations with variety of activities
5. Provide gazebos for fishing at broader sections

Public spaces:

1. Linkages and transportation facilities to nearby public destinations make the corridor more active and functional
2. Identify suitable activity and enhancement of existing activity that supports the activities along the corridor
3. Create more parking facilities and related amenities at major nodes to attract people from distant places
4. Promote income generating activities

Backwardness:

1. Skill up-gradation programmes to enhance the living standards by increasing self-employment opportunities in primary sector
2. Promote cottage industry products through markets

Tourism:

1. Linkage to Panathura beach and Poonthura beach providing a beach walk with other entertainments
2. Boating, house boats and floating restaurants will attract people towards the canal
3. Development of a tourist village at Edayar, fishing village at Poonthura and Coir village at Panathura to create more job opportunities to the local people

7. PLANNING PROPOSALS

The project area displays change in activity pattern and land use pattern from Akkulam to Kovalam. Based

on the identified locational qualities and suitability appropriate proposals have been suggested to strengthen the nodes as shown in Figure 4. Additional proposals can be given in consultation with the local people during implementation.

8. CONCLUSION

Long-term planning as well as rapid and inexpensive transformation strategies can be powerful tools to encourage public participation and improve quality of life. The vanishing open spaces and other natural resources due to the intensive urban development in Thiruvananthapuram city are major issues and need attention to restrict the development. Existing natural resources available along the Parvathy Puthanar canal has to be conserved and should be developed as a green corridor to meet the recreational needs of the citizens. The study shows that the Akkulam-Kovalam has high potential in developing it as a people-oriented green corridor. The cost of people-centric urban planning is modest and it benefits, far reaching. A truly liveable city is possible through implementing a people-oriented planning strategy.

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