

# Kurangani

Draft approach paper for Zero Waste Rural Tourism



Thanal  
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This quick report is based on the field visit made to Kurangani during 28-29 September 2008 by Thanal Team (Shibu K. Nair, Raju S. and Manjusha S.) as requested by Greens. This document is meant for initialising dialogues and planning process for a better resource use systems at Kurangani.



## 1. Introduction

Waste management has emerged as a major concern in rural tourism, since the lack of it not only acts as a deterrent to tourist inflow, but also has negative consequences for the quality of local life (e.g. health, hygiene and sanitation). A planned approach to waste management must be evolved by involving not only the local community but also the transitory tourist population. And the concept of zero waste might be the answer.



## 2. Location

Kurangani – a small hamlet at the base of the eastern side of Munnar hills on the Western Ghats in Tamil Nadu. It situates on the banks of rivulet Kurangani and falls under rainshadow region which is surrounded by dry deciduous forest cover. This tiny village have a historical past, being the main entrance to Munnar for the British where they built a ropeway and power station. This village is 16 km away from famous spice trade town – Bodinaykannur and is accessible by road.



Kurangani is dotted with silk cotton plantations, terraced paddy fields and mango groves. Coffee is also grown here. This village is inhabited by landless agriculture labourers from the plains and tribes of the land. The village have bare minimum infrastructure and institutional facilities. The standard of living of people are low and access to education, health care, employment, land etc are poor. Disparity in gender and low literacy rate makes situation worse.



### 3. Observations regarding Waste

- o People have their huts huddled on the banks of the rivulet Kurangani and formed a congested colony.
- o The nature of waste is typical to any other Tamilnadu village; mostly ash from the stoves, old clothes, plastic wrappers and covers, paper etc.
- o The quantity of waste generated is low, but the impact is high because of mixing-up and lack of space.
- o Storm water drains along the roads are clogged with silt, solid waste and is a place for animals to scavenge.
- o These stinking drains are passing through the courtyard of houses.
- o The public water taps are installed on the edge of this stinking drains and where people do washing utensils and bathing.
- o Almost all the taps are leaking and got cloth pieces wound around which acts as a filter.
- o It shows the poor quality of water distributed through this public taps.
- o The sanitation standards of the villagers are poor and it seems as an issue of low priority.
- o Open defecation is quite common.
- o It was observed that most of the houses and shops have their drain outlets extending to the rivulet.
- o It was noticed that a septic tank right on the bank of the rivulet.
- o Animal dung is scattered all over the place since there is a lot of domesticated animals, like cows, goats and mules.
- o Rivulet is also being used for discharging waste water and solid waste. Place near the bridge it was worse.
- o The practices in the shops and restaurants will not satisfy even an outsider in terms of hygiene.
- o Sandmining in the rivulet is so dangerously done, especially under the bridge.
- o The rivulet is the only source of water for the entire village.





- o Current way of utilising the rivulet will prevent any visitor from using water from the village.
- o Infrastructure facilities like, public toilets, bus waiting shed or resting places are not available.
- o No plans or schemes existing for waste management.
- o Periodical clean ups are done with the help of volunteers, but are not effective
- o Chlorination of streets are not effective
- o Wayside dumping and burning of waste is common.

#### 4. Recommendations

1. A baseline study have to be conducted to identify the characteristics of waste, attitude and awareness of people.
2. A study have to be conducted to identify the problems of existing water supply scheme and storm water drains. Simple systems have to be devised to treat the drain water before discharge.
3. A viability study have to be conducted in the colonies to solve the issue of waste water and toilets. Common septic tanks can be planned since the geographical features are not suitable for individual septic tanks and toilets.
4. Quality standards for Home Stays and restaurants have to be formed. Exposure visits to other good homestays and hotels in side and outside Tamilnadu will help to understand the standard practices. Special attention should be given to evolve standard operations and infrastructure for preparation of spices and coffee which is now done unhygenically.
5. A resource team have to be formed and trained to initiate and sustain long term awareness education programmes. Vocational training programmes have to be initiated parallely to improve the scope of material use such as elephant grass, lenthana, areacanut leaf, cane etc.
6. Develop and implement a Zero Waste Plan with a long term perspective to address current as well as future issues of waste, with the participation of the village community.



## 5. Zero Waste

A paradigm shift has taken place world over where in Zerowaste as an ideal goal for management of discards in the long run has found acceptance by many countries like Australia, New Zealand, Philippines, city of San Francisco, Del Norte County etc. This helps in developing a strategy that avoids incinerators and eventually eliminates landfills. In Zero Waste, waste is perceived as a symbol of inefficiency. Cointreau defines solid waste as "the organic and inorganic waste materials, produced from households, commercial, institutional and industrial activities, which have lost their value in the eye of the first owner" (Gerlagh et al 1999). This perception changed the disposal centric solid waste management to recovery centric one.(Dr. K.N. Nair and R. Sridhar 2005). The explorations in line of resource recovery from discards grew from mere 3Rs-Reduce, Reuse, Recycle- to 3E's- Ethics, Efficiency and Economics. This line of thinking invoked upstream management of resources to eliminate waste and down stream systems to recover what is discarded. Using sustainable and viable materials, applying clean production methods, assuming extended producer responsibility and resource recovery forms the chain of action in a zero waste system. It is a 'cradle to cradle' concept, which follows the Nature's way of cyclical flow.

Zerowaste require a mind shift in community since waste is a human invention and waste from any source and of any quantity are a nuisance. Achieving Zerowaste or even getting close is not going to be easy. Hard work, perseverance and creativity by officials and public can make it happen.

"Zero waste is a logical planning approach incorporating principles of effective human and material resource utilization to avoid the conversion of discards into waste – an inefficient form – in a manner that revitalizes the local economy". (Zero Waste Alliance [www.zerowaste.org](http://www.zerowaste.org))

Zero Waste is the new school of thought in resource management and is a philosophy too. Zero Waste is now becoming a mantra for business houses (for example Xerox and Toyota), communities and governments across the world. It is a new direction for attaining efficiency. It is a way to serve the society and nature; Indian experiments (for example, Zerowaste Kovalam) show that Zero Waste provides for action for waste prevention through waste reduction with decentralized approach for employment generation, environment protection and poverty reduction.



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## 6. Zero Waste System for Discards handling

In a zero waste approach there is no space for waste management facilities. The need of the hour is to save our resources. There is no short cut or one go solution for the heterogeneous materials discarded everyday. Time-tested technological options exist in society. The question is blending them in a way to suit the local specific need and to do a social engineering for a better resource use pattern and attitude.

## 7. Components of a Zero Waste System

- a) Decentralized Resource Recovery Facilities:- A paradigm shift is needed in handling waste. The need of the hour is Resource Recovery Facilities in place of Waste management Plants. A resource recovery facility (RRF) is a space for recovering discards and making them available for reuse, recycle, repair, refurbish, re construct, re structure or composting. The scale of operation depend upon the size and nature of discards.

It can be set up at household / Institutional level, neighborhood level, or at community level. At household level facility discards are segregated at source and bio degradable components can be utilized for feeding animals, composting or generating biogas. Non biodegradable discards can be handled by storing them separately for a specific period to be handed over to a local scrap dealer. This can be practiced at Institutions like, offices, education institutions, marriage halls, business places etc. For example the RRF at Institute of Hotel Management and Catering Technology – Kovalam is recovering 100 percent of bio degradable discards, paper, metals, plastics, leather, clothes etc. and is handling over 90 Tonnes of discards per year.

Places where household level or institutional level recovery are not practical because of lack of space, neighborhood / community level cluster facilities can be used. A common space have to be identified for sorting, cleaning, composting and storing discards. Such facilities have to be supported with door to door collection system or members of the community should volunteer for bringing their discards to the facility regularly. For example, as part of Zero Waste Kovalam project the Kerala Hotel and Restaurant Association set up a cluster resource recovery facility with the support of Kerala Tourism to handle about half a ton waste per daily which is generated from a cluster of 25 restaurants who didnot have space to handle their discards.

In rural tourism site a common resource recovery facility is needed to handle the discards generated at public places, markets, institutions, commercial establishments and communities etc., who



doesnot have access to a resource recovery facility. It is the enlarged version of a neighborhood / community level cluster facility. This have to be supported with street sweeping, collection and transportation. It is the responsibility of the Local Self Government and or the Village Tourism Committee / Eco Development Committee / Forest Protection Council (Vana Samrakshana Samithy) who is managing the tourism in the rural area to manage the Common RRF and its auxiliaries (street sweeping, door to door collection and transportation).

Going for the ideas like Zero Waste office, Zero Waste schools, Zero Waste homes etc will reduce pressure on the common resource recovery facility and helps efficient recovery of resources.

The Resource Recovery Facility is needed to handle the part of discard (generally non bio degradable discards) other than managed by household of the discards generated. The facility should be able to handle at least one tonne of discards generated in the tourist destination. To handle a tonne of discards on an average 4 persons are needed. They should be trained in biogas plant operation, composting, basic hygiene and public health. Agricultural universities, Department of Agriculture, voluntary organizations etc can be approached for technical training.

- i. Fixed dome biogas plant to handle fast decaying biodegradables. (This is a model of biogas plant developed and propagated by Khadi and Village Industries Centre. It is also known as Deenabandhu model biogas plant where digestion of discards is taking place in a globular structure made of brick and cement and is often placed at sub surface level. An inlet tube is connected to it for feeding decaying materials and an outlet tank is built at surface level to discharge digested matter in a semi liquid form called 'slurry')
- ii. Windrow and Wormi compost yard with roof to handle the rest (Windrow composting is a method of aerobic composting where bio degradable discards are piled up in a specific size – windrows – to get it exposed to air to make the speed of decaying process efficient. Wormi composting is the process in which biodegradable discards are fed to worms to get it digested.)
- iii. A resource recovery room to sort, clean and store non biodegradable discards on a daily basis
- iv. A fish pond to handle complicated meat waste (among the meat discards from slaughter house or fish markets, some of it may take longer time to get digested in a biogas and composting. For example intestine of animals. This can be chopped down and can be fed to fish. More over it will generate additional income to the resource recovery facility through the sale of fish.)



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v. Office room, tools room, toilet, rest room for the employees

vi. Electricity generator (optional) to utilize electricity, or the gas can be used for cooking purpose if there is a bulk user.

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- vii. A vehicle to transport discards
  - viii. Bins, and other tools for collection and handling of discards.

- b) **Material Substitution :-** Unviable and unsustainable materials which poses threat to the waste handling systems as well as the environment should be replaced with locally available and environmentally friendly materials or services. Capacity building and awareness programmes needed in this regard. People have to be trained to supply alternate products like paper, jute, coir, bamboo, grass... based products to replace materials made of plastics. Promote hire service business for utensils for functions such as marriages, religious and other community gatherings which will eliminate use of plastic based disposable products like glasses, cups, plates, sachets, table spread etc.(For example to serve 500 people a drink a day we may need 500 plastic cups. But hiring 100 steel cups will do the same without wasting money or polluting the environment). Local self governments should earmark money for vocational training, awareness creation and enterprise development to make this component active. Since there is a scope of generation of livelihood, people are likely to get attracted to this programme. Pick materials and training programmes based on local needs and features.
- c) **Extended Producer Responsibility:-** The post consumer products which cannot be recovered safely in the locality should be sent back to the manufacturer or the manufacturer should pay for its safe disposal. Tubelights, batteries, left over medicines/ paints/ chemicals etc. have to be sent back to the producers. Awareness programmes have to be launched to warn people about the toxicity of these materials and to demand EPR in their region. (For example in the U.S.A and most of the European countries they have EPR laws which compels the manufacturers to buy back their post consumer products like PET bottles of beverages and water, tubelights, batteries etc.)Assistance of NGO's can be sought to support the campaign.
- d) **Participation and Ownership:-** The system designed should ensure participation from various quarters of the community and collective ownership for its sustainability. Roles and responsibilities should be decided collectively and leadership encouraged from a cross section of groups. For example the head load workers of a place can be the wardens of the region against dumping / burning of waste in public places. Taxi drivers will be helpful in distribution of awareness materials especially to tourists. Understand that every single member of the community have a role to play. In Zero Waste Kovalam, the Hotel and Restaurant Association participated in the programme and took the ownership and leadership to collect transport and dispose the discards generated by their members.
- e) **Education and Training:**
  - Continuous awareness and education programme creates platform for a zero waste system. Training programmes for capacity building in the community will provide impetus for the system to function smoothly. Involve local clubs, education institutions, cultural associations, artists, sportsmen and so on in this process and



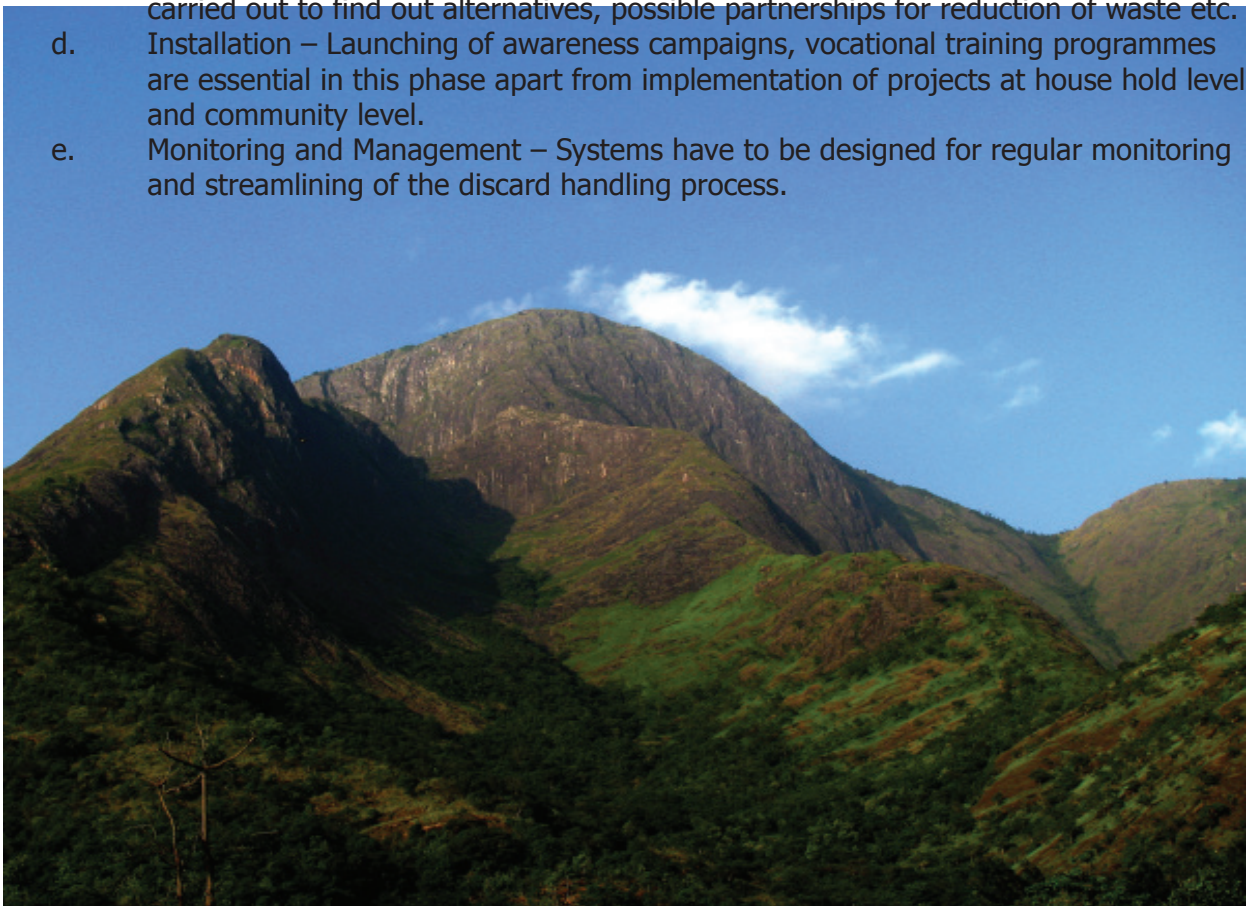
make it an enjoyable experience. Device innovative programme to get public attention so that a message can be sold easily. Zero Waste Kovalam launched many education and leadership training programmes at various levels – students, house wives, tourists, general public and so on.

- f) Policy / Law:- There should be policy support from the institution or Local Self Government to support the entire activities directed towards zero waste. Essential laws must be implemented to make it fool proof. The actions and policies of every single person, organisation or Government have an impact on waste. For example decision of a political party or a cultural association to eliminate plastic disposable cups and plates, PVC flux hoardings will generate more employment and will eliminate waste. A person can decide to carry a cloth bag instead of buying plastic carry bags. By deciding to refill water bottle from water dispensers, a tourist may be saving at least 3 bottles per day. Local Govt can impose laws to prohibit certain products or materials like plastics and asbestos.

## 8. Implementation

The Local Self Government (Municipal corporations / Municipalities/ Grama Panchayaths) should take leadership in creating a zero waste system in a Rural Tourism area. This can be achieved by streamlining and restructuring existing functional departments of the LSG along with the involvement of stake holders, voluntary organisations and individuals. The steps are as follows

- a. Formation of an Apex committee – for envisioning and guiding the whole process
- b. Formation of Resource Team – for doing surveys, studies and, awareness campaigns, a team of people have to be selected and trained.
- c. Assessment – the status of waste and waste management in the locality have to be assessed in terms of quantity, nature and point of generation. Studies have to be carried out to find out alternatives, possible partnerships for reduction of waste etc.
- d. Installation – Launching of awareness campaigns, vocational training programmes are essential in this phase apart from implementation of projects at house hold level and community level.
- e. Monitoring and Management – Systems have to be designed for regular monitoring and streamlining of the discard handling process.



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## About Thanal

Thanal is a voluntary organization founded in 1986 as a network of like minded individuals and registered as a society namely Thanal Conservation Action and Information Network. Thanal is currently working as a registered Public Charitable Trust from December, 2003.

Thanal is a Public Interest Research, Advocacy, Education and Action group based in Thiruvananthapuram, Kerala and working with a mission "Gather for all beings". It is engaged in activities related to environmental and human health, environmental justice, chemical safety, biodiversity, wild life and the natural world, ecological agriculture and zero waste. Thanal has promoted the Zero Waste Centre at Kovalam and the Clean Production Centre at Eloor. Thanal has campaigns to Save Rice and Stop Pesticides and Genetic Engineering in agriculture. Thanal Promotes Ecological-based Farming and Participatory Guarantee Systems (PGS) for Organic Produce. It also supports the community struggle against industrial pollution, climate change and exploitation of life support systems in the name of development.

Thanal carries out environment educational activities among students and teachers in addition to the public and community oriented programmes. Thanal publish reports, newsletters, reading and awareness materials, and produce films, exhibitions and audio-visual materials on different subjects and issues related to environment.

Thanal joined the International POPs elimination Network in 1998 and has been a steering committee member of the international network from 2000 onwards. Thanal also involved in the International POPs Elimination Project and has presented the case study of Zerowaste Kovalam in the side event at COP1 of Stockholm Convention. As member of the steering committee and working groups Thanal has been actively engaged in the POPs related work in the region and at International level. Thanal is also a steering committee member of GAIA and regional node for South Asia. Thanal hosted the 'Waste Not Asia' gathering of GAIA and deliberated and agreed up on the action plan for a waste free Asia in January 2007. Thanal also plays an active role in Pesticide Action Network Asia Pacific (PANAP) and PAN International. Thanal has participated in all meetings organised by the UNEP related to POPs and SAICM from the year 2000.

For the past 15 years Thanal is engaged in dialogues and discussions pertaining to the development issues, activities and policies of Kerala State. Thanal works closely with Kerala tourism and is also campaigning for tourism which is sensitive to ecology, local economy, gender and culture. Thanal is focusing on issues related to tourism waste and in 2001 it launched the 'Zero Waste Kovalam'- a multi stake holder project at the well known beach destination Kovalam to address the issues of waste. Zero Waste Kovalam bagged the Golden Award to Kerala Tourism from Pacific Association of Travel Agents (PATA). Thanal runs *Zero Waste Centre* – a resource education centre at Kovalam to disseminate the experiences on Zero Waste. Since 2003 various State and National governments in Asia and some of the diplomatic missions in India have already visited and appreciated the work on upstream waste management.

Thanal is helping Local Self Governments in Kerala in preparing plans for managing waste. Thanal serves as technical support group member and resource group for Total Sanitation Mission of Govt. of Kerala and is a guest faculty at State Institute of Rural Development. Thanal also contributes technical input for the State Planning Board on subjects related to Environment, Agriculture, Tourism and Eco Tourism, Waste Management policy and planning as members of subgroups and working groups.

The exploration for toxic free world and chemical safety reached Thanal to the new area of Zero Waste. Now Thanal is pioneering the Zero Waste movement in India with its vast experience and training on Zero Waste. Thanal is active member of several international networks working on Waste, Zero Waste and Chemical safety.

For more information visit [www.thanal.org](http://www.thanal.org)



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