

## **An Approach paper for Aranmula – Towards Zero Waste Panchayath**

Aranmula Panchayath is in Kulanada Block of Pathanamthitta District in Kerala. The Panchayath is divided into 17 electoral wards which together form an area of 24 sq. kms with a population of approximately 29,000.

Set in a typical rural Kerala background, with wetlands, streams, river and spur hills of Western Ghats.

This small village is in the world map for its unique artefact –Aranmula metal mirror – which is unique to this village. Snake boat race, Partha Saradhy Temple and Vaastu Vidya Gurukulam are other elements which keeps this small village in world map.

### **Features**

The following are some of the visible features of the village which I noticed in my one hour quick tour.

**Urbanisation:** The Panchayath is neighbouring Chengannoor and Kozhenchery, two fast growing townships which in future may sprawl out to Aranmula. The flow of people and material flow between these business centres is on an increase. The Panchayath is also taking initiatives to boost the commercial activities through investments on infrastructure in its markets (Kottakkakom, Aranmula, Kotta and Kidangannur markets).

The buildings, shops and other establishments in and around Aranmula commercial street also shows the trend towards urbanisation with its variety of products, services and lay out.

**Heritage Village and Tourism Centre:** Aranmula mirror is famous for its uniqueness. The bell metal technology evolved in this village is still a technical secret and the product is the main attraction. The Vaastu Vidya Kendram – an institute for traditional architect is evolving into a centre for education, research and development is another important asset of the area.

**Pilgrim Centre:** Partha Saradhy Temple is the famous holy shrine which attracts many pilgrims. The festivals like Onam and celebrations like snake boat race attracts large mass of people to this tiny village. One of the main event is the feast organised in the temple on a daily basis. On an average 800 meals per day is served for public by the temple.

**Fragile and Sensitive Eco System:** Geographically Aranmula is connected to the famous Kuttanadu wetlands. One of the main feature is water. This village have several waterbodies including streams, ponds, wetlands and the river Pampa which are interconnected. The hills, valleys and wetlands are very fragile. The change in

land use patterns and trends are also visible in existing activities like land reclamation etc.

## Issue of Waste and Present Waste Management System

**Commercial Centres:** The major commercial centre is Aranmula Junction on the banks of River Pampa. There are several commercial establishments of various kinds. The waste, mostly packaging waste is disposed by its generators either by dumping on the road side or by burning it along the roadside. Small and scattered waste dumps have been noticed in private lands too. The current method of waste disposal is a dangerous process even in small quantities. The dioxins and other deadly chemicals in the form of fumes and ash emitted from plastics when they are burnt cannot be ignored. The habit of burning discards if not controlled now may get scaled up in near future along with the growth of population, commercial activities and waste. The MSW rules prohibits burning of waste and world wide there is a serious concern against burning of municipal waste especially plastics on the background of its toxicity and effect on future generation and life on earth. Dumping of waste on public place, or un attended waste is a bad mark for any civilized society. If interventions and plans are not in place these small dumps may accumulate into huge dumps and breeding ground for many germs and pollution. More over the tourism potential will be severely affected.

### Markets:

*Kidangannur Market:-* Of the 4 markets Kidangannur is the major one which get most number of footfalls of consumers and traders. It is weekly market functioning twice a week. It is the main vegetable and meat market in the Panchayath.

*Kotta market:-* This is a small market place which is also weekly. It is partially operational. This market has a pit on the ground for disposing the discards generated during market days. There is small stream flows through the boundary of the market.

*Aranmula Market:-* This is a weekly market but almost dormant. This market has a septic tank for disposing the discards

*Kottakkakom market :-* This is a small market place with 3 temporary shops and it is a reclaimed land on the edge of a wetland. There is a septic tank to dispose the discards generated during market days. This market also in a dormant state after being relocated to this place.

Generally the existing practice of disposing meat waste from the markets are either using them as feed for pigs or burying them in private lands. One special feature of these markets is that they were relatively clean and tidy compared to any market in Kerala.

**Roads** No major waste dumps found along the roads. Apart from small burning or dumping sites the roads were relatively clean. But the roads were in bad condition.

Temple The Partha Sarathy temple is famous for its Valla Sadya – a community feast. This temple every year attracts a floating population as tourists and pilgrims. The temple serves around 800 meals per day. During the Onam season the number may go up to 2500 or more. The meals are served in banana leaves which will get dumped on the steps running down into River Pampa near the temple, ultimately going to the river.

House Holds: Almost all the house holds including those in Colonies have enough space and hence no house hold waste was seen on the roads. They were handled at own premises.

## Need and Importance for a better Waste Management System

Aranmula is in the limelight for its heritage and potentials. UNDP is also there for supporting this village to develop as a heritage village. So Aranmula is a special village which enjoys the attention of international community for its arts and cultural heritage and building capacities for handling the tourists.

Any intervention for addressing the issue of waste – existing and future – should have international standards, class. The approach and method should be latest state – of – the art and progressive

Zero Waste have been recognized by the Global Civil Society Forum as the most modern and sustainable approach for resource management to reduce wasting of precious resources. Ministry of Tourism, Government of Philippines already declared that zero waste will be the goal for their tourism industry. New Zealand and Australia is braving the way since 1995 with a target of zero waste by 2025. They already proved that it is the best resource conservation practice. City of San Francisco in California in 2004 adopted zero waste as a policy for their waste management by promoting decentralized systems for resource recovery and recycling. In India Municipalities and communities are targeting zero waste.

Then why should we only stay in dark? With given resources and capacities we can do better in this effort of evolving ourselves into zero waste society and to be in frontline.

## Zero Waste

The existing waste management solutions like incineration, landfills, centralised and mixed waste composting were used all over the world decades back and found failures. These methods and attitude for handling waste created problem for our environment, health and economy. It was in 1975 the USA implemented Resource Recovery Act for waste handling and started running incinerators and landfills. By 2000 they recognized that it was a great blunder and now they are on the move of

zero waste. In India it was in 2000 we had our Municipal Solid Waste Handling and Management Rules and trying to repeat what the West followed in 70's! The question is whether we should follow them through all the way they travelled or do we have to go in front of them with latest progressive approach. Cant' we be the pioneers or most progressive community since it take some small changes in our attitude and material use policy to reach ourselves to the level of Zero Waste.

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 is the new school of thought in resource management and is a philosophy too. Zero Waste is now becoming a mantra for business houses, 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 show that Zero Waste provides for action for waste prevention through waste reduction with decentralized approach for employment generation, environment protection and poverty reduction.

## Zero Waste System for Discards handling

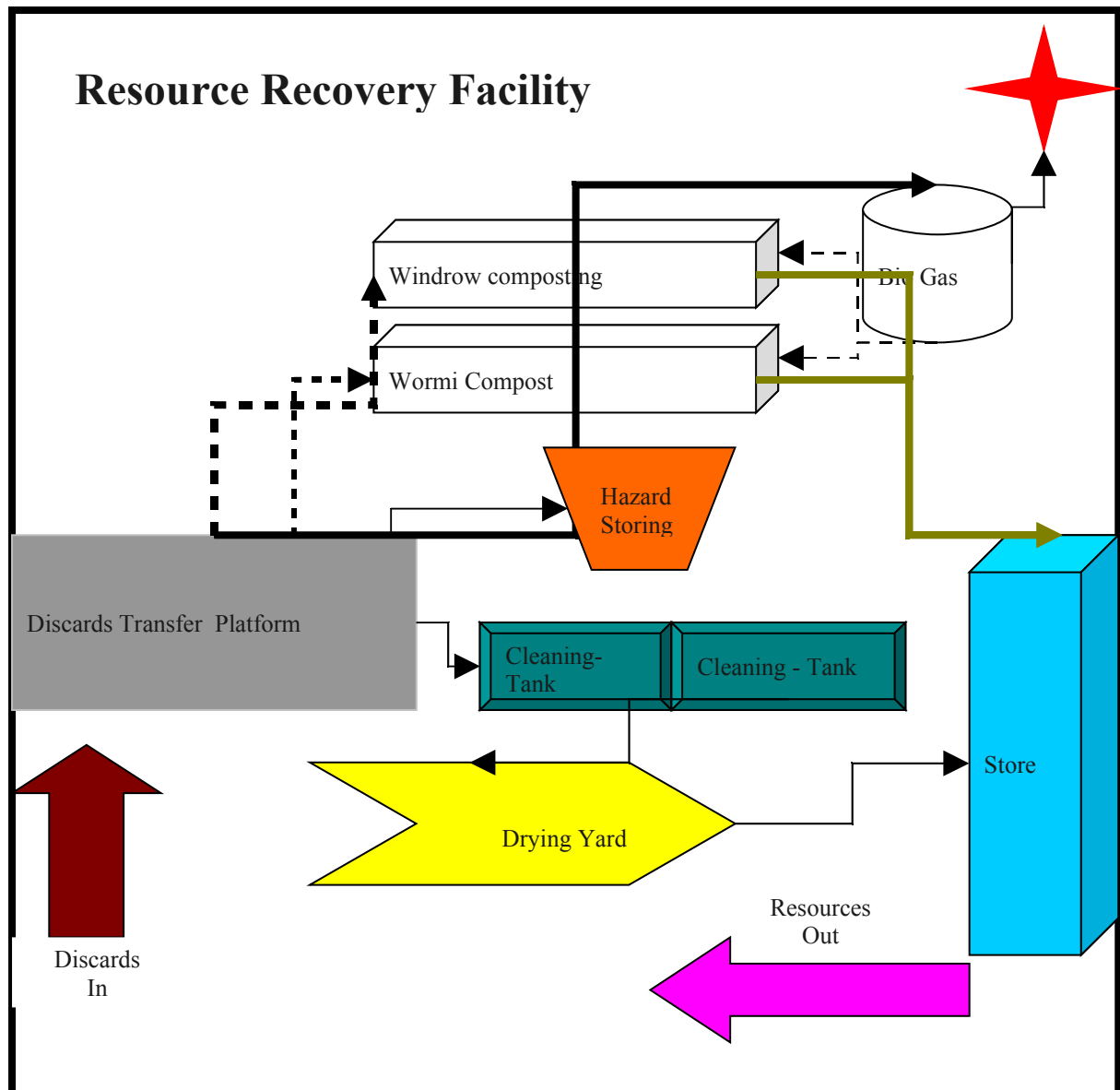
In a zero waste approach there is no space for waste management facilities. The need of the hour is to save our resources. There is no short cut or one go solution for the heterogeneous materials we discard everyday. Technological options exist in our society which are time tested. The question is blending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

There is a need for a common facility

The objectives of such a common facility are;

1. To provide for a system to address the discards generated in public places and commercial centres where recycling / composting of discards at source is not possible.
2. To provide for a system to address the discards generated during special occasions (pilgrimage, tourism) especially by the floating population.
3. To help the recyclers to get materials like paper, metal, plastics and others which are not recyclable / compostable at source.
4. To develop a market for reusable / repairable / recyclable materials and compost.

The following diagram of a model resource recovery facility which is suitable to Aranmula Panchayath shows the elements and its functions.



### Action points

**Partha sarathy temple :-** A system has to be developed for the Temple after consulting the people involved with day to day affairs of the temple. The immediate need is a wormi compost facility to convert the discards from feast into compost. Minor changes have to make in the operations related to feast after consulting the temple authority to minimize wasting increasing the efficiency of composting. In future a biogas plant can be put in place to handle some part of the discards to generate fuel for the kitchen.

**Market:-** Markets need small modifications so as to enable them to take care of all bio degradable discards at source. This can be done in such a way to enhance the market operations to produce energy or fuel. Systems can be put in place to enhancing existing efficient materials flows. (Vegetable discards as cattle feed, meat waste to piggeries, fish cultivation, food for pet animals etc.,)

**Commercial Centres:-** Shops, establishments and institutions who can afford to have their own facilities should be promoted and maximum discards have to be properly disposed or stored for further operation at the source

**Institutions:-** Institutions like educational institutions and offices should be encouraged to have their own resource recovery facilities. These can be designed after consulting the people concerned.

**House Holds:-** House hold level composting / bio gas should be promoted to minimize the pressure on common facility. Efficient use of materials like using vegetable and kitchen waste as feed for farm and pet animals should be promoted.

## Activities

### Phase 1

1. Quantification of discards
2. Identification of problems and prioritisation
3. Stakeholder discussions
4. Designing a policy document for the Panchayath
5. Setting goals (Milestones)

### Phase 2

1. Setting up discard handling and recovery facilities for common places
2. Launching Information Education Campaign and a clean up
3. Lobbying for individual / private / own facilities
4. Introduction of regulation or ban on material use (plastics)

### Phase 3

1. Integration of Agriculture / Business / Small Scale Industrial development
2. Capacity building programmes for Products and Services
3. Lobbying for Extended Producer Responsibility for hazardous waste
4. Research and Documentation for streamlining and up scaling

This is a road map to attain zero waste. Fine tuning can be done only after field level reality check. Please feel free to contact us for further clarification. Final plan with budget and time line can be made after having a detailed face to face discussion.

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