

Zero Waste Kovalam

A Fact Sheet

The Zero Waste Kovalam Project aims to tackle the waste issue through the globally invigorating process of Zero Waste which is changing the way communities use materials and resources. Zero Waste is an ethical, economical and efficient way of looking at material use and in the process eliminating the concept of waste and waste management. Local economic development is a major outcome of such an approach to waste management.

The Zero Waste Centre which is formed as part of the Zero Waste Kovalam project is a Resource Education Centre with the objective of imparting Training, Product Design and Development and Awareness about Resource Use. The Centre evolved from the need to compliment the effort of the Zero Waste Kovalam programme. The programme demands ideas, products and designs that are diverse and ecologically based. Education and Training focuses on "Waste to Wealth" ideas and products, Waste Reduction and Non-Burn Resource Recovery processes which in turn is expected to generate local employment opportunities and consequent local economic development.

A major focus of the Zero Waste Kovalam programme is Material Substitution whereby materials like Plastics that are toxic and environmentally very costly is to be substituted with natural, environmentally suitable and locally available materials. Coconut Shell is the natural first choice for a State like Kerala. Other materials like paper, cloth, jute, coir, screwpine, reed, bamboo, other natural fibres etc are seen as materials that need to be revived as part of the Materials Substitution Programme.

This project envisages enhancing and improving the potential of these materials. This is to be done through improved design development, training for women/youth to take up this craft as a home/cottage based self employment opportunity, quality improvement in management, product development and promotion. Towards this end the Zero Waste Centre will be the hub of Resource Education, Training, Product development and Design innovations.

Waste as a Motivation

Waste is one contentious issue that has been bothering the world for too long a time. Waste is being considered all over the world as a menace – and there has been too many attempts to solve the waste issue. The solutions are mostly on technologies that disposed off the waste – landfills, open burning, incineration. These technologies have not helped solve the problem because most of these are highly wasteful processes and do not address the inefficiency underlying the society. Moreover, these technologies have also proved to be hazardous, emitting toxic solid, liquid and gaseous compounds that contaminate the land, soil, water and other living bodies including human beings. The inefficiency to tackle the waste issue can be directly attributed to the wrong and unsustainable material use like plastics, bad and inefficient designs, increasing resource use, especially of non-replenishable type, and thoughtless unethical practices of human society.

In the modern world a material is seen to end up as a waste after use. But, this is not a natural phenomenon. It is an unnecessary and unnatural happening. The best example of such waste is the many plastic materials that end up in the waste streams, polluting the biodegradable part of the waste which could otherwise have been converted to manure, thus complying with the natural organic recycling process.

Thus the issue of "Waste" and the toxic legacy that we have inherited through unethical, inefficient and uneconomical human life styles is the main motivation behind the attempt to revitalize the society through Zero Waste and the attempt to revive Coconut Shell and other materials for the future.

Zero Waste

Zero Waste is a new way of looking at our waste stream. Instead of seeing used materials as garbage in need of disposal, discards are seen as valuable resources. Hence Zero Waste is a new way one looks at resources - one of the most profound ways that modern societal change is being envisaged in the world today. These principles are based on ethics, economy and efficiency and that is how the problems of waste and its solutions are to be seen in the context of modernization, and rapid urbanization as well.

Zero Waste is a total systems approach that goes beyond just segregate-reuse-reduce-recycling. It questions the view of nature as an endless source of materials and an endless dumping ground for waste. Zero Waste is hence 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 Kovalam

Kovalam has one of the worst garbage problems in the State, with lakhs of tourists who visit the place every year dumping back all the used and discarded items. Many commentators on the tourism sector have blamed the mounting garbage and the plastic waste for the down-spiraling tourist visit and the fall of the tourism industry in Kovalam.

Zero Waste Kovalam, conceptualized early in 2001 as an alternative to the present dump-burn-bury method of handling waste and to wasteful end-of-pipe solutions like incinerators and landfills, was formally launched in November 2001 at Kovalam.

Zero Waste aspires not only to eliminate waste, but also to eliminate inefficiency by way of total recovery of resources, from whatever is discarded. Progressive waste management schemes typically recommends segregation of wastes at source, recycling, reuse and reduction of wastes, but zero waste goes beyond that. In its best form, it provides guidance on what materials are permissible in society, how they should be designed, and how and who should handle the materials during it's life cycle.

In Kovalam, this practical and innovative approach has evolved action paths that are tackling the various problems that were identified to be plaguing this destination. Zero Waste Kovalam, which is being developed as a model, has five concept driven programmes.

Handling Biodegradable Discards

- *This is done by segregation at source and energy and manure recovery through bio-gas plants. One model Resource Recovery Facility (RRF) at the Institute of Hotel Management and Catering Technology (IHMCT) has been set up where a biogas plant is established and working. Three more plants under the Kerala Hotels and Restaurants Association (KHRA) is being built to handle all the bio-degradable waste.*

Handling Non-Biodegradable Discards

- *This is done by segregation at source, and recovery through a Resource Recovery Park (RRP). One RRP already works as part of the RRF at IHMCT. One major R R P which will handle all the recyclable waste at Kovalam is planned at Venganoor Panchayath.*

Materials Substitution

- *This programme envisages local women producing materials that are eco-friendly like coconut shell, used paper, cloth etc to manufacture various utility and craft items that are to phase out the toxics like plastics. About 300 women from various Self Help Groups have participated in the first levels of training in Coconut Shell, Paper products, Cloth and Jute bag manufacturing, Bamboo products etc. Two groups with about 30 women have established Units for Paper Products and home based Units have started Coconut Shell production and also Cloth/Jute bag manufacturing.*

Training and Awareness

- *Training for Women in vocations that this programme is generating out of Biogas, RRFs and Material Substitution. Awareness to general public on discards management, sustainable and eco-friendly material use, consumer rights especially regarding health, environment and conservation. Training and awareness programme also focuses on Leadership, Office Management, Account Keeping, Market promotion and other Capacity Building processes.*

Poison Free Farming

- *An important component in the ZWK programme, this is intended to phase out all chemical fertilizer and pesticide use in Kovalam in five years time. This is primarily focused on protecting the water sources in the area from contamination and is based on the desire for "Land and Food without Poisons". Venganoor Panchayath has already planned for the same and more than 100 women from 10 SHG's have started organic farming beginning with vegetables and banana. The program focuses on restoring the homestead farming culture of this land, considering that it is bound within the family and sustains diversity and provides food, fuel and other needs.*

Two of the immediate benefits that are seen through these programmes is

1. Employment Generation - Especially through material substitution ,better resource utilization and through poison free farming by women, there has been employment generation especially from coconut shell product manufacture, paper products and organic vegetable production. Even ethically and efficiently managed waste management has started producing employment opportunities.

2. Resource Use Minimization and Recovery – The aim is to have an effective minimization of resource use and to recover the maximum resources from waste. This is also taking shape with the bio-gas plants, RRP's and better awareness creation.

The Zero Waste Kovalam Project is an on-going programme of Thanal, a Voluntary Public-interest Research, Action and Advocacy Group based in Kerala with its head office in Thiruvananthapuram. This Project is a multi-stake holder programme supported by Kerala Tourism, Global Alliance for Incineration Alternatives (GAIA), Greenpeace, Kerala Hotels and Restaurants Association-Kovalam Unit, the Association for India Development(AID), Essential Action and the Grama Panchayaths.

Zero Waste and Material Substitution Programme

While the objective of the programme is Zero Waste, one important concept that is being implemented is Material Substitution.

Waste is identified as the visible face of inefficiency. An efficient system should have movement of material. This assumes that material would be consumed, material would change form, and material would become discards. In a responsible community which is committed to sustainable development, material use should be efficiently optimized. This means right from the selection of a material for viability of human use, it should be ethically justified. So its use has to be justified in terms of its impact on the environment and the economy. Secondly Materials would be subjected to change form for human use. This also has to take an ethical, economic and efficient path. This means that the conversion should be rewarding in terms of value addition, local economic benefits, employment generation and should not be a burden on the environment. Many of the manufacturing processes today are automated, energy and capital intensive and sometimes pollutive. Most of the manufacturing sectors are becoming less labour intensive. At the same time the manufacturing products from traditional material like coconut tree (its wood, coir, shell, fiber, leaves etc) was always labour intensive and directly beneficial. Thirdly, the material once used would be discarded. The discarding process

should also be ethical, economical and efficient. For instance, in the case of the coconut shell, the used coconut shell product can still yield carbon black or be burnt for fuel or can still be used for other coconut shell products. Moreover, the disposal process is non-polluting as these materials are bio-degradable and add to the biomass.

It is hence imperative that any Zero Waste programme would look at proper resource use through material substitution. In Kovalam, natural, locally available and environmentally suitable materials are being identified to substitute many of the synthetic products.

Zero Waste Centre has already participated in many exhibitions organized by the Coconut Development Board including the AAHAR 2003. It has also participated in many exhibitions organized by the Tourism Department, KeraFed etc. Coconut Shell products, Paper products developed at the Zero Waste Centre have also created a lot of responses from the business sector. A number of exporters and hotels groups have enquired about these products and are willing to place orders. Most of them demand high volume of these products which cannot be created in a short time by a handful of trained craft persons. This provides an opportunity for more people to take up these products manufacture as a self-employment. This would create a larger source of these products and better supply to the demand in the market.

Zero Waste - An employment opportunity for Women/Youth

Employment means being engaged and being able to sustain oneself and ones family in the process. Employment must provide work, products and services needed at the local and regional levels and must be enjoyable. Employment is also related to the skills and the interest one possesses. It has been observed by many in social research that while modern employment has provided jobs to people, there has been a marked deterioration in his/her skill. The loss of skill undermines the human quality of creativity which also needs to be revived.

Employment is also dependent on the resource available, especially those that are locally available. Employment must also provide for a healthy society. Hazardous employment damages our health and the environment. When looking for employment opportunities, one must consider these aspects for its sustainability.

It has been realized that Coconut Shell and other eco-friendly product manufacture is a potential employment opportunity, especially for women. Pilot training programmes were organized at

Kovalam. It was found that many women who have not known craft and have never worked on any media have after training become good craftswomen and have woken up their inherent urge to create.

At the Zero Waste Centre the focus is on training and capacity building. The Centre will provide facility for continuous upgradation of skills, product and design development. The women would also be empowered to start their own family/cottage/neighborhood based units. The emphasis is on local economic development through building capabilities, self-confidence and strengthening family/neighborhood based employment opportunities.

Zero Waste Centre

Zero Waste Centre is a Resource Education Centre with the objective of imparting Training, Product Design and Development and Awareness about Resource Use. The Zero Waste Centre is intended to

- Be the Hub of innovations in materials substitution.
- Create Environmental Awareness among the Community, Students, Policy makers etc
- Build Capacity in production of sustainable products
- Provide a marketing space for sustainable products
- Develop a theme based-museum of sustainable products and craft work. Presently the themes are Coconut shell, Jute, Cotton and other natural fibers and Paper.
- Generate surplus from sale proceeds to help more such ventures and be a non-profit Centre for the community.
- Provide a networking platform for artists, crafts persons, innovators, scientists, administrators, businesses and environmental activists to revisit the material use and policy and to move towards natural and sustainable material use.
- Be a Research Centre for Materials Management and Resource Use Studies and Education focusing on human and environmental health.

The first two years of work with the women groups in Kovalam made us realize that there is no training that is accessible to the women or youth and children to earn by part time work or getting ready for a full time self employment. Most of the training exists only in the paper, even though Panchayath and other NGO's have access to financial support for organizing such trainings. The training programmes are also inherently badly organized or unrewarding. The interest and skill of the trainees are not generally considered or assessed and many training programmes turn unfruitful. Even in cases where the training was completed successfully, there was a general lack of follow up with no support or inputs for starting a unit or take up a cottage-based work. Often the failure to resolve conflicts within the groups resulted in break up of the groups and the activity was then cited as failure.

The attempt of the Zerowaste Centre is to provide both training and capacity building and a facility for continuous upgradation of skills in product and design development. The Centre is intended to help the panchayaths in Kerala who want to link up with the "Waste to Wealth" programme as part of the waste management. The programme is already supported by the Kerala Tourism Department and has the support of the Hotel and Restaurant Industry in Kovalam. The Kudumbasree mission has already supported one Self help Group (SHG) in Paper product manufacture and the Panchayath Plan fund has supported ten SHG's in Organic farming. There has been some individual supporters and financial support from the Association for India Development (AID) is expected for the Zero Waste Centre.

The Zero Waste Centre works on a non-commercial basis. One major objective in the long term is to have a cluster of micro-scale production units for these products working from family or neighborhood groups or Self-Help Groups. The Centre would provide the facility for training, and regular refreshing with internships. The Trainees would also be imparted with capacity building exercises on Office Management, Accounting, Market Promotion and Leadership.

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