The Zero Waste study Tour in Kerala and Tamil Nadu India was organized to provide a venue for GAIA members who attended the IPEN General Assembly the opportunity to visit different waste management sites organized by GAIA members in Kerala and Tamil Nadu. There were 10 participants from nine countries: eight participated in the 4-day study tour last August 16 to August 20, 2008 in Kerala and Tamil Nadu, then the two participated during the Kerala leg.

GAIA recognized this as an opportunity to deepen members' awareness and experience on how Zero Waste initiatives in a highly populated country like India are implemented. Discussions among the participants helped draw ideas on how such projects can be developed and improved in their respective countries/areas. But due to limited time, discussion during the last day was cut short and participants agreed to communicate online to discuss what has been left out.

The four-day study tour was really tiring but very inspiring.

Our warmest thanks to Thanal- Jayan, Raju and Shibu for coorganizing this project even in such a short notice; to Exnora International and Exnora Greencross in Vellore - T.K. Ramkumar and Srinivasan for helping us with the Tamil Nadu leg.

To the participants and those involved in different project sites we visited - Nanni, Danyawath!!
Participants

Eugeniy Lobanow, FRI, Belarus
Myna Karaval, DISHA, India
Sasanka Dev, DISHA, India
Muhammad Tabroni, Tolak PLTSa, Indonesia
Hemsing Hurynag, DION, Mauritius

Arshita Sivapriya, CEPHD, Nepal
Musa Chamane, CEJ, Sri Lanka
Dilena Pathrageda, CEJ, Sri Lanka
Silvani Mng’anya, AGENDA, Tanzania
Joe DiGangi, EHF, USA

Raju S., Thanal, India
Shibu Nair, Thanal, India
Srinivasan, Exnora Greencross, India
Gigie Cruz, GAIA, Philippines

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Abhaya: Care home for the Mentally Ill

The participants visited the Abhyagramam Mental Health Centre, a sanctuary for the mentally-ill and rehabilitation center for drug-dependent patients.

 Patients are encouraged to participate in occupational therapy workshops by learning skills like weaving, spinning and sewing as part of the Deen Dayal Disabled Rehabilitation Scheme. Photos by Ggie Cruz.
Abhaya: Care home for the Mentally Ill

The center has a biogas plant which is running efficiently and substituting a considerable portion of requirement of cooking gas of the Centre. With a 4 cubic meter tank, the biogas plant processes 20 liters kitchen waste everyday.

The methane from the digester is being used for boiling water and cooking which provides monthly savings of Rupees 3,000-4,000.

Top: GAIA members checking the biogas plant at the Abhaya Center. Left: Biogas plant-tub where organic matter and water go in. Right: Vermicomposting tubs (photos by Gigie Cruz)

They also process the sludge from the biodigester as organic fertilizers for their coconut and vegetable gardens.

The implementation of proper collection and waste management systems for non-biodegradable materials is one of the challenges the center face. Single-use packaging materials are often burned to address its increasing volume.

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Abhaya: Care home for the Mentally Ill

The center also set-up a 60,000-liter rainwater harvesting system which employs a filtering system composed of 2 inches sand, 3 inches gravel and 3 inches charcoal. They utilize the collected rainwater for toilet flushing, cleaning and garden maintenance.
“Scrap market, Second hand book shop and old building materials shop are nothing new to me. As an Indian I see them in plenty in every city in India. Still I love to visit those again and again. They appear to me as the best zero waste practices. These are not backed by any project fund or support from any institution or organization. They sustain on their own. They, through their practices, make their livelihood as well as serve the society. Of course their working condition should be improved and the way they carry on their business must be more hygienic and environment friendly.”

- Sasanka Dev, DISHA, Kolkata

People patronize second-hand bookshops for practicality. The second-hand bookshops in Trivandrum offer a wide-range of books some even in foreign languages.

Silvani and Musa check out interesting books.
(Photos by Gigie Cruz)
Scrap Markets

One shop visited earns Rs 5 Million annually with a profit margin of 1-2%. Worker wages are about Rs 250 per person daily.

Muthu regularly travels from Tamil Nadu to Trivandrum to collect non-biodegradable materials like plastics which are then transported to Madurai for reprocessing. He earns Rs 4,000 monthly for the job which he started doing ten years ago.

Top: Shop owner and a wastepicker calculating cost of recyclable materials brought to him. Left: Muthu presses LDPE plastics for efficient storage and transportation to Tamil Nadu. (photos by Gigie Cruz)

Sample Cost of Recovered Materials

LDPE milk packs = Rs 12/kg

Discarded Cement Sacks =
Rs 1.5/piece (buying price)
Rs 2/piece (selling price)

Cans = Rs 17/kg

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About 750 shops around the area of Armada trading used building materials for cheaper price. Old wood and iron works are usually retrieved from demolished houses for refurbishing due to its high quality.

Left: Local sash worker refurbishes an old headboard. Top: Shibu, Eugeniy, Maryna and Raju discussing the ins and outs of the trade. (Photos by Gigie Cruz)

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Zero Waste Kovalam

The Zero Waste Kovalam Project is an on-going program of Thanal Conservation Action and Information Network, a voluntary public interest research, action and advocacy group based in Thiruvananthapuram, Kerala.

The Zero Waste Kovalam was launched in November 2001 following a campaign against an incinerator proposal by the Department of Tourism.

This project is a multi stakeholder program jointly supported by Greenpeace, GAIA (Global Alliance for Incineration Alternatives), KHRA (Kerala Hotels and Restaurants Association) - Kovalam Unit, the Department of Tourism, Kerala and the Venganoor Grama Panchayat.

The Zero Waste Kovalam Project aims to tackle the waste issue through the globally invigorating process of Zero Waste that 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 disposal.

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Left: Famous Kovalam Sunset (Photo by Gigie Cruz)
Zero Waste Kovalam

Institute of Hotel Management and Catering Technology - Resource Recovery Facility

Under Zero Waste Kovalam three biogas facilities (Institute of Hotel Management and Catering Technology, Light House Beach Kovalam and KTDC Samudra Hotel) were commissioned with a total capacity of 1000 kg of biodegradable discards daily. The IHMCT biogas plant commissioned in 2003 helped the institution process their discards which are mostly composed of biodegradable wastes. The project also recovers 1000 kg of non-biodegradable discards on a monthly basis.

IHMCT Biogas Plant
Capacity: 15m3
Model: Deenabandhu model
Discard feeding: 250kg per day
Financed by: Kerala Tourism

Resource Recovery Room
Capacity: 400kg per month
Financed by: Kerala Tourism & IHMCT

Unfortunately, the facilities are experiencing some challenges with implementation leaving the facilities not being fully utilised.

Several hotels in Kovalam have decided to establish their own biogas plants to address disposal of food waste and at the same time save on fuel.

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The Zero Waste Centre

In April 2003, Thanal established the Zero Waste Centre as an important component of the Zero Waste Kovalam Project. The centre became the venue for vocational training programmes on different livelihood projects on paper and paper discards, cloth waste and coconut shell product.

The three major production units are the Pioneer Paper Bag Unit, the Vismaya Patchworking Unit and the Classic Palmcraft Unit which currently employs 30 women.

Classic Palmcraft Unit

“Kalpavriksh” meaning “wish tree” is how people of Kerala consider the coconut tree. The benefits from the tree are countless that from roots to leaves no part goes wasted.

Abundant with such resources, the Zero Waste Center works on producing useful products from kitchenwares like bowls, cups and ladles, ornaments like bangles and earings, even soap dishes among others.

These products are crafted by the creative women of Kovalam which provides them a venue to showcase their talents and provide additional income for their families.

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Vismaya Patchworkers

One of the interesting arms of the Zero Waste Center is the Vismaya Patchworkers. Community women undergo training in collecting and categorizing discarded fabrics which they eventually turn into unique, creative functional products. The products vary from bazaar bags, butwas, coin bags, purses, quilts and small stuffed toys.

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The Zero Waste Centre

Members of ZWC’s Pioneer Paper Bag Unit showcase their products like different jewelleries made from paper beads.

Pioneer Paper Bag Unit

The “Pioneers” is a group of women working to address upstream management of the discarded paper by creating products like jewelleries, toys, and packaging options for different use. The Zero Waste Centre trains women in the community both by teaching them the skills on making these products and encourage them to utilise their creativity. So far, around 190 designs of products have been developed through this initiative giving financial benefits to these community women.

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Organic Farming & Household Composting

Recognizing that chemicals added to materials will eventually cause problems in its disposal, Zero Waste should be seen as a system that would encourage implementation of clean production to address toxicity in everyday products.

In Kerala for example, Thanal organizes trainings for farmers to shift back to organic farming. Assistance in selling these organic products is done through the weekly Organic Market in the office and other tourist areas.

The challenge lies though in encouraging adjacent farming lots to also do organic farming so as not to affect those planting with the absence of chemicals. Though the process could be more tedious, in the end, organic farming is more beneficial in terms of profit since they spend less in buying chemical fertilizers and pesticides. Farmers engaged in such initiatives also earn more because of the high demand for pesticide-free produce.

Background: Farmer shows his organic vegetable plantation. From Upper Left: Organic fertilizer made of cow dung and other biodegradable waste. Lower Left: Composting in the household and institutional level being encouraged to process organic like this. T.B. Rehabilitation Center. Inner Left: Vegetables harvested on rooftop gardens help provide savings to household and institutions. (Photo by Gigie Cruz)

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Exnora Green Cross help organized numbers of Zero Waste Management in the town of Vellore. What makes the project unique is the decentralised system of managing wastes, people-centered by employing women Self-Help Groups (SHGs) and differently-abled people to operate the project according to Srinivasan from EGC. This can be seen on different projects visited during the Zero Waste Study Tour in Vellore, Tamil Nadu.

The Vellore Institute of technology lies in the 300 acre land with 1,300,000 total population. Estimate waste generation is 8 to 10 tons daily. About 20-25% is wet waste while the remaining is composed of dry waste.

To make collection easier, the campus was divided into 2 blocks - Education block where common waste collected are paper and other dry wastes and the Hostel Block which generates more kitchen waste.

The facility currently segregates materials into 133 categories of recyclable materials, paper and organic wastes.

Background: Jayachitha sorts different types of paper for reselling. White paper usually costs more than other types. Above: Workers manually bailing cartons. (Photos by Gigie Cruz)
To facilitate efficient waste management within the campus, the institute employs about 45 employees mostly members of Self Help Groups. Salaries are about 3,000 per employee per month.

Currently, the change in campus administration caused some leniency on the implementation of the zero waste management system causing some problems with disposal of some materials according to Srinivasan. He said they are trying to address the issue so the project would again work properly and efficiently.

One important and evident issue observed is the disposal of fluorescent lamps which were simply lying on the school ground, most of which are broken. Composting process is also being fixed.

*Right:* Fluorescent lamps and other materials improperly dumped outside the facility. Disposal of problematic materials poses a big challenge to Zero Waste practitioners. Extended Producer Responsibility is seen as the best solution to address the issue. (Photos by Gigie Cruz)

*Background:* A truck delivers recyclable materials collected from the VIT campus for further segregation. *Above:* Woman further segregates non-biodegradable wastes. (Photos by Gigie Cruz)
Vellore Bus Station

The waste management initiative in the Vellore Bus Station was one of the challenging sites we visited due to the busy movement of people. The Bus Station which used to be a Juice factory was constructed to provide a more organized venue for commuters where better facilities are available. The huge crowd as we expect generates large amounts of waste which triggered Exnora Green Cross to initiate such Zero Waste project.

The site currently has a waste segregation and storage area for recyclable waste, composting facility, a biogas plant and a simple waste water treatment system. Wastes in the facility are segregated into 113 categories. The problem however, is the presence of single-use packaging materials which the project finds no use for. They instead store it in the facility until such time that a take-back system will be implemented.

The site currently employs a total of 140 employees, 30% of which are physically challenged. The project aims to help marginalized people by providing them skills and employment. 60% are composed of women who are represented through the TASS Women’s Federation. Wages are about Rupees 3,000 monthly.

Left: Solid and Liquid Waste Management Project Shed at the Vellore Bus Station. Middle: Roni from Tolak PLTSA poses beside the collection tricycle of the Women Self-Help Group. Right: A TASS member segregates waste. Non-compliance of some travellers pose as a challenge to these women workers. (Photos by Gigie Cruz)

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Christian Medical College, Vellore

The initiative at the Christian Medical College involves 2 major areas which are the Medical College and the Hospital which caters to 2,500 patients. The two differ in the types of waste being generated. Medical wastes need careful management because of the wastes infectious properties plus the dangers of sharps.

Wastes are normally collected using lorries and bicycles by the women. Waste containers are collected door-to-door to encourage compliance from the residents particularly in the dormitories and housing facilities. Residents are mandated to label their trash to make it easier to monitor violators.

Top: A woman weighs mature compost for selling. Above: Biogas plant inside the CMC waste management site. Left: Women workers push a tricycle full of discards to the waste management facility for processing. (Photos by Gigie Cruz)

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There are currently 250 workers involved in the project. The basic wage is Rs 80 per shift per person. These workers are distributed into different areas such as segregation unit which is subdivided into different hospital zones, Recycling and Storage Unit which is then subdivided into smaller units based on waste type, Composting Facility and Culture Unit and the Biogas Plant.

One concern shared by the participants is the lack of protective gloves for the workers. The facility supervisors however pointed out that these gears are provided but workers sometimes refuse to wear them since it causes inconvenience and makes sorting slower. Occupational safety and hazard should be addressed properly to avoid accidents since they are handling medical wastes.

There is also an apparent need to address use of problematic items like single-use plastic materials and fluorescent bulbs which can only be addressed by implementing a procurement system for alternatives. This also has to be addressed front-end through Clean Production and product take-back by manufacturers.

**Background**: Two men packs residual plastic waste for storage. **Right**: Manual bailing of paper waste and cartons done by feet. **Outer right**: Women workers sometimes opt not to wear their gloves due to inconvenience but increases risk of accident and possible infection. (Photos by Gigie Cruz)
Mudichur Panchayat Waste Management Project

With 4,500 household under its governance, the Mudichur Panchayat, Tamil Nadu initiated an Ecological Waste Management system to address problem. At present the project covers about half of the population with door-to-door collection of household wastes using their tricycles. The project currently employs 20 staff, 18 of them called "Green Friends" go around the community to collect waste and educate the public.

The project recovers about 1,000 kg of waste everyday, 47.5% of which are biodegradable, 15% recyclable and 37.5% residual wastes. The increasing volume of residual waste in the Panchayat prompted the community leaders and Exnora International to launch a project identifying these types of waste, types of product and manufacturers. The initiative aims to raise awareness on the environmental impacts of these problematic materials and push for Extended Producer Responsibility and shift to more environment-friendly product packaging.

Background: Tricycles are used for the door-to-door collection within the panchayat. Left: Archana checks the vermi-composting facility in the Mudichur Panchayat. Top left: Exnora GreenCross Chair Srinivasan displays the non-recyclable materials they have collected over the years. The group calls for manufacturers to redesign their packaging materials or implement take-back systems. Top right: Community Leaders show their compost which they sell for a reasonable price. These compost are being promoted as an alternative to chemical fertilizers. (Photos by Gigie Cruz)
Eco-House, Pammal

Believing that being eco-friendly starts from our very home, S. Indrakumar thought of making his house run efficiently and sufficiently by installing ecological systems to lessen his and his family's impact to the environment.

Inside the residence, the family installed ecological waste management systems which include composting of kitchen and other biodegradable wastes. They try to avoid products which are excessively packaged and go for the fresh and more natural food like vegetables and fruits to avoid unnecessary waste generation. The mature composts are then used for planting crops which they eventually consume.

S. Indrakumar shows participants the different ecological systems he installed in his home to make it green (from left to right) Composting system, plant tower, and Kitchen waste water management. (Photo by Gigie Cruz)

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Eco-House, Pammal

The eco-house also has a rainwater harvesting system which is tapped by installing piping systems from the rooftop going to a well. The plants on the rooftop help absorb and store rainwater before it is slowly released to the pipes. The collected water is then used for different purposes including drinking water. To ensure safety, the water is treated through boiling and storage in a copper jar.

Waste water is also treated before being released to the public sewage system. For example, wastewater from the kitchen sink is filtered through a very simple system using different filtering systems using soil, worms, sands and gravel. Enzymes are added to the waste water in the septic tank to neutralize its acidity. The water then is used for watering ornamental plants.

To avoid stagnant water on the street, rainwater is also directed to a cylindrical pipe to make drainage faster and more efficient.

LED (light-emitting diodes) lights are also installed to make the house more energy efficient.

Photos by Gigie Cruz

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Reflection on Zero Waste

Based on the projects visited in India, how would you define Zero Waste? Please identify the positive practices and initiatives that support this concept.

**Eugeniya:** Based on visited sites and practices, I would define Zero Waste, as an approach, in which we don’t have waste, we do have resources. And at the same time, this concept leads us to prevention from using resources, which we can’t manage in a sustainable way.

   I was really inspired by Zero Waste Kovalam project, and people, who are mowing this project. This example clearly shows that changing of peoples’ attitude even to coconut shells can create additional jobs, solve problems of pollution, and attract more tourists to the region. As well as the women group in Trivandrum, doing so nice stuff from old newspapers.

**Silvani:** Is a combination of practices aiming to avoid or reduce waste from one or more processes (including from human activities) using different components and become an input or feedstock to another process/es.

- Use of organic wastes (i.e. from kitchen) making compost for gardening and cow dung or slurry and other organic waste for biogas production; cattle urine use for vermin control hence avoid using conventional pesticides.
- Separation and use or sale of white papers, plastic papers and bottles for different purpose including raw materials to other processes.

**Archana:** Resource recovery from waste. Waste considered as the resources.

**Sasanka:** Positive practices visited:

   In Abhyagramam Mental Health Centre we found the waste gas plant, which is running efficiently and substituting a considerable portion of requirement of cooking gas of the Centre. The way the sludge is being used to feed the coconut garden is also commendable. Rain water harvesting also appeared efficient as it helps to conserve water in large scale for appropriate use.

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Reflection on Zero Waste

Sasanka (continued): Scrap market, Second hand book shop and old building materials shop are nothing new to me. As an Indian I see them in plenty in every city in India. Still I love to visit those again and again. They appear to me as the best zero waste practices. These are not backed by any project fund or support from any institution or organization. They sustain on their own. They, through their practices, make their livelihood as well as serve the society. Of course their working condition should be improved and the way they carry on their business must be more hygienic and environment friendly.

Activities in the recycling centres in Vellore (VIT, Bus Stand and CMC) are almost similar to the Trivandrum scrap market practices but being conducted in much more organized and efficient manner. Still I am not very sure about their economic sustainability. I would really like to see their success in absence of institution support. Srinivasan did a wonderful work. He has listed a good number of items which come in the municipal waste stream but cannot be recycled. This can be a good resource for intervention in the state policy regarding packaging.

Thanal’s Zero Waste Centre is also a commendable effort. Every one of the women working there appeared to me is a good craft artist. They are not just taking part in managing waste. Rather they are converting waste into artistic pieces, going beyond the issue of management. Still I think that they need to develop a good marketing skill to ensure their sustenance.

Organic farm, which we visited, is also a positive practice. But it seems to be very difficult for a small piece of land to be really organic in the midst of inorganic cultivation all around. Further efforts are required to convince the neighbouring farmers to follow the positive path. The efforts made in the old age home, ‘Ozanam Karunya Bhavan’, to grow plants completely with organic fertilizer are also very educative. Rooftop garden there, is very interesting. I was very interested to see the organic market adjacent to Thanal’s office open. Customers of this market could enlighten us more. But our time did not coincide with their working time.

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Reflection on Zero Waste

Based on the projects visited in India, please share your criticisms on how Zero Waste SHOULD NOT be defined. This may include the negative practices you observed or what the projects lack.

_Eugeniy:_ I think that Zero Waste should not be defined as only trying to reduce the amount of waste. I think it’s even more about our attitude to waste and resources. And also Zero Waste is not only about environment, it’s about people and local community. That’s why, I was totally not pleased to see women segregating hospital waste, including possibly dangerous waste (I saw some stuff with blood) without any hand protection.

_Silvani:_ Zero Waste should not be defined to portray that nothing coming out at the end, but something which is considered to be waste is a resource to another process in a large closed loop. Sometimes it is thought that Zero Waste is about avoiding waste at 100%. This is the goal which can be achieved at a longer term with combination of actors and processes.

For example when dealing with wastes, protective gears used (i.e. gloves) at one point become waste to be included in the cycle, similar to waste bins among others. Recycling of such type of waste may need other processes and actors. Need to work in wider collaboration, invite more actors and awareness programmes. Also protective gears to the workers need to be improved to avoid injury.

_Archanah:_ The worker dealing with Syringes at CMC Hospital at Vellore without protective gears should not be accepted at all. Workers' safety should be an integral part of environment safety.

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Reflection on Zero Waste

Sasanka: ‘Zero Waste’ sometimes defined by the Waste-to-Energy lobby including some authorities, as elimination of waste by incineration. Some others provide solutions like using plastic in road or producing lumber. But this is a mis-definition of Zero Waste as these end-of-the-pipe solutions destroy wealth contained in waste, pollute environment, misuse public money.

Regarding negative practices, that we observed, did not include any such project mentioned above. But open burning of waste in India is rampant. Photograph of one such instance is enclosed. That was happening just behind the old book market when we were visiting there.

I was eager to see the first instances of Zero Waste Kovalam project. It was painful to see that the composting unit of Kovalam project and gas plant unit in Hotel Management Institute have been defunct. In both cases, due to non-cooperation of the respective authorities (and also alleged corruption), the initiators could not continue the projects. It can be understood that the community has not been aware enough regarding the importance of the projects. It is very difficult to run such projects if the communities do not realize their requirement, place demands for the same and take charge to run on their own.

In your opinion, how can these projects be improved?

Eugeniya: I think, that most of projects/places we have visited, are moving in the right direction. Perhaps, it is necessary to promote these initiatives more widely within India and abroad. And of course, more serious attention should be paid to safety of workers in hospital waste segregation site – maybe introduce more advanced protections measures, and introduce insurance of workers.
Reflection on Zero Waste

Silvani: Need to work in wider collaboration, invite more actors and awareness programmes. Also protective gears to the workers need to be improved to avoid injury.

Archana: Incorporating occupational/worker safety with higher priorities in the program. Dignified working environment for the workers, insurance and medical facilities for the workers etc. need to be included in the practice as well as internal regulation.

Sasanka: Solution lies with political will and community awareness. Technical solutions are already there. For implementing zero waste, source segregation is the key factor. I do not have a good idea whether this was tried meticulously in Kovalam. But there is scope to improve refining the segregation processes. But the point again is initiative from all corners. If that is absent, very little can be done.

Additional Comments and Suggestions

Eugeniy: I would like to say THANK YOU VERY MUCH for just fantastic organizing of the study tour. During the tour I learned a lot not only about Zero Waste practices in India, but also discovered the country and people. And I was really impressed by the attitude of our Thanal’s friends to all of us, and of course the great work which Thanal is doing. They focus on people, and not on waste, an approach, which we often miss in our work. Thank you again!

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Reflection on Zero Waste

Sasanka Dev: In India littering of waste is a very common practice. All over India people do not mind to live with waste. But when it is said that the mindset of the people cannot be changed and nothing can be done, that appears a lame excuse. The same people, who throw away garbage anywhere and everywhere in a railway station, do not drop a single piece of paper in a metro railway station. This is because the metro stations are kept neat and clean. Municipal and civic authorities in India seldom bother to keep the towns clean. Experience of our study tour in three urban centres viz. Trivandrum, Vellore and Chennai confirmed that the whole cities are used as waste bins.

Of late waste is becoming an agenda when funds from different sources are pouring in. To utilize and mis-utilize these funds some initiatives in the name of waste management are being taken. In some cities high cost complex technical projects are being installed but in absence of source segregation, comprehensive collection, organized and efficient composting and environment friendly recycling, the projects are severely failing. It can be well understood that anything but zero waste practice is taking place. Red tapist, non-serious approach and in some cases corruption made the situation miserable. So, in spite of notification of Solid Waste (Management and Handling) Rules in 2000, which made the municipalities and civic authorities responsible for implementation, very little change is observed.

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Sasanka (continued): Model projects of our friend organizations are very important examples to show that technology is no problem. If there is serious effort, solutions are available. But models by themselves cannot solve the problem. Those cannot substitute the role of municipal authorities. They can give proper direction but such voluntary 'external' efforts cannot take the cudgel of solving the huge problem of waste management. The good practices have to be institutionalized. Otherwise we have to travel long distances to find a positive example.

Thanks to the private initiatives, recycling in India is taking place in a large scale in a sustainable manner. Although those take place in very hazardous, unhygienic condition, at least these are present. But we lag behind miserably in other aspects of zero waste implementation.

Here we have the responsibility to create pressure upon and pursue the municipal authorities and similar bodies to follow a zero waste policy and implement it. This is a huge task. We must protest setting up of any Waste-to-Energy plant. Wherever and whenever any such proposal comes in, we should nip them in the bud. At the same time we have to emphasize in developing awareness and create pressure upon the authorities so that waste is taken as a serious agenda positive steps are taken. This perhaps is a painstaking long drawn job but cannot be avoided.
Resources

هج/أيتا (Global Alliance for Incinerator Alternatives/Global Anti-Incinerator Alliance):  www.no-burn.org
هج/أيتا:  www.thanal.org
هج/أيتا:  www.zerowastekovalam.org
هج/أيتا:  A Handbook on Waste Management in Rural Tourism Areas
هج/أيتا:  Exnora International: http://exnorainternational.org
هج/أيتا:  Solid Waste Management: (CMC - ZWM - Project)
http://video.google.com/videoplay?docid=7345355626304720596&ei=nqG0SLXDaO22wgPXzOzaDA&q=ZWM+vellore+model
هج/أيتا:  Liquid Waste Management: (CMC - LWM- Duck Project)
http://video.google.com/videoplay?docid=-74147353148257318
هج/أيتا:  Cattle Shandy: AID Video on Cattle
http://video.google.com/videoplay?docid=-5469249055895114374&hl=en
http://video.google.com/videoplay?docid=-5469249055895114374&hl=en
هج/أيتا:  Bio-Degradable Marriage:
هج/أيتا:  Bio Degradable Marriage - Part 1 - AID
Videos: http://video.google.com/videoplay?docid=8739906005680247104&hl=en
http://video.google.com/videoplay?docid=8739906005680247104&hl=en
هج/أيتا:  Bio Degradable Marriage - Part 2 - AID
Videos: http://video.google.com/videoplay?docid=-360970388868736953&hl=en
http://video.google.com/videoplay?docid=-360970388868736953&hl=en
هج/أيتا:  Interview about waste management (English version)
http://video.google.com/videoplay?docid=-6282535205916038921&ei=PfmkSOqnm5zwARLmw4TgBg&q=arj%20it&hl=en
Thank You!