



**2017 ANNUAL CONFERENCE,
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Towards a Resource Resilient India
Security of Natural Resources for All: The Critical Need for Coherence in Policies and Actions
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Plenary Session 6:

Circular Economy and Material Recycle – Business scope for the use of secondary raw materials in India

Good afternoon Ladies and Gentlemen, it is my privilege to be speaking at this prestigious Annual Conference on a subject that is close to my heart - Wastes, their values and business opportunities as well as the challenges that exists.

Personally and through my organization, we work in the spirit of partnership with the Authorities to find solutions to particularly contentious issues, and with the focus being on citizens engagement with the government.

There is Business opportunities as well as immense Wealth in Wastes. Nearly all speakers have impressed upon this aspect some way or other.

Touching upon the title of the session- Circular Economy and Material Recycle – Business scope for the use of secondary raw materials -

All of us are Consumers of Products and contribute to creating wastes which in turn becomes a resource available for generating business opportunities. However, it is seen that handling of wastes poses major challenges for the city managers.

With the SMART CITY tag being the key, which is a social innovation and social engagement, the City Managers, most often really don't know how to make a business model out of it. Citizens give a lot of data, and are, in various ways telling everybody great many things. So the Smart thing to do is to pay heed to what the Citizens are saying and engineer it back to the Citizens for the improvement of their everyday life.

Finding Solutions to problems, lurking in all spheres of everyday life, may well result into business opportunities.

There are two basic aspects I would like to bring to attention;

The first point relates to Policies and Policy making and identifying Policy Problems, which by the way is expected to resolve social problems!

It is observed, knee-jerk reaction to a problem and a decision is made which does not necessarily resolve the problem and yet a policy is formulated.

Policies are structured in isolation and often one Policy actually contradicts another during implementation.

Mr. Ranjit Barthakur in his opening remarks had asked “What is the waste Management Policy”?? We do not have one Policy, thereby one Rules, but actually have Six Rules.

Let me elaborate and cite The Rules 2016 related to Wastes-

Rules BMW (Bio-Medical Waste)

Rules C & D (Construction and Debris Waste)

Rules EWM (Electronic Waste)

Rules HWM (Hazardous Waste) - waste water, exhaust gases, including bio-medical...

Rules SWM (Solid Waste)

Rules PWM (Plastics Waste)

Each of the Rules address the management of that particular waste. However, every type of waste is connected. Take a strip of expired medicine and which you have to dispose of, which Rule will apply or is it that multiple Rules will come in play?

As you browse through these Rules you will identify common points and then, you will notice the contradictions. Each Rule addresses only their waste - but all wastes, except nuclear waste, are connected! **Hence connecting the Rules for the purpose of implementation, is crucial.**

Policy is formed due to a particular demand or giving shape to a political objective. It is also seen that most often when a Policy is structured the **Terms of Reference given to the Committee formulating the said policy, are not fully addressed.** Hence the Policy/Rules published, is not a complete solution to the challenge for which purpose the Policy was to be formulated!

Ms. Henriette Faergamann had mentioned about the increase in cars and the use of public transport. Here, I would like to share the Maharashtra **Safe and Co-ordinated Transport of School Children- School Bus Policy**, which is fully based on a Model Project created by me and I have been a member in the Government Committee which formulated the Policy.

I had felt very strongly that there is an urgent need to secure an orderly safe, secure and efficient transportation system for our school children. This is more particularly relevant for schools located in congested areas and with limited road access.

I therefore, created a system to ensure that all children in India have access to a safe, accountable, and efficient School Bus Service.

In the year 2002, partnering with the Mumbai Traffic Police and a premiere school, I designed a system of incentives and checks and balances that create a win-win situation for all, parents, schools, bus operators and Traffic Authorities.

Under my Model School Bus Service, which is now the **Maharashtra State Safe and Co-ordinated Transport of School Children- School Bus Policy**, schools act on behalf of their student bodies authorised by their parents, to engage operators and administer the system. In return for a nominal administrative charge from operators, the school administers the entire service and employs software to manage data. This allows for better planning of routes, to ensure children are picked from safe spots and spend the least possible time on the road.

With schools requiring all children to use the School Bus Service provided by the school, not only do the routes become **economical for operators but their business is also enhanced.** This in turn, provides sufficient incentive for them to maintain upgraded vehicles and comply with safety standards.

Operators are required to maintain first aid boxes, fire extinguishers and contact and blood group details of the children, in the bus. They are also required to have a lady attendant for girl/ co-educational schools and male attendants for boys' schools etc.

Apart from ensuring safety of children, it has also helped decongest busy roads by taking thousands of vehicles off the street twice a day every school day.

In 2011, the Government of Maharashtra published the State's Policy for Safe and Coordinated Transportation of School Children, which I have already stated has been based fully on my Model School Bus Service.

To incentivize bus operators to comply with safety standards, as a member in the Government Committee I had successfully advocated for a reduction in tax paid by bus operators.

Some Social Benefits

1. Reduces traffic congestion thereby making it possible to achieve free flowing vehicular traffic around the schools.... Saving fuel
2. Reduces noise and air pollution for students, residents and the general public in areas around the schools.
3. Children from a young age learn to use a form of public transport, a habit which hopefully, will stay with them for later years.
4. Children of various social backgrounds (ethnic and financial) come together in a common conveyance and fosters closeness and good fellowship.
5. Inculcates a sense of adhering to fixed times thereby teaching Time Management.
6. Teachers can also avail of the Bus Service.

When this Policy was published, whilst it addressed the School Bus Service and the administrative aspects, other issues which needed to be addressed and stated in the Terms of Reference, have not yet been addressed, such as night parking of the School Buses etc. Hence the Policy addressing the whole solution is still pending!

The challenge of Policy conflict is primarily due to functional conflict amongst Agencies, as well as lack of Departmental and Ministry coordination, and these major obstacles requires urgent attention, if we are to have accountable, efficient and effective implementation of Policies!

The second point relates to understanding the generation and the generators - both household and commercial and Identification of Wastes. This understanding is necessary as only then can business opportunities be recognised.

Municipal Solid Waste (MSW) Management (MSWM) is the most challenging task in urban areas. MSWM includes segregation, transportation, and scientific treatment and disposal of the Waste. All of these aspects translate into business opportunities. A very successful project was carried out in Deonar Landfill of using the MSW existing at the Landfill and also using Fly ash and creating Bricks! As long as Mankind exists, the raw material which is Waste, will always be generated and the demand for Housing will ensure the use of the Bricks!

Let me highlight some crucial issues in the treatment and disposal of waste-

1. Defining Decentralised system for waste processing
2. Documenting specific technologies
3. Evaluating different models in terms of their cost effectiveness and sustainability
4. Defining roles and responsibilities of Citizens and Local Bodies and Municipalities and in case of Mumbai MCGM, and other institutional stakeholders like MPCB, NEERI
5. Incentive mechanisms
6. Sustainable planning for long term benefit
7. Entrepreneurship development in Decentralised Waste Management

1. Definition of Decentralised System of Waste Processing:

Decentralised systems involve the collection, treatment/conversion/recycle/ and use of MSW, at different graded scales, from individual homes, clusters of homes, urban communities, industries, or built facilities, as well as from portions of existing communities either independent from or as part of a larger system.

Decentralised systems are generally understood, as being localised systems or as systems which are created to absorb the generation of MSW supply resources that are sourced close to the point of generation and reused and recycled in close proximity.

Decentralised systems therefore, also offer an alternative approach to providing various resources such as fertilisers in the case of garden waste and other biodegradable waste.

Challenge - Composting and thereby generating fertilizers, there is no clarity if it can be absorbed in the Registry of the National Fertilizers Ltd. This needs immediate attention.

In order to implement successful Decentralised Systems, points stated below needs to be taken into account as first steps. The solutions will depend on each of these points being taken into consideration.

2. Identification of the generators of each type of waste as per the amount generated by each:

- Biodegradable and Recyclable waste - Highest Generators are - Hotels/Restaurants/Clubs/Vegetable, Fruit, Meat and Fish Markets/Marriage and Community halls/Canteens/Gardens (Municipal & Private)
- Construction and demolition waste – All construction sites
- Bio-medical waste – Hospitals/Nursing homes/Health Centres/Laboratories/Doctors Clinics and Consulting Chambers/Chemists/Households
- Hazardous waste – Households/Shops/Specific Institutions including Educational institutions
- Industrial waste – disposal practices – Need to shared

3. Identification of the Municipal Wards and their profile as per the generation of specific Waste:

- Primarily Residential areas
- Primarily Office/Commercial areas
- Primarily Industrial areas
- The Coast line and Beaches will pose a different challenge

This identification will allow specific system development of processing the waste generated, thereby making it a material resource, in the local area, e. g. A particular Municipal Ward which has a large portion of commercial/office area; therefore such areas will be generating maximum dry waste which is recyclable. Therefore the collection, storage, sorting by items etc. will be the primary focus of planning for such type of waste.

Similarly, any Municipal Ward, which is largely residential in nature with some large gardens, will be generating large quantities of biodegradable waste, which is generated through households and gardens. Therefore the Decentralised System planning will focus on different methods of composting the waste in the areas of generation and the allocation for such activities.

Hence, the solutions/systems to be adopted will vary from area to area and from Ward to Ward with some similarities.

4. Identification of different Methods of Composting/Reuse/Recycle of the different types of Waste Generated and Area Appropriate:

There are many successful systems already in practice which can be adopted and various Technologies are abound, however, audit and certification of technologies are yet to be put in place.

This certification is most necessary.

A partnership between the Manufacturers on one hand and the technology providers for managing the Wastes from products, is likely to be beneficial in the long run.

The material resources and technologies are already out there – but are we smart enough to use it? Similarly many business opportunities exists in the problems of daily life, can you identify it seize it and turn it into an entrepreneurship. **I believe you can....**

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