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“3Rs in the Context of Rio+20 Outcomes – The Future We Want”

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# **Country Analysis Paper**

**(Draft)**

**< Timor-Leste >**

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# **The Initial Application of 3R Principles in Timor-Leste Solid Waste Management**

## **Country Analyses Paper**

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### **A. Introduction**

Solid Waste is today's development problem everywhere around the world. Timor-Leste is an emerging independence country that just begin its development process with huge of public demand for combating poverty, infrastructures development, commercial activities, agriculture development and different physical construction. These all development programmers are very much contributing by the better economic income generation during the last few years. It is quite strong correlation between the increasing consumption and the production of solid waste.

Today in Timor-Leste has no Municipality Solid Waste management. The only condition has provided by Administration of Dili town is solid waste collection and solid waste dumping.

Solid Waste became an issue of public health problem in Dili and in general in other town in the district, such as Maliana District and Baucau district. It has being identified as one of public health challenge because the lack of integrative solid waste management applying by stakeholder dealing with solid waste.

The only existing mechanism is simple rubbish collection from rubbish collection site in every aldeia and Suco in Dili and rubbish dumping site in Tibar.

Many of Community members in Dili has reporting that after few days they collecting their domestic rubbish in the closer rubbish collection point in their village, if no truck sending by Dili District Administrator Waste Collection Department. in that responsible by different actors. The main actors dealing with rubbish are:

### **B. Type and Quantity of Solid Waste in Dili**

The three days (4-6 July 2012) observation of solid waste composition in Waste Dumping site in Tibar, which knowing as Dili town waste dumping site has identified general activity and type of waste dumping there.

The observation also has identified some of the challenges factor relate to the activity of those people scratches (collect) material that mix up with other solid waste for different purpose. Some of the people interviewed, said that the material they collected will be sell

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<sup>1</sup> This country analyses paper is prepare and report to 3R Forum in Ha Noi-Vietnam 18-20 of March 2013. Analyses paper develop by Demetrio do Amaral de Carvalho, National Adviser to Secretary State for Environment.

it to some buyer (private sectors and individual). There were about 20-35 people has been count during those three days observation.

The Dili Town (the future Municipal of Dili) has generated solid waste from households, offices, hotels, shops, schools and other institutions. The major components of waste identified in Tibar are organic waste from food waste, branch of trees and different types of vegetation, coffee husk, paddy husk, ground nut shell and other more type of waste such as paper, plastic, rags, metal and glass, although demolition and construction debris is often included in collected waste, as are a quite significant of quantities of hazardous waste, such as electric light bulbs, batteries, automotive parts and discarded medicines, chemicals and E-waste as very knowing waste for Timor-Leste in the last few years.

From the interviewed with waste dumping site staff and members of waste collector workers concluded that every day truck that transporting waste to Tibar about 90 unit to 110 unit and very much depending on waste collection activity in Dili and the availability of truck from Dili district and other private truck that voluntarily transporting waste to Tibar. The waste produce by Dili District residences and other institution is about 180-250 tons per day. The major part of these waste are containing by organic material that can cause the emission of methane from landfill.

In Dili, almost all Suco has minimum 3-7 or more waste collection point. The prototype of waste collection point constructing by Dili district administrator, Non Governmental Organization such as Haburas Foundation, CRS, OXFAM, PLAN International, Permatil and other more.

It was identified also that, very small contribution from private sector that voluntarily construct waste collection point. Many of commercial institution or traders have not apply best solid waste management procedures. Some have found burning waste in front of their shops (press com Agus/ local leaders-2012).

Plastics including aqua bottles are very much became a serious solid waste with long term impact to Timor-Leste.

Some members of the community, with very little resources for integrative waste management have just dumping their solid waste into water channel and water body.

Some private company yet not support initiative for waste collection.

It is great opportunity to bring private sector into waste management. Some private entity involve in solid waste relate activities such as Bio-briquette production group in Dili, Baucau, Ermera and Liquica, cardboard collection company call Posh Food Industry Ltd in Dili, Plastic bottles collection company many different individual, metal, aluminum, and other type of material collection by different people.

### **C. Solid Waste Producer and Who Deal With Solid Waste**

Solid waste producer can be classified as bellow:

1. Household (residential): type of solid waste such as food waste, paper, cardboard, plastics, textile, glasses, metal, ashes, special waste including hazardous waste such as batteries, computer spare part, etc.
2. Developer or Construction activities: types of waste generate such as part of metal, part of electrical cable and other component, sand, gravel, stones and asphalt, demolition materials, hazardous wastes, ashes, special wastes from construction process, Paper, cardboard, plastics, wood, food wastes, glass, metals, special wastes, part of wood and wooden hust and other hazardous wastes from construction activities.
3. Commercial including: stores, hotels, restaurant, market, office building. Waste generate by commercials are: paper, cardboard, plastics, woods, food waste, glasses, metal,
4. Institutional such as Government Offices, Embassies, UN Agencies, Companies, International Non Governmental Organization, National Non Governmental Institution and other Social Institution. Type of waste generate such as paper, part of computers and component relate to computer, clothes, plastic bottles and other types of plastic material, damage tire, automotives spare part, car batteries, part of metal, cans, food waste, etc.

#### **D. Actual Intervention**

The actual intervention can be classified into two categories as describe below:

##### **1. Relate to solid waste collection process:**

The activities and stakeholder involve are:

- Government Office involving in different activities and involve different Minister such as: a) *Ministerio Estatal*-Unit of waste management under Dili district, b) *Ministerio Infrastrutura*-Secretary State of Sanitation, Water and Urbanization, c) *Ministerio Comercio, Industria e Ambiente*-Secretary State of Environment.
- Government promote a for a week as clean up, especially every Friday.
- Private Sector that involving in sewage treatment and rubbish collection such as Waste Maste co ltd.
- Non Governmental Organization involving in waste management campaign and awareness rising, develop waste collection point, distribute trash bin. Non Governmental organization like: OXFAM, CARE, Haburas Foundation, DWash, Plan International etc.
- No waste segregation and integrative waste treatment. It is government and private sector initiative on waste segregation by installation of waste segregation unit (3 waste bin)
- There is an initial practical approach form conserving residual oils. The Tibar waste dumping site has 4 unit of container conserving more than 20,000 liter.

## **2. Relate to different purpose**

The activities not relate to waste collection process, involve different stakeholder, such as:

- Haburas Foundation (Non Governmental Organization): Collection residual paper from UN Agency, Embassy offices, Some of Government Offices and NGO's offices and also collect coffee huts, wooden hast for bio-briquette production. Bio-briquette is an alternative fuel wood that compatible to be with clay stove saving energy stove. The testing of this product concluded that, by using briquette, can achieve reduce indoor pollution, reduce forest destruction, reduce waste (residual papers, wooden hast, coffee huts, ect). Haburas collect residual paper about 6-10 tons per months, coffe hust 20 ton per month, wooden huts about 10 tons per month.
- Posh Food Industry (Company): Collecting and buying cardboard. 1 Kg of cardboard can be sold 0.03 cent USD. The cardboard collected will be send to Singapore for processing new box and other type of product. This company also starts collecting aqua bottles for voluntarily bases. This company collect cardboard between 4-6 ton per day.
- Local company collecting cans, metal and others type of metal. There are more than two local group collecting these material. Cans contain aluminum can be sold 0..50 USD. The group in Aitarak Laran can collect moe than 2 truck a day or about 4-6 ton per day.

## **E. Solid Waste Governance Entity**

Solid waste as part of waste management in general in Timor-Leste is a multiple competence authority from national level to local level.

The Minister of Infrastructure is national competent authority deal with waste. The Secretary State for Sanitation, Water and Urbanization is a primary entity should deal with waste, sanitation and technical aspect relate to waste and sanitation management.

Beside that, The Minister of Commerce, Industry and Environment in actual government structure will also deal with waste as part of pollution control. The Secretary State of Environment is part of this Minister and will be dealing with waste and pollution monitoring and evaluation, waste and pollution policy development.

Under The Minister of State Administration, all district administration will deal with the district solid waste collection. Dili district administration has deployed more than 100 worker that every day deal with waste collection and clean up the beaches, recreation site and all public spheres.

From the observation, the Dili administration the one more effective play its role on solid waste collection. This district has being supported by logistic condition such as renting more than 30 truck for carrying waste from village or Suco solid waste collection point to Tibar Waste dumping site.

Other important voluntary entity is the Suco Council which deal with local governance system, including issues relate to solid waste and sanitation in general.

It is need to be consider for the future to have special entity for waste and solid waste management, due to the huge potential problem relate to waste and future municipality solid waste management.

## **F. Private Sector Engagement on Solid Waste Management**

It has being identified that some private entity has play important role on waste relate collection and management.

Some private investment has initiate activity on solid waste reduction such as cardboard collection, residual paper collection, metal and aluminum buyer, rubber and tire collection.

These all initiate are doing in a voluntarily basis. It is important to be consider by government in the future to give incentives and other modality for involvement and effective solid waste management for the country.

Some Non Governmental Organization also very much involve in waste and solid waste campaign and awareness building. Some Non Governmental Organization also involve in solid waste reduction and installation of solid waste collection facility.

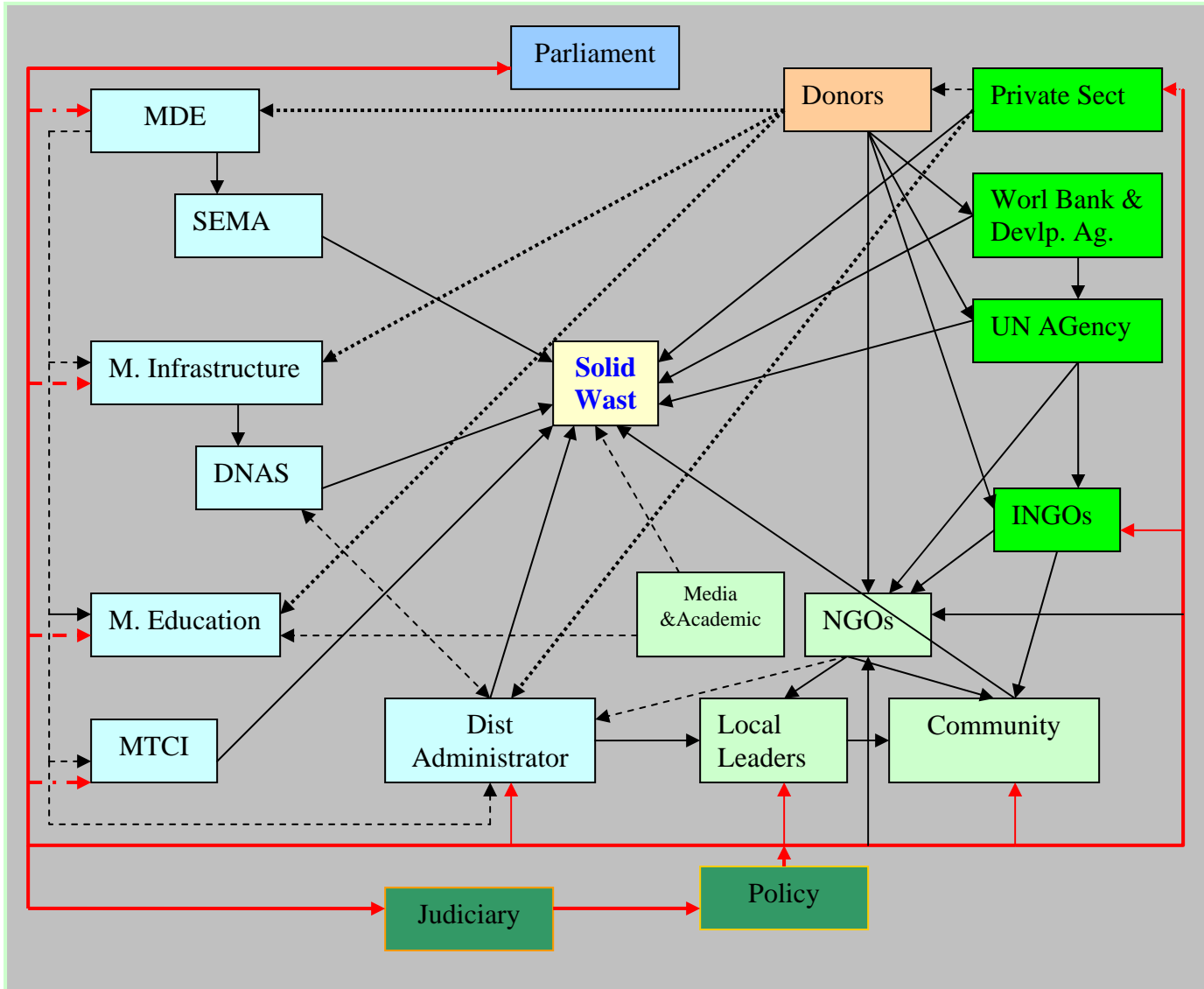
The only condition observe is no standard to be consider if a private or government institution want to build solid waste collection point in suco level or in a public sphere.

The future Municipality System for solid waste management unit need to develop these type of procedure and regulation.

Capacity building for both private and government institution relate to waste and solid waste management need to done in future.

## **F. Interaction Chart among the Actors relate to Solid Waste**

### **Chart of Solid Waste**



Note:

	Role/ Regulation Lines
	Legal Influences Lines
	Weak/ Less influences/ Coordination Lines
	Strong/ Very strong influences
	Influences lines
	Influences in both way (mutual interaction)