

Wasted Resources Governance Model for the Region of Tela, Honduras

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1 Introduction:

The region of Tela in the Caribbean coast of Honduras has some of the best beaches of Honduras and Central America. Important well preserved natural assets of this region are National Park Jeannette Kawas (781.4 km²) where biologists have identified fourteen types of ecosystems (Five land ecosystems, four non-marine and five marine) and National Park Punta Izopo (11.2 km). Botanical garden Lancetilla one of the largest of Central America is also found in this region.

The natural beauty of the zone has always attracted visitors and this region has managed to develop a small tourism infrastructure which seems not too concern with the environment, but its relatively small size has not had a major impact in the environment of the zone. Bigger damage to the ecosystems has been generated by the palm oil plantations, agriculture, uncontrolled forestry.

The regions ecosystems are relatively healthy, but there is great concern by local communities, NGOs and civil society, because the government and its big corporate partners have selected the region as a pole for tourism development and there is a growing fear among the population that the approach is heavily centered on economic growth¹ with minor emphasis on broader sustainability issues.

Unsustainable growth has been widely documented in the literature and the worry of the local population seems to be valid. The country has a weak legal and monitoring system where non-compliance to environmental laws is very common; hence, with such a tolerant system, big corporations normally maximize profits by default and environmental and social issues are normally not in the corporate agendas.

An uncontrolled flow of visitors, contrary to expectations could spoil the nest of Tela's small scale tourism; thus, municipal authorities, communities and other local stakeholders should become more directly engaged in regional and development planning, It's widely known that empowered populations through adequate mechanisms of governance can improve the means of life of the local populations and promote sustainable development.

¹ Paradoxically, the country economy has grown steadily on the 4 and 5 % range throughout the last decade, but poverty levels have not been reduced. No overflow of benefits has been received by the population at large; a clear example that neo-economic growth does not seem directly associated with development.

A starting point for a comprehensive governance model for the Tela region would be with the establishment of a wasted resources governance model. At first sight the approach seems narrow minded, but it really has a broader context, namely because a custom designed model for wasted resources could stimulate the development of other urgent issues such as governance models for education, health and environment (Davis, 2008) . This research will only address the development of a waste governance model; thereby, it will provide the framework for the putting in place of proper tools and processes to improve the way waste is handle in the region.

2 Theoretical Aspects of a Wasted Resources Governance Model

2.1 Traditional non integrated (piecemeal) approach

Waste management practice can be practiced following a non-integrated (piecemeal) approach, where the different players such as the municipal waste recovery system, industrial facilities, commercial establishments, households or waste-pickers execute isolated action of waste removal existing no linkage or coordination among activities; thereby, the approach is not holistic. Within this context it is not uncommon to pretend to solve disposal problems by dumping on the neighbour's yard or irresponsibly dumping into a marine ecosystem.

This non-integrated approach, often found in programs with a uni-dimensional health or environmental vision, make them prone to unsustainable performance. To be more effective, the model should have a comprehensive design with adequate consideration of institutional, social, economic, financial and political issues alongside with the traditional health, technical and environmental issues.

2.2 Comprehensive approach

By definition, a comprehensive model consists of an all inclusive method in which all components and all relationships of the system are examined. At first glance it appears like a reasonable approach, but after some reflection cost/benefit and time frame considerations for the research become a major concern. For example, collecting and processing large volumes of previously identified trivial information could have a negative impact on the operational capabilities of the model. Thus, it is concluded that for a complex dynamic social system, where prompt decisions have to be made, the comprehensive approach seems to be too big a tool. To be effective the model ought to have a holistic approach, but it must concentrate in those variables previously identified as the critical constituents for effective decision making.

2.3 An integrated approach

A wasted resources governance model designed with an integrated approach does not seek to analyse all components and linkages, but concentrates upon those judged to be key aspects; the focus is on understanding and controlling those components that have the major impacts on the system output which for practical purposes is sufficient. Within this work the following definition of integrated is appropriate.

Integrated is a management approach that selects dimensions and acts upon those variables judged as the key components of a system, and based on their valorization makes decisions that affect the results of a system. In that respect the integrated approach is a holistic analysis that does not pretend to define all the components of a system.

2.4 A sustainable approach

The model must be environmentally friendly, economically sound and socially accepted, and each region or country of the world has to design its own system of sustainability depending on what are its waste drivers. Basic drivers are public health, environmental protection, the resource value of waste, recycling, public awareness and institutional & responsibility issues (Wilson, 2007).

2.5 The development process

Each area or region has to decide if it wants to develop its own model and how to build it. Its design depends on the regional needs, policies, culture, waste management drivers and no simple box recipe is applicable. Each region or country has to develop its own, appropriate for its particular set of conditions (Brunner, 2007). The research challenge is to help countries in their development needs; but there are no simple solutions. All countries have developed their waste systems in a series of steps (Wilson, 2007); thereby, it is not realistic for a city with uncontrolled dumping to move rapidly to a modern waste management system. Great leaps are not realistic; an incremental approach is a more realistic approach for planners, communities and local governments.

3 The Region of Tela

3.1 General characteristics of the population

In 2007, the 100,000 inhabitants of the Municipality of Tela² consist mostly of Garifunas and Mestizos dedicated to fishing, agriculture and to the production of handicrafts. The main urban center is the town of Tela which has a population of 30,000 persons mostly employed in the service sector. According to the UNDP Country Report (UNDP, 2006), life expectancy in the Municipality is 69.4 years, alphabetism 80.7 % and per capita income US\$2,779 per year; the Human Development Index (HDI) was 0.673 which is close to the country value of 0.664 with Honduras being rank in the 115 position.

3.2 A traditional beach destination

The town of Tela, has 28 hotels³ with a total 585 rooms and the surrounding villages of Tornabe, La Ensenada, San Juan and Triunfo de la Cruz with 12 hotels have a total of 115 Rooms (Honduras Tips, 2007), but upon the completion of a new 312 hectares development

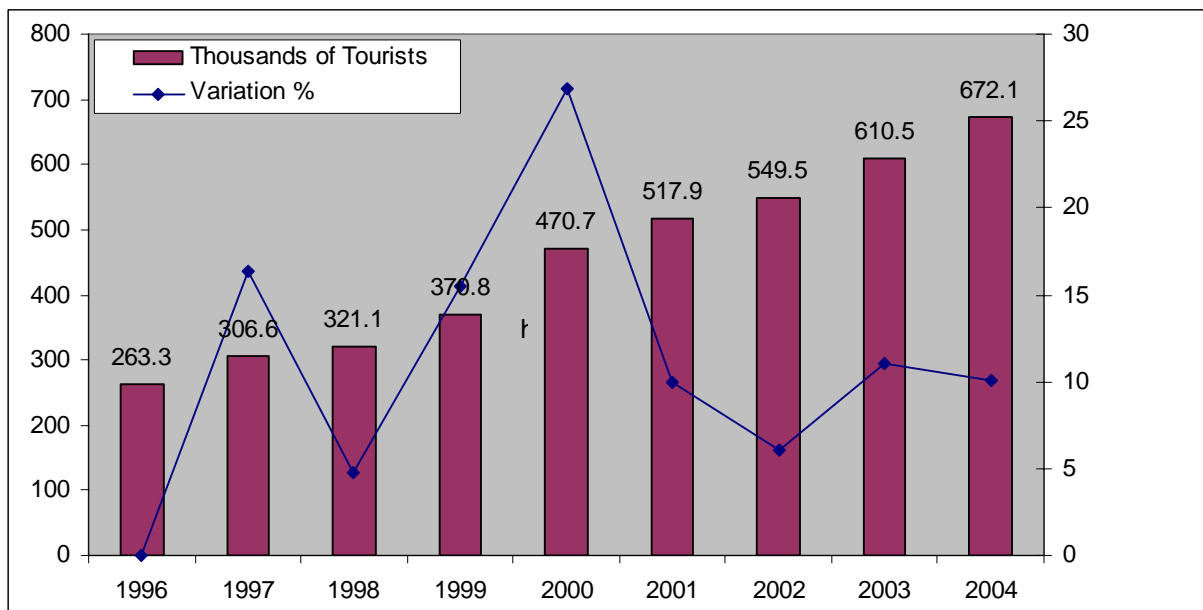
² The Municipality of Tela has a surface area 1163.3 km²

³ One hotel has 210 rooms, three hotels have between 26 and 99 rooms and the remainder less than 25 rooms.

project⁴ an additional 1920 rooms will be available, for a potential total of 2620 rooms; a growth consistent with the government's strategy of converting the region into the most important beach destination of Honduras.

The flow of tourist to the Country appear in the following graph, precise data for the region of Tela are in the process of preparation, but it is generally recognized that a very high percentage of the tourist that arrive to Honduras visit Caribbean beach destinations. Thus, it is reasonable to conclude that Tela is in the process of becoming the important beach destination planned by the Tourism authorities.

**Number of Tourist coming to Honduras
1996 – 2004**



Note: Visitors' arrivals have increased from 263,000 in 1996 to 672,000 in 2004, equivalent to a growth of 155.51% in eight years.

Source IHT (Honduran Institute of Tourism).

4 Waste Management Problems in the Region

4.1 General conditions

Adequate wasted resources management is at an incipient stage of development in the Region. Some initial work has been done by the environment unit of the Municipality of Tela⁵, the

⁴ The new development is a joint venture between the Honduran Institute of Tourism and the private sector; the project area will house up to 7 luxury hotels and a golf camp with 18 holes. Two hotels are being constructed in 2008.

⁵ The environmental unit (UMA), also maintains communication with the Secretary of the Environment

Honduran Institute of Tourism and international finance institutions, but the waste management problem largely remains unsolved. For example a recently constructed, luxury hotel failed to make provision for the adequate treatment of the sewage effluents from an adjacent quartier; hence the hotel's beach occasionally gets contaminated with spillovers from the neighboring oxidation lagoons! Major difficulties contributing to the problem are weak institutional capacity, low public and corporate awareness, little community participation, inadequate monitoring of environmental policies, and jurisdictional complexity. As indicated by a study made by the Honduran Institute of Tourism and seen in Table 1, the Town of Tela and its' neighboring communities have deficient or non-existing sewage networks, deficient or non-existing treatment of sewage and inefficient solid waste handling; thus to improve upon these conditions the Secretary of State in the office of Natural Resources and Environmental recommends an integral approach to the problem (SERNA, 2005).

Table 1: Sanitation networks in the Tela Region

Town	Sewage Network	Deficient Treatment of Sewage	Deficient Treatment of Solid Wastes
Rio Tinto	Non existing	Non existing	Deficient
Triunfo de la Cruz	Non existing	Non existing	Deficient
Miami	Non existing	Non existing	Deficient
Tornabe	Non existing	Non existing	Deficient
Tela	Deficient	Deficient	Deficient
El Porvenir	Non existing	Non existing	Deficient
Sambo Creek	Non existing	Non existing	Deficient
Corozal	Non existing	Non existing	Deficient

Source: (Turismo, I. H, 2005)

4.2 Some specific conditions

Solid Wastes

- Municipal dump is of the open type, it is regularly smoking and very little supervision exists.
- Intermediate solid waste collection deposits have no supervision.
- Scattered garbage is frequently seen in public places and suburban areas; communities reject the situation but little action is done.

Sewage

- Sewage is frequently deposited in oxidation lagoons, but little attention is given to the product after the treatment (Quintero, 2005) which results in contamination of beaches

and public health problems. In some communities raw sewage is deposited directly into the ocean.

Recycling

- Some recycling micro-enterprises are operating in the region, but little is known about volume of waste recycled, prices paid and market distribution chains.
- Some recyclables are picked up at the municipal dump, but from the perspective of the percentage of materials that are recovered, the process is highly inefficient.

Informal waste pickers

- Informal waste pickers are present at the various waste dumps; they have no visible organization structure and waste handling is done with no health considerations.

Public awareness

- Public awareness about proper waste resources handling is low. A successful pilot campaign “Clean Honduras Caribbean” for keeping beaches and tourist areas clean was implemented in years 2004 and 2005 with good results (World Bank, 2006). These campaigns have to be conducted on a permanent basis as public awareness is constructed on a medium to long basis.

5 Research in Wasted Resources Governance

5.1 General aspects

Faced with limitations in relation to the management of sewage, solid waste management and sanitation, a wasted resources governance model could be useful to those interested in the planning, monitoring, controlling and managing of waste streams and waste management practice. Figure 1 show a preliminary approximation of some of the players and waste drivers which could be considered in the model, and Figure 2 illustrates that wasted resources utilization can be improved with the participation of empower members of the community through models of governance.

5.2 Specific benefits from the application of the model

The model will develop the following planning and implementation tools:

- A diagnostic tool to valuate the social, economic and environmental aspects of wasted resources in the region.
- A set of wasted resources indicators for monitoring the efficiency and sustainability of the waste management program.
- A cost effective tool to improve community engagement and awareness about the importance of adequate waste disposal.

Figure: 1

Waste Drivers and Stakeholders for a Governance Model for the Region of Tela, Honduras

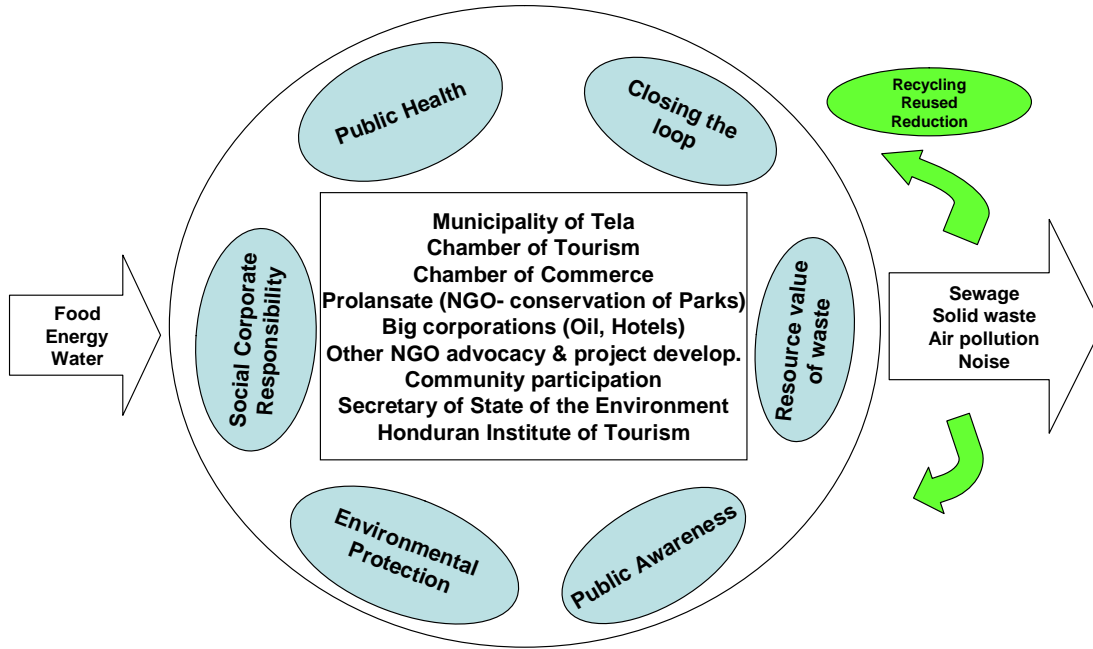
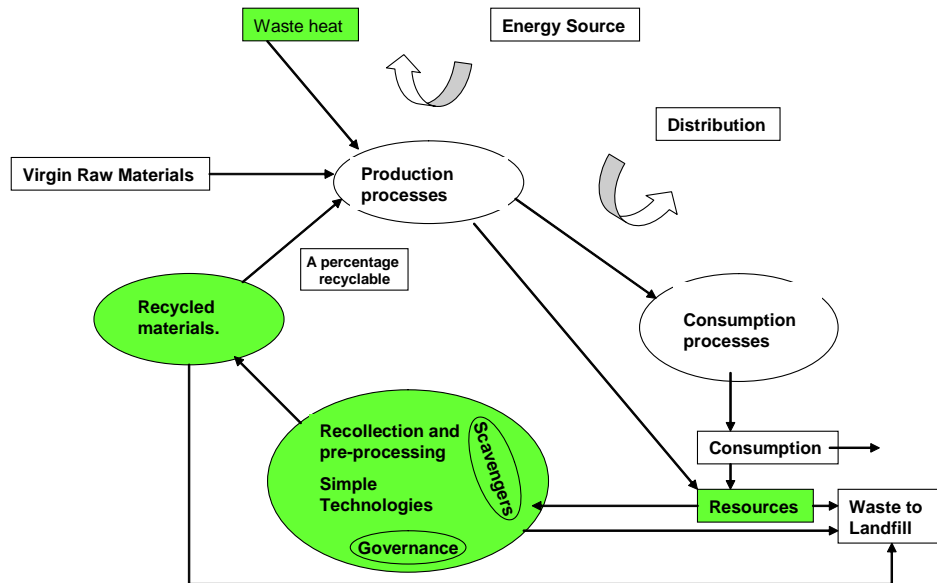


Figure 2

The life cycle of products: Biological Cycle
Approximation to Cradle to Cradle



5.3 Some other potential benefits:

The model will consider the following processes:

- A process that could potentially improve solid waste management practice and economic development of socially excluded minorities⁶?
- A process that could improve the local capabilities for the management of incremental volumes of wasted resources, through joint ventures to reduce solid waste streams.
- A process that could promote economies of scale through a cross jurisdictional and a multilevel governance approach to solid waste.
- A process for the socialization of the concept of extended producer responsibility will be suggested at sub and national policy levels.

5.4 Methodological Approach

The preparation of the Model will be through the method of the Case Study. The first step will be a detailed literature review of wasted resources governance to determine what could be useful and transferable. The region will then be studied in a progressive and cyclic matter, with an integrated system approach, to explain and understand the underlying political, legal, social and technical issues of its wasted resources.

Validated qualitative and quantitative data will be used for the preparation of a logical framework which will be the launching resource for the design of a wasted resources

⁶ Reference is to the many families that live of the scavenging of solid waste.

governance model. Key stakeholders of the sub-national and national level and other important members of the local wasted resources cluster will be also consulted. The determination of the existing and potential waste drivers in the region will be an important concern of this research.

5.5 Analytical Methods and Tools

A list of diagnostic tools follow:

- Material analysis
- Interviews with key stakeholders
- Surveys of public awareness of waste situation (at the level of individual; at the level of corporations)
- Appraisal of existing conditions (secondary and primary sources of data and information).
- Strength & weakness - Opportunities & Threat Analysis (SWOT Diagrams)
- Financial analysis and funding mechanisms
- Social analysis
- Biophysical analysis

6 Provisional conclusions and recommendations

- For the development of wasted resources governance model diverse areas of knowledge and technology should be consulted Each region or city with its particular conditions such as population, economic activities, climate, soil conditions, culture and type of leadership has to prepare its system; no standard recipe can be applied; each plan has to be custom made.
- When waste governance model is properly operating in a town or city; it is very likely that the city has been able to develop adequate models of governance in the other aspects of city management; in this manner from the study of waste management much can be extrapolated for the benefit of the overall management of a city.
- Decision makers in the public sector, NGOs, philanthropic organizations, private corporations and community leaders should all be active stakeholders in the design and implementation of the model.
- The governance model should improve and expand the quality of service offered by the formal garbage collection system operated by the local government or its contractors, and it should also improve the general environmental conditions of the town and its slums by promoting recycling and employment generation.
- The model should consider scavengers with an active role in recycling. They could be organize into small entrepreneurs of waste handling and recycling; with the participation of waste wholesales & processors from the private sector.
- The integration of scavengers (Pilar, 2006) to this process, would remove a large number of families from the very dangerous conditions under which they work, promote a better

classification of waste, promote recycling, and the municipality would benefit by less amount of garbage being deposited on the open dump or sanitary landfill.

- Pollution with plastics at the town level will be address via collection, packaging and sale to wholesales and processors; at the national level environmental law should consider the policy of extended product responsibility (EPR) applicable to soft drink bottling corporations and plastic processors.
- Continuous awareness programs are essential.
- Various leaders of the Town of Tela and of the nearby communities of Triunfo de la Cruz, Tornabe and Miami and local NGO fear that the promised availability of new jobs, will come at a too high social and environmental cost; thus, all community engagement has to be promoted and implemented via a win-win approach.
- The town of Tela can become a sustainable tourism destination if its major stakeholders decide to work jointly for growth and sustainable development.
- A wasted resource governance model for the Tela Region, with proper adjustments could find applicability in other coastal cities of Central America.
- Less industrialized countries should devote more research and resources to the area of waste management as a means to improve the quality of life of their urban populations (Hope, 1998).

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