

## CASE STUDY #11 by H. Stoltzfus

# PLASTICS WASTE MANAGEMENT IN THE MANILA BAY WATERSHED, PHILIPPINES

## Root cause analysis

In analyzing solid waste management practices in the Philippines, one may identify many impacts, or 'leaves' on this human environment that are fed by the global trade in plastic waste. They are especially relevant for plastics produced in newly industrialized Asian countries, consumed once worldwide, converted to waste, and shipped back to small-scale landfills, leaving the majority of the world's plastics problem 'out of sight' and thus 'out of mind'. The bulk of the maladaptive effects of globalization, then, are left to an unfortunate few billion people in the South Pacific at the whim of regional and global political and consumptive trends. These people—impoverished rural and urban groups in particular—see the accumulation of trash in streets and waterways, and face almost insurmountable costs in researching and developing the skills and technologies to teach and implement national recycling

programs (Atienza, 2013).

Even today, previously colonized countries like the Philippines experience new cycles of beggar-thy-neighbor interest policies. With the rapid diffusion of information technology, more expensive labor demands (i.e. Those required for services, research and development, and/or end-of-chain production in both developed and developing countries) can be met with the labor supply from developed economies. According to Richard Baldwin's Great Convergence theory, most environmentally costly and area-extensive operations like manufacturing and assembly are usually completed in countries with low GDP and lower regulation standards (2016).

It is important, however, to consider that American mercantilist influence in the Philippines exists only as it has been both reaffirmed by and competed with in the past. Some locally relevant examples include





**ROOT CAUSE ANALYSIS of plastics waste management in the Manila Bay watershed, Philippines**

*From Perera's "Inequaltree," used here with appreciation. Leaves represent daily impacts (Perera's "everyday symptoms"), the trunk represents structure and institutions, and roots represent root cause ideologies.*

the older, imperial, and arguably more racist dogmas of Spanish conquistadors and Catholic priests. In this Inequaltree, settler-colonialism as represented by imperialist interferences (by China, Japan, the United States, Spanish, and finally, by all four by proxy through the urban residents of Manila, or *Manileños*), in a significant 'root' ideology.

The Chinese waste ban is a useful 'trunk' for examining the causalities of rampant pollution caused by plastic waste in Philippine water and soil systems. China's 2018 waste ban of just 12 types of recyclable waste, supposedly intended to counter the 2017 American anti-dumping tariffs, has essentially drowned Southeast Asia in plastic (Kao, 2018). Like in many Southeast Asian nations—Malaysia, Indonesia, and Thailand—the Philippine islands have seen the accelerating emergence of small-scale and extralegal recycling and landfill operations, which have been accompanied by a host of health and environmental effects; like dengue fever, respiratory and general illnesses related to air and water pollution (Dhiraj, 2018; Vila, 2018).

Once China imposed a purity limit of 99.5% for all imported waste, Chinese, American, South Korean, and other foreign

business owners were forced to exploit nearby ASEAN nations like the Philippines because of their looser environmental regulations (Baldwin, 2016 and Sanpu, 2004). This lowers the labor and technological capital costs required to staff the area-, danger-, and work-extensive aspects of waste management (landfills and recycling plants). Thus, a 'knot' is included in the Inequaltree's trunk, as it represents the nexus of this problem, from which the negative effects experienced by Philippine, and racialized peoples radiate outward.

**Positionality**

An outside perspective that informed my model and analyses is the economic analysis of Depression-era sociological and financial systems introduced by the international economic theorist, Joseph Stiglitz through his examination of "beggar-thy-neighbor" interest rate policies, where a newly established global web of monetary credit benefits the 'beggar' country at the direct expense of the 'neighbor' (1999). During the Great Depression, wealthy countries borrowed credit from their colonies, leaving the most isolated and underdeveloped citizens of those same developing countries (rural citizens in Southeast Asia and India, for example) with the brunt of the socioeconomic

consequences.

As a North American university student studying conservation, there are several privileges I must claim as I discuss topics of such wide breadth. I have one American parent and one Korean, and much of my sense of personal identity has centered on balancing these opposing sides of myself. I identify strongly with other Asian cultures, and may be biased in my evaluation of racism and the deeper causalities of this issue, because of a shared historic trauma between Filipino and Korean women when they remember the Japanese soldiers' 'comfort women' of World War 2.

Because of where my parents chose to begin my life, I am able to wield my inherent privilege, having attended a one-of-a-kind honors Global Ecology studies program in the eastern United States. I also have the privilege of attending the University of British Columbia, a rigorous research university, where I can study without worrying about my family's safety or financial security.

**Case study**

Today, as the global consciousness of the plastic waste problem facing the Association of South East

Asian Nation (ASEAN) member countries expands, it will continue to remain deeply important to engage with relevant regional scales of inequality. Even though waste management is usually a municipally delegated task, it has global, not regional or local, consequences. Counter intuitively, when considering such global political and social trends, more geographically contingent indigenous communities across the world tend to suffer the disproportionate effects of global plastics use and disposal (Brooks et al., 2018 and GFDRR, 2017).

The governance system in the Philippines today was set up by the Philippine Constitution in 1987, a document also known as the “Freedom Constitution” for its role in claiming sovereignty from the American government (De la Rosa Reyes, n.d.). Since long before the Constitution, around 1565, Filipino settlements were forcefully established under Spanish *encomienda* system, and entrenched in colonial ideologies like Christianity and capitalism (Nadeau, 1993). Filipino development strategy seems to imitate capitalistic Western strategies, relying heavily on urban growth of the Manila and the National Capital Region (NCR), as supported by

the supply of labor from more agriculturally dominant regions (David, 1980 and De la Rosa Reyes, n.d.).

### Internalized colorism

The general attitude in Philippine urban environments often mirrors government policies, with disdain commonly held by most for the use of the 100-odd native Filipino tongues that are not Tagalog. This leaves these peoples feeling disrespected and marginalized. For example, one Bisayan woman (Bisaya is a prominent, majority language across the southeastern Visayan islands) comments on conditions for a Bisayan worker in Manila: “People from the Visayas were always portrayed in the television as dumb and ridiculous and can do nothing more than being a mere house helper...” (Rachel Ravana, in Tolentino 2017)

With the continuation of climate change effects and the Philippines’ location over a fault line, nearly every Region is experiencing higher-magnitude natural disturbances like landslides, typhoons, and earthquakes. The nation is also projected to incur the equivalent of \$3.5 billion USD in damages every year (Xiaoxia, 2019). However, the majority of Philippine government actions seem to highlight efforts

to bolster financial deepening within the Metro Manila and the NCR. For example, there has been serious concern expressed over successful mobilization of a flood plan for Manila, but much less supporting the even organization of efforts within more agricultural and ecologically vulnerable regions in. The Eastern Visayas’ Region 8 had both the highest area of unclassified land and lowest area of designated parkland of the 17 regions— this would likely challenge the deployment of comprehensive management categories for water resources within the region (Philippine Statistics Authority, 2012).

This would suggest that even with a progressive policy, Filipino residents of wealthier regions may remain the only who can afford to invest in the community measures (like sorting education) which are necessary to achieve complete compliance with the extensive Ecological Solid Waste Management Act, or Republic Act 9003, of 2000 (Ranada, 2014). With these external variables in mind, such a rigid policy is extremely difficult for isolated regions to mobilize and enforce, and limits the availability of collection services by region.

### Ecological Solid Waste Management Act (2000)

RA 9003, the aforementioned waste management law, requires individual barangay (neighborhoods) to establish a materials recovery facility (MRF), where all barangay garbage must be sorted (Acosta et al., 2012 and Ranada, 2014). Under this system, residual waste would only be carted off by city dump trucks after being diverted into streams of recyclables, organics, and residual waste. However, this requires large-scale, self-directed community education initiatives, and as many local government units (LGUs) representing urban areas claim, RA 9003 is too costly for universal compliance. In those regions, solid waste is instead collected, unsorted by trucks, and sent to a landfill for disposal by burning (Acosta et al. 2012).

...global climate change is driven by an aggregate of world consumer habits...

San Fernando, an eastern city about 100 miles northeast of Manila, is the only Philippine city to completely follow the law—each of its 35 barangay has its own MRF. But the key

to success in its most highly praised barangay, Barangay Maimpis, where, of the initial P700,000, P300,000 was saved in annual costs of trucks and fuel, was the presence of a non-governmental organization (NGO) called the Mother Earth Foundation (MEF). On top of this, the City DENR official, Anele David says the city has a total of 100 MRFs because “subdivisions and schools” across San Fernando “decided to build their own” (Ranada 2014). This suggests that San Fernando citizens may be more environmentally conscious because they have more exposure to Western ideas of sustainability, in addition to the supplemental income to contribute to these initiatives. This, along with the development programs implemented by the current government, has allowed the standard of living in more Westernized centers of development (like the city of San Fernando) to skyrocket, leaving behind more agrarian regions to rely heavily on internal revenue allotments (IRA), because they are incapable of internally generating the funds necessary to staff and manage development projects (De la Rosa Reyes).

These ideas refine the idea that, while building more concentrated population centers, the government official must

remain wary of severing linkages between related social and economic production centers. For example, by redirecting agricultural goods to a more prioritized development hub, government-established markets to be made into ‘finalized products’, when employed by citizens, build up the governance idea that peoples from urban areas are inherently superior (Stiglitz, 1999). Globally, it is difficult to isolate the institutions from the ideologies that directly or indirectly contribute to the operation of sustainable waste management. This is because global climate change is driven by an aggregate of world consumer habits, with Western countries almost always coming out on top. But, the city of San Fernando, in its ability to accept solid waste regulation, proves an exception to this rule by successfully navigating the significant barriers to sustainability in ASEAN countries like the Philippines. As long as we single out the biases—such as colonialism, racism, and colourism—which have been synthesized or supported across time to create or prop up the hierarchical institutions and structural security attended by extractive colonial approaches to society, we can still praise the successes of San Fernando in achieving compliance to this challenging law.

## TIMELINE of plastics waste management in the Manila Bay watershed, Philippines

*Events related to climate, race, and plastics waste in the Manila Bay watershed, inspired by the opening activity of Conversations.*

### 67 000+ years ago

The first humans arrive (Negrito people of Malaysia, then Austronesians) using rafts or boats and settle along rivers or in headwater regions. America, and potentially beyond (Kahn, 2006).

### 1000-1 AD

Riverine settlements grow into small states, with economic, social, and political specializations. This includes inter-barangay, inter-island, and continental trade relationships with India, Japan, Vietnam, and Indonesia.

### 1565

After Miquel Lopez de Legazpi establishes first Spanish contact, he then begins the settlement of Cebu island by Spanish colonists of Mexico. Policies introduced throughout Spanish colonial rule include: encomienda system (right of landowners to collect tribute tax from locals, polo y servicio); forced labor for all men 16-60 for 40 days of the year; criollo vs. peninsulares classification; stratified social classification and distribution of rights based on 'birthright' (which was defined by racial identity); bandala: compulsory sale of products to the government; use of old datu (tribal) rivalries and loyalties to control different groups (Cañizares-Esguerra, 2005).

### 1741-1829

The Dahogoy Rebellion was successful in establishing an autonomous regional government, the free Boholano government.

### 1832-1834

Apolinario de la Cruz (Hermano Pule) started a religious order with elements suited to Filipino followers, the Confraternity of Saint Joseph, Quezon. It spread quickly even with express Spanish disapproval, and the religious followers revolted in self-defense.

### 1565

Dagami Revolt, led by the Dagami family from Leyte, is punctuated by hundreds of religious uprisings and self-determination movements from different groups, and ends with the revolutionary Pule Revolt.

### 23 May 1565-1841

A time filled with a deeply entrenched history of land-based resistance of Spanish colonial rule and practices and their accompanied Catholic ideologies.

### 1565-1898

Philippine islands are united under a single political structure, named by Spain.

### 1762-1764

British occupation of Spanish-colonial Manila during the Seven Years War.

### 1786-1789

Trade liberalization policies allow the Spanish-colonial government to expropriate the manufacture of local basi sugarcane wine.

### August 1896

Katipunan (an anti-colonial organization) leaders organize a revolutionary "Haring Bayang Katagalugan" government, and declare armed revolution.

### 1898

Spanish defeated in the Battle of Manila Bay and the Philippine Malolos Constitution is written, declaring independence. This document is not acknowledged by America or Spain, a sentiment marked by William McKinley's 1898 assertion of U.S. control over the Philippines with his Benevolent Assimilation Proclamation.

### 4 February 1899-2 July 1902

The First Philippine Republic declares official war against the United States in the Battle of Manila.

### 1935

Insular American government dissolved in favor of the Philippine Commonwealth.

### 1937

Tagalog, a Mañileneros dialect, is set as the national Filipino language by the Philippine Commonwealth.

### 2010

The CPP-NPA remains active in the mountainous and more isolated regions of the country, supporting anti-government resistance movements

### 2004

Talks are shut down by intensified military reactions from the central government.

### 2000

CPP-NPA continues to engage in peace talks with the government.

### 1968-1969

The Philippines' Communist Party's (CPP) coalition with the New People's Army (NPA) allowed them to launch their struggle against the Philippine government as the CPP-NPA.

### 1946

Philippine nation is relinquished as a 'US territory' and claims full sovereignty.

### 1941-1945

Japanese invasion and occupation of the Commonwealth of the Philippines begins with Pearl Harbor attacks (1941).

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