Adopted Good Practice: How Imus City in Cavite is curbing its plastic waste problem

Vertical Integration and Learning on Low Emission Development (V-LED) is a project of the UN-Habitat in partnership with Adelphi. With the support of the International Climate Initiative (IKI)-Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), the three-year project, which began last quarter of 2015, is geared towards supporting governments, including the Philippines, in fostering climate resilient and low emission development pathways through improved multi-level governance and knowledge management.

In the Philippines, a key partner is the Climate Change Commission (CCC).

V-LED aims to support national governments in better engaging and supporting their subnational counterparts through integrated approaches so they can effectively implement climate resilient low carbon climate policies and actions.
How Imus City in Cavite is curbing its plastic waste problem

Interview: Miss Doris Sagenes from the Imus city environment office

Imus City in Cavite is home to ideas to curb plastic residuals and agricultural waste, specifically in composting agricultural waste and recycling plastic.

I. Good Practice Exchange

A successful global response to the climate challenge depends on the coordinated effort of government and stakeholders at multiple levels. Very few countries have established dynamic vertical policy coordination mechanisms between the national and local levels. To address this, the United Nations Human Settlements Programme (UN-Habitat) continues to support the Philippine government's efforts to mitigate climate change impacts through trainings and Good Practice Exchange workshops.

On 18 March 2016, a workshop was held on “Good Practice Exchange: Localizing National Climate Change Action Targets Through Implementation of Mitigation Action.” The event was attended by city and municipal government officials of Imus, Silang and Carmona in Cavite province and Sta. Rosa and San Pedro in Laguna province as well as partner agencies such as United States Agency for International Development (USAID) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

The event highlighted the municipalities and city governments' process and good practices in terms of formulating their Greenhouse Gas (GHG) Management Plan and setting their climate change baselines to lower emissions through adaptation action planning. Thus, it is crucial to further support local efforts on climate policy and vertically link them to national programs and policies.

II. Introduction and Imus City Profile

Imus City in Cavite province, known as the flag capital of the Philippines and located 21km south of Manila, addresses its problem of disposing plastic and garbage with an integrated approach to solid waste management and utilization.

With a population of 403,884 residents (2017 data) in 97 barangays, Imus City—the banking hub of Cavite province—generated 155,125 tons of waste per day in 2017, up from 142,243 tons in 2015, government data showed.

Like other urbanizing cities, the rate of garbage collection in Imus City has been increasing each year owing to high consumption from a rapidly growing population.

“The Philippine garbage problem is connected to mitigating climate change and community resilience to disasters, specifically flooding due to clogged waterways and rivers that can disrupt development in urban areas,” says Ms. Doris Sagenes from the Imus city environment office in an interview.
III. National Context on SWM and Climate Adaptation

Under Republic Act (RA) 9003 or the Solid Waste Management Act, each city or municipality is expected to segregate and divert at least 25% of all garbage from solid waste disposal facilities through re-use, recycling and composting activities and in order to increase waste diversion targets every three years.

In tandem with RA 9003, RA 7160 or Local Government Code, each local government unit needs to implement a ten-year solid waste management plan (SWM Plan) that defines how waste is segregated into different types and to ensure they are gathered at designated collection points in all barangays under a local government unit (LGU)'s jurisdiction.

Waste is the third largest contributor of greenhouse gas (GHG) emissions in the Philippines accounting for 9 percent of the total, next to energy (55 percent) and agriculture (29 percent), according to the National Solid Waste Management Commission, an attached agency of the Department of Environment and Natural Resources (DENR).

According to the Department of Environment and Natural Resources (DENR), Filipino households often generate food/kitchen wastes, papers, PET bottles, metals, and cans, boxes/cartons, glass bottles, cellophane/plastics, and yard/garden wastes.

Worldwide, municipal solid waste will rise from the current 1.3 billion tons a year to 2.2 billion tons a year by 2025. Much of the increase will come from rapidly growing cities in developing countries, according to a 2012 World Bank report.

IV. Good Practice: Imus City’s Programs to manage its solid wastes

Basuraffle

As part of its plan to pursue low-carbon development by mitigating GHG emissions, the Imus City government SWM Plan integrates composting, Basuraffle and charcoal briquetting.

Basuraffle is a wordplay on basura (Filipino term that means trash) and raffle. Under the project initiated in February 2017, the residents collected and turned over to the city waste disposal facility a kilo of plastic (made up of plastic sandal bags and wrappers) in return for a ticket to win prizes raffled by the city government.

Of the collected waste in Imus city, 18 percent are plastic residuals. Collected plastic residuals are then turned over to the Villar Foundation’s recycling facility in Las Piñas that uses a technology developed by Davao-based Envirotech Waste Recycling Inc. to convert plastic residuals into armchairs. The school chairs then are distributed in school campuses in Metro Manila and nearby provinces such as Cavite, which turned over plastic garbage to the Foundation.

“Between February and September of 2017, we [in Imus City] have collected 10 tons of plastic residuals and the Villar Foundation gave us 100 pieces of school armchairs in exchange of the solid waste collected,” says Sagenes.

In tandem with this, Imus City implements a recycling livelihood technology training for mothers and entrepreneurs to help convert tetra packs to bags, wallets and accessories.

Waste generation in Imus City

A resident of Imus city generates 0.4 kg of waste (a mix of biodegradables and recyclables), which remains higher than the global average of 0.3 kg per person per day and lower than the 0.7 kg per capita waste produced in Metro Manila. This is according to a Waste Analysis and Characterization Study (WACS) done by the City Environment and Natural Resources Office (CENRO).
Charcoal Briquetting

Collected agricultural waste such as coconut shells, twigs and dried leaves are gathered from 97 barangays in Imus, which are then converted into charcoal briquettes that produces more heat than regular charcoal. This earns the Imus city environment office 35 pesos for each bag sold, profits of which help run the city’s charcoal briquetting facility.

A similar project in Sta. Rosa City in Laguna reduced emissions of over 12,012 tCO₂e from its waste to biotreatment of over 80,000 metric tons of waste in 2010 and 2015. Ms. Sagenes mentioned that she learned from the experience of Sta. Rosa’s approach to solid waste management as an integrated strategy to address climate change and include it in their local climate action plans during the Good Practice Exchange Workshop.

In Imus city, each pack of the charcoal briquettes includes information about the city’s solid waste management projects, adds Sagenes.

The city also implements a project on manufacturing ecological bricks using shredded plastic residuals with aggregates. The ecological bricks are cheaper, eco-friendly materials that now line the city hall, city plaza, Imus Pilot Elementary School and a walkway in barangay Bucandala.

Imus City has also built a 2,300-square-meter lot a composting facility located at Pedro Reyes St., Malagasang I-A. It uses microorganisms that help break down the collected biodegradable waste from households. This enables the city to run a vermicomposting facility that gives free compost to farmers, schools, barangay residents and non-government organizations.

According to DENR, composting benefits the environment in many ways as it returns to the soil the nutrients and completes the cycle necessary to grow food. It also helps reduce carbon dioxide (CO₂) and other powerful greenhouse gases, like methane (CH₄) and nitrous oxide (N₂O).

The city collects an average of 6 tons of biodegradable waste from Imus Public Market, 16 barangays and 4 subdivisions. This is pursuant to Imus City Ordinance 2007-81 that mandates business owners to implement proper solid waste management initiatives.

V. Lessons learned, challenges and next steps

At present, not all LGUs are actively implementing their SWM Plans. There is also a need to strengthen efforts in terms of implementing coordinated efforts on solid waste management and mainstreaming climate adaptation efforts at national and local levels. A paradigm shift in terms of viewing the waste issue as an opportunity to address climate change is key.

There is also a need to improve awareness on the benefits of using safety gear provided to the city’s
composting staff such as gloves, masks and aprons to prevent work injury.

Better coordination with other stakeholders such as the business sector is also key to implement the SWM Plan more effectively. Moreover, there is a need to increase facilities to address the growing waste generated by the city. Sagenes shares the city targets to build eight (8) cluster composting facilities.

“Climate change adaptation is a key pillar in community resilience and low-carbon development. Solid waste management is a huge problem in the Philippines and it comprises a huge portion of the LGU budget if not done efficiently. That is why there is a strong need to integrate solid waste as a key measure to lower GHG emissions and for cities and municipalities to document, collect and share best practices.

_Doris Sagenes, Imus City Environment Office_