

FULL CYCLE OF ECOLOGICAL SOLID WASTE MANAGEMENT

Manuel Banzona sucks an ice candy stick thoughtfully while waiting for afternoon classes to start at the Jagna Central Elementary School, where he is a pre-schooler. He is out on the school grounds with his classmates, twins Leslie Ann and Ladylyn, Neil Andre, John Paul, Emmanuel and Ronald, most of whom are also holding one of the sweet coolers.

One asks how they will dispose of the plastic wrappers of their ice candies. “We put them in the trash cans,” they tell you, a trifle sarcastically, like that question shouldn’t even be asked. One ought to know that residual waste goes into the trash can.

These children know what they should do. At their school, solid waste management is being implemented. One can see that the program is working, the schoolgrounds are immaculately clean.

Their town of Jagna, in eastern Bohol Province, is one of the Philippines’s shining examples of local government successes in solid waste management. That, too, is evident. The town’s streets, sewers and rivers are clear of trash, an unusual situation in most Philippine towns.

Why shouldn’t Jagna be free of clutter? Its local government unit launched in 2006 a comprehensive solid



Jagna Municipal Hall

waste management program and stayed with it, making giant strides in its implementation to ensure that what they have gained do not go to waste, literally and figuratively.

Jagna’s solid waste management program kicked off with a waste characterization survey during which municipal and barangay officials and employees rummaged through and measured daily garbage from various sources to find out how much of each waste type the municipality was generating. When the data from the exercise had been analyzed, they went into earnest planning which eventually led to the legitimization of its ten-year Jagna Integrated Solid Waste Management (ISWM) Plan (2005-2014) and the enactment of its ISWM Ordinance enacted in 2006.



Manuel Bonanza and John Paul Dalan having their ice candy sticks.



Pre-schoolers of Jagna Elementary School.

Local officials determined that it needed to institute segregation and an efficient collection system in order to achieve the 25% waste diversion level required by Republic Act 9003, or the Ecological Solid Waste Management Act of 2000. They also knew that full cooperation of the Jagnaanons was necessary if the initiative was to succeed.



Jagna's SWM Launching

As waste collection in all of the town's 33 barangays would have been a logistical burden, it was decided that the program be started in the seven most populated barangays. These barangays had Jagna's major waste generators—commercial and industrial establishments and densely populated low-income communities—constituting about 31% of the population. All these barangays are located in the coastal areas. They represent a significant threat to the rich and diverse coastal and marine resources of Bohol Sea.

Jagna's SWM implementation team knew that they have to do more than the strict enforcement of the ordinance. Certain beliefs have to be modified and behaviors changed among the residents of this fourth class municipality. Among these widely-held beliefs and practices are mixed-waste disposal, open burning and indiscriminate dumping of waste.

The following practices were built into the objectives of an SWM Social Marketing Plan that was formulated by a Social Marketing Core Group: segregation of wastes into biodegradable, recyclable, residual and special wastes using specially-marked sacks bought from the LGU (at P 15 each); following the collection system and schedule, including bringing out the household's waste an hour before the scheduled collection hour; recycling and re-use of usable material; payment of garbage fees; and backyard composting.



Goyo Boy, Jagna's SWM Mascot

LGU officials, with the assistance of The Philippine Environmental Governance Project Phase 2 (EcoGov2), embarked on an intensive social marketing campaign. They adopted Goyo Boy, a life-sized mascot inspired by local hero Gregorio Caseñas. Goyo Boy has become the standard bearer of the municipality's waste

management program. He was the star attraction during the launching of Jagna's Solid Waste Management Program in August 2006 and continues to enhance the entertainment value of waste management activities. Goyo Boy helped bring information on segregation at source, composting, recycling and payment of garbage fees to collection area residents.

Aside from bringing Goyo Boy all over town, SWM advocates also grabbed every chance to make SWM and its benefits known to every Jagnaanon who cared to listen—through the town's FM radio station "Radio Natin", billboards, leaflets, posters, mobile public addresses, community assemblies, mass homilies, a jingle aptly called the "Basura Song" and school campaigns.

Among the major targets of the social marketing campaign, the business sector and industrial establishments proved the easiest to reach and the most strategic. They

became the target of the LGU's first SWM orientation-workshops. As business establishments applied for renewal of permits to operate in 2007, they were given briefings on the municipality's SWM program and encouraged to advocate it to their clients and other establishments. That done, the LGU also reached out to other sectors—households, the academe, and municipal employees.

While the social marketing campaign was ongoing, the LGU strengthened its collection efficiency, establishing a reliable and consistent waste collection

schedule and sticking to a “No Segregation, No Collection” policy. It improved its Central Composting Facility in Barangay Pagina and the Material Recovery Facility in Barangay Tejero.

The vermicomposting facility was constructed as a simple wood and tin-roofed shack. Its composting bins are made of concrete and the decomposing chambers are tire rims stacked one on top of the other. Its simplicity belies the significant role it plays in bringing down the volume of total garbage that Jagna sends for final disposal.

All of the biodegradables from the public market and the central business district are collected daily. While backyard composting is encouraged, there are households which opt to have their biodegradables collected also for an additional fee of P5/sack. These biodegradable waste is collected at the curbside every Monday and Thursday.

The LGU is promoting the use of organic soil enhancers and fertilizers among farmers in the municipality and the vermicast from the LGU facility is absorbed by its own agriculture sector.

Recycling is also given just as much attention. The recycling component was boosted by the activation of the Jagna Young Eco-Savers Club. The club



Waste collection in Jagna



Jagna's composting facility.

encourages schoolchildren, initially those in Canjulao Elementary School and later expanded to include those in the Jagna Central Elementary School, as pilot sites, to gather scattered recyclables and bring them to school on recyclable collection day, Wednesday. Club members accumulate points for the recyclables that they bring to school. They later use the accumulated points to claim school supplies and other items that the LGU provides as incentives.

Jagna has identified a sanitary landfill site and this site has passed the suitability standards set by the Department of Environment and Natural Resources (DENR) Environmental Management Bureau (EMB) and Mines and Geosciences Bureau (MGB). The LGU is about to complete its SLF detailed engineering design and submit to DENR documents required for its application for an Environmental Clearance Certificate.

When one examines the waste management system that Jagna has established, one cannot help but wonder how the LGU will sustain its initiative over time. The LGU got the answer through a parallel support initiatives—the development of a cost recovery plan and the ring-fencing of its SWM operations through the establishment of a Special Account under the General Fund. The latter measure is designed to capture all SWM revenues in one account and

enable the LGU to plow them back to fund SWM activities.

A series of workshops and assessment sessions were facilitated by EcoGov2 that allowed the LGU to analyze the flow of funds to and from waste management operations. Since 2006, the LGU has been generating revenues from collection fees, fines and penalties and the earnings were deposited in various LGU accounts. SWM expenses were also coming from the accounts of different municipal offices so until the cost-revenue analysis was done, it was not known exactly how much of total expenses were covered by the income. It came out that that the LGU was subsidizing as much as 77% of the expenses for waste management — personnel services, logistics, collection, composting, eco-savers club items, information and education. This meant that it was just recovering 33% of its cost.

The information gathered served as the LGU's baseline. The LGU then resolved to reduce the subsidy and targetted to increase cost recovery to 38% in 2009, 49% in 2010 and 57% in 2011. Among the planned measures to increase revenues are the charging of higher garbage fees for business establishments and levying a pollution fee on ships docking at the Jagna pier and on public land conveyances. The LGU will also continue to improve the efficiency of its SWM operations to keep costs down. The projected improvement in cost recovery and the

establishment of a separate SWM account will allow the LGU to create a more efficient SWM fiscal system and cope with the effects of inflation on operating expenses.

There are now very few who violate the waste management policies of Jagna. In fact, violation among locals is almost non-existent. Those who are usually caught littering are transients and visitors. Thus, very little of the revenue is expected to be sourced from fines and penalties. The LGU considers this a positive development.

What may be lost in projected revenue from fines and penalties will be more than met in service fees collected from residents. Effective program implementation coupled with an impressive social marketing campaign, buoyed mostly by the LGU's consistency in implementing this landmark program, has brought 100% compliance with the waste collection schedule and payment of service fees within the collection area which now spans 9 barangays. Cost reduction may be achieved through higher waste segregation compliance within the collection area, higher than the current 80% compliance rate.

Jagna's initiatives have not been wasted. It is showing good results — clean surroundings, and therefore a healthier environment for children like Manuel and his friends.

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