

Institute for Global Environmental Strategies
United Nations Economic and Social Commission for Asia and the Pacific
The Provincial Government of Negros Occidental
The City Government of Bago

The Kitakyushu Initiative National Conference on Solid Waste Management:
Bridging the Gap between Policy and Local Actions
Natures Village Resort, Negros Occidental, Philippines
28 & 29 May 2009

Summary of the Workshop Notes by the Secretariat

The Kitakyushu Initiative National Conference on Solid Waste Management: Bridging the Gap between Policy and Local Actions was held at Natures Village Resort, Negros Occidental Province, Philippines, from 28 to 29 May 2009, with participation of 62 representatives from 25 cities and municipalities in the Philippines, including the ones from Negros Occidental Province, selected member cities of the Kitakyushu Initiative Network and others with exemplar practices on waste management, national and provincial government agencies, international organisations, private companies and environmental officials and practitioners from Bago City and Negros Occidental Provincial government, in addition to the co-organiser, IGES.

The major conclusions and recommendations derived from the workshop discussion, at both formal and informal sessions, included the following:

I. Bago City's Solid Waste Management Project Presented and its Replication in Other Cities Confirmed

1. The first session of the meeting focused on the final presentation of the Asia-Pacific Forum on Environment and Development's (APFED) showcase project on Solid Waste Management as a Social Enterprise in Bago City. The project was comprised of four components, namely 1) development of a mini-enterprise for household and market-based composting, 2) community waste banking, 3) strengthening environmental education, and 4) facilitating project replication. One year after its implementation, the project was able to achieve the following:
 - a. Achieved 50% waste reduction over a period of four years of 20 tonnes of waste generated per day in 2005 to ten tonnes per day in 2009;
 - b. Developed a stable market-based composting system that produces six tonnes of compost per month with an input of one tonne of organic waste from the market every day, or 20 tonnes a month;
 - c. Initiated household-based composting by distributing more than 200 compost sets which includes baskets and pots;
 - d. Improved aesthetic environmental condition of the city and communities by utilising the compost products for the city landscape;

- e. Supported sustainable agricultural farming by providing compost products to farmers for free;
 - f. Introduced the concept of waste banking to elementary and secondary schools;
 - g. Developed the first environmental workbook in the province; and
 - h. Replicated Takakura composting practices in other communities of the city, neighbouring cities in Negros province (Talisay City) and other cities in the country (Puerto Princesa, Cebu and Cavite).
2. The presentations from Talisay City and Cebu City highlighted that market- and household-based composting practices are easily replicable in other cities and municipalities in the Philippines. The Takakura composting method, the technology applied in Bago City, was adopted by the Talisay City Government and is currently catering to organic wastes coming from market sources. Technical assistance was provided by the City Government of Bago to the Solid Waste Management Office of Talisay City that operates and manages the composting facility.
3. Cebu City government, in partnership with Pagtambayayong Foundation, a local NGO, also adopted and introduced the Takakura household-based composting method learned from Bago City. The active support of Pagtambayayong Foundation had been instrumental in promoting the practice to a number of communities in the city. It is a striking fact that in Cebu City, the composting practice expanded as a result of the self-initiative of community leaders and members themselves. About 2,000 compost baskets have been distributed and used throughout the city since 2008. One notable accomplishment of Pagtambayayong Foundation is the case of Badjao community, a group of indigenous people, where compost made from kitchen waste is used for vegetable production at small gardens in front of each makeshift settlement to support their livelihood.
4. Similar composting practices have been transferred to other cities including Puerto Princesa, where city officers of Bago City have visited to provide training on Takakura composting, a community in Ternate, Cavite who participated in the composting workshop in Bago held in May 2008, and surrounding cities of Cebu and Bago. Benefits of operating market-based composting centres for local governments include reduction of waste disposed at the final disposal sites, cost savings on waste hauling and production of valuable compost that could be utilised by farmers and for landscaping, thereby replacing the use of chemical fertilisers. The rapid one-week processing period of the composting method and the low operation cost owing to the sole use of local products and a shredder as the only mechanical input has supported the establishment of composting centres such as those in Bago and Talisay. Incentives for households to practice composting were confirmed to include the use of compost for gardens and plants and maintaining a clean and disease-free kitchen environment. For that purpose, NGOs and community groups proved to be effective partners in the promotion of the practice to residents due to their networks and close relationships with this sector as exemplified by Pagtambayayong Foundation in Cebu and a community group in Cavite, from which city officers of Bago, Talisay and others could learn.

II. Successful Solid Waste Management Strategies, as well as Challenges and Opportunities, Identified

5. The Republic Act 9003 (RA 9003) of 2000, otherwise known as the Ecological Solid Waste Management Act of the Philippines, provides the basic policy framework on solid waste management (SWM) in the country, wherein local government units (LGUs) are designated to play a key role in managing solid waste. The main objective of this policy is the protection of public health and the environment, and for that, LGUs are required to divert at least 25% of all solid waste from waste disposal facilities through re-use, recycling and composting activities and other resource recovery activities within five years. It also calls for greater private sector involvement and public participation.
6. One of the significant achievements of LGUs in implementing RA 9003 is the reduction of waste generated in their locality and induced waste diversion rates. Bago City reported a decrease of 50% of its total waste generation from 2005 to 2009 and Sto. Tomas Municipality has decreased its daily waste generation from 368 tonnes of mixed municipal and agro-industrial waste to 6.8 tonnes from 2005 to 2008. Similarly, Makati City has achieved a 34% waste diversion rate in 2008, San Carlos City recorded a 63% waste diversion rate in 2008, San Fernando City reached a 50% waste diversion rate in several barangays, and five LGUs in Cotabato Province achieved a 25% waste diversion rate, with an additional five likely to achieve the same by the end of 2009.
7. The Ecological Solid Waste Management programme of Sto. Tomas municipality in Davao del Norte highlighted the significance of political will for the implementation of RA 9003 citywide. The “no segregation, no collection” ordinance of the municipal government incited individual households to practice waste segregation at source. Further, the “no waste management implementation, no development project” policy encouraged barangays to implement waste management seriously, and waste management trainings and seminars mandated for renewing business licenses and obtaining marriage certificates and burial permits contributed to raising awareness among residents. As the amount of waste generated in the city has significantly decreased as a result of these policies, the municipality closed the open dumping site and converted it to an ecological park with a residual and biodegradable waste processing facility. Through these activities, Sto. Tomas Municipality was selected as one of the model sites for RA 9003 by the National Solid Waste Management Commission (NSWMC) and the successful practice is now being replicated in more than 20 LGUs in the Mindanao and Visayas regions.
8. Another outstanding case study presented by Teresa Municipality in Rizal also highlighted the importance of the strong leadership by the Mayor, as well as the efficient operation of a materials recovery facility (MRF), which has contributed to the significant reduction of the residual waste. The centralised MRF in the municipality produces concrete bricks with pulverised plastic waste as a raw material, with a compressive strength that meets the industrial standard, solid fuels from compressed paper waste and compost products from organic waste, and owing to the sales of those products, the MRF has become financially self-sustainable. The municipality has successfully mobilised resources from a World Bank programme with the Laguna Lake Development Authority (LLDA) for the construction of the MRF, as well as for the implementation of the municipality’s 10-year waste management programme, and from a cement company for the development of the MRF’s facilities.

9. The presentation by Makati City highlighted that the city's significant waste reduction was not achieved by a single action but by a collection of them targeting various sectors. For example, the city started waste segregation and resource recovery programmes with barangays and at all 29 public schools in partnership with a private company, and weekend waste markets and community-based recyclable markets in partnership with various recycling companies and junkshop owner associations. The city also organised SWM advocacy campaigns targeting the health, commercial and transport sectors and seasonal SWM-related events including cleanliness awareness month activities in January, Earth Day in April, Environment Month in June and coastal clean-up in September. In order to strictly implement the city ordinance, the city appointed 37 city-level enforcers and 205 community-based environmental police and imposed penalties and fines on those who do not comply. In this way, the waste diversion rate reached 34% in 2008 and the total amount of waste generated in the city decreased by 25% from 2002 to 2008.
10. Similarly, Markina City highlighted the importance of designing various activities for each stakeholder with particular information and education strategies. The city used various communication means, such as stakeholder consultation, focus group discussions, seminars, informative billboards and signage, printed materials like flyers, comics, calendars and stickers, and face-to-face explanations to reach out to each stakeholder, and organised various campaigns such as waste separation at source, anti-littering, separate collection of used cooking oil and eco-savers programmes for students.
11. The Solid Waste Management for Local Government Units Project, which is financially supported by GTZ, emphasised the same by introducing its capacity building strategies for various stakeholders with the use of various communication channels based on the stakeholder analysis. The project highlighted the effects of actual communication and promotional tools such as banners with catchy slogans and both rational and emotional messages, advertising on TVs, cinemas, radios and newspapers, guest appearances on public affairs shows on TV and radio programmes, editorial releases for news coverage and feature articles, publication of community newsletters and brochures, lobbying, organising forums, symposiums, conferences and educational sessions for face-to-face communication and announcements during market days and church services.
12. The Philippine Environment Governance Project (EcoGov), which is financially supported by the United States Agency for International Development (USAID), highlighted the effects of targeted capacity building of provincial and local governments to improve the SWM status through the experience in South Cotabato, Mindanao. EcoGov has partnerships with 11 provincial governments and South Cotabato, which has ten component LGUs, is one of them. EcoGov provides technical and administrative trainings for a group of provincial government and component LGUs on SWM planning, implementation, waste disposal management and cost recovery and allows the provincial government to take a coordinating and eventually a training role to efficiently implement SWM practices within the province. Since the inception of the project in South Cotabato in 2006, five LGUs have developed legitimised SWM plans and others are to be completed soon. The group training system proved to be not only cost efficient as all LGUs and the provincial government are trained together, but are also effective in clustering LGUs to share SWM facilities such as final disposal sites as they share information and experiences and start developing cooperative relationships among them.

13. Financing is generally regarded as a constraint in the implementation of RA 9003 and achieving its 25% waste diversion target, but the presented case studies highlighted such constraints can be addressed through active involvement of residents, barangays, students and private companies in SWM practices by using appropriate communication tools and strategies designed for each stakeholder. Building partnerships with private companies and mobilising resources from them are also recognised as an efficient approach to address the financial constraints as demonstrated in Makati, Marikina and Teresa. Efficient operations of MRFs as demonstrated by Sto. Tomas and Teresa, as well as financial incentives given to students and residents for waste segregation by engaging junkshops and recycling companies as the buyers of the recyclables as demonstrated in Makati, was also recognised as an efficient approach.
14. It was also confirmed that huge waste diversion rates were not achieved by a single action but by continuous efforts and strong initiatives by the Mayor and LGUs for many years, as presented by Sto. Tomas, Teresa, Makati and Marikina. For the capacity building of LGUs, several SWM projects under the NSWMC, such as those supported by USAID and GTZ, were recognised as available options. In particular, the grouping of LGUs under the coordination of the provincial government, which is adopted by EcoGov in South Cotabato, was recognised as an efficient approach to improve their collective capacity and to facilitate clustering and cooperation among them.
15. A sound replication model was also presented by Sto. Tomas wherein a team of SWM experts from the municipal government were dispatched for an on-site training to other LGUs in response to requests. What is innovative here is that the municipal government charges the recipient LGUs PHP20,000 (USD400) for the technical services in addition to direct expenses, thereby assuring good quality services and financial sustainability of the operations and encouraging only serious LGUs to apply. As opposed to site visits or field trips which seldom result in actual replication, this system proved to be effective as already replications have taken place in more than 20 LGUs in Mindanao and Visayas and most of them are reported to be satisfied with the services as the actual amount of waste reduction impacts by the project implementation are far greater than the service fees. Notably, the replication of Sto. Tomas's SWM model is supported by the NSWMC, which accredits and recommends it to other LGUs, thus underscoring the importance of the NSWMC as a facilitator to disseminate good practices from one LGU to another.

III. Challenges and Opportunities Identified for Sanitary Landfills Development

16. Six case studies were presented in this session including four sanitary landfills (SLFs), one controlled dumpsite in Naga Municipality and overall SLF development approaches by GTZ in the Visayas region. Presentations on four SLFs consist of a large private initiative by Metro Clark Waste Management Corp., two mid-sized initiatives in San Fernando City, La Union and Sagay City, and a small initiative in San Carlos City. In addition, a case study in South Cotabato, Mindanao, presented by EcoGov on the first day also provided useful inputs.
17. It was highlighted by those presentations that the main constraints for LGUs to develop SLFs are the lack of technical capacities of city officers for designing and operations, financing construction costs and availability of appropriate sites. The NSWMC's presentation underscored this fact by highlighting that, as of March 2009, there are only 25 sanitary landfills in operation and 24 under

construction, which together correspond to only 4% of the total disposal facilities in the country, in spite of the requirements by the law which stipulates phasing out of open and controlled dumpsites within five years, i.e., by February 2006. Nevertheless, it was also confirmed that a number of LGUs have developed SLFs despite those constraints, and therefore other cities can learn from those experiences.

18. First, regarding the lack of technical capacities of city officers for designing and operations of SLFs, it was confirmed that many of the preceding SLFs developments were and have been supported by foreign agencies including the World Bank, Asian Development Bank (ADB), GTZ, German Development Service (DED), USAID and the Japan International Cooperation Agency (JICA). For example, GTZ and DED support about 20 LGUs in Visayas including San Carlos, in developing SLFs starting from the site selection, planning and designing to construction, operations, monitoring and cost recovery. Similarly, JICA extends technical assistance to three LGUs, including Sagay, and USAID assists about 50 LGUs under the EcoGov programme, which programmes are all coordinated by the NSMWC. In addition, San Fernando received technical support from a private Canadian company and Metro Clark from German companies. The point highlighted here was that LGUs can apply for such technical capacity development services provided by various organisations and can also learn from those LGUs which have already implemented SLFs.
19. Another point raised here was that clustering cities and municipalities is the proper approach to efficiently develop technical capacities rather than targeting each small LGU individually. Further, developing capacities of not only city and municipality officers, but also the provincial government, was also confirmed as an efficient approach to stimulate replications of SLFs development within each province as exemplified by a strategy adopted by EcoGov. Clustering LGUs was also recommended as an effective way to minimise SLFs development costs as presented by South Cotabato, which developed three SLFs for ten LGUs, and to identify appropriate landfill sites from several candidate sites in several LGUs by comparing each merit and demerit.
20. Regarding financial constraints, it was confirmed that some LGUs financed projects with their own budgets and others applied for loans and grants. For example, Sagay finances the PHP40 million (USD800,000) construction costs themselves, San Fernando applied for a 25-year World Bank loan to finance 80% of its PHP163 million (USD3.3 million) construction costs, and San Carlos applied for a grant by DED to finance a part of its PHP7.5 million (USD150,000) construction costs. In addition to those loans and grants available from foreign organisations, the NSMWC announced an incentive scheme for LGUs to develop SLFs, as well as MRFs, with the provision of PHP5.6 billion (USD112 million) and PHP2.8 billion (USD56 million), respectively, on a cost-sharing basis between the national and local governments. For those LGUs which do not have sufficient budgets, the SLF presented by San Carlos that costs only PHP7.5 million (USD150,000) for the two-hectare facility including an MRF, or the PHP63 (USD1.2) per person when divided by the served population owing to the use of mostly local materials for the construction, was recognised as a good reference.
21. Regarding the operations of SLFs, it was also confirmed that levying certain tipping (disposal) fees is essential to finance the daily operation and maintenance, as well as the initial construction costs. For example, the SLF at Metro Clark, which is privately owned, charges PHP800 (USD16) per tonne for LGUs and PHP1,200 (USD24) for private companies, which implies similar charges must be applied by other SLFs to be financially self-sustainable. A simple calculation of construction costs of

SLFs per served population showed PHP1,400 (USD28) for San Fernando's and PHP900 (USD18) for Sagay's cases as references of the costs residents ought to bear to own SLFs. It was also confirmed that these are the necessary costs that each resident must pay to avoid open dumping and accompanying environmental degradations. During the discussions, participants stressed the importance of reducing the amount of waste at source by means of waste segregation, recycling and composting in order to extend the lifespan of SLFs and minimise the disposal costs.

22. Another point stressed by all of the SLFs managers was the importance of continuous dialogues with the residents, especially those living near the SLF sites, to obtain their support and address their concerns. Beginning from the site selection to designing, construction, operation, closing and monitoring stages, there must be continuous dialogue with residents. Participants confirmed the important role of the NSWMC and SWM officers of LGUs, as well as the media, to inform the public of the right messages of SLFs, including technical structures and functions, environmental protection measures, the necessity of SLFs to deal with residual waste and the importance of reducing the total amount of waste rather than relying on final disposal.

IV. Site Visits

23. Participants visited the Eco Centre in Bago City after the session on the second day to observe the composting practices using fermentative microorganisms developed from local foods and materials which take only about one week to produce compost. Bago City processes about one tonne of organic waste from the markets every day, or about 20 tonnes a month, and produces about six tonnes of compost a month, of which three tonnes are given free to farmers and residents and the remaining three tonnes are reused as seed compost. Those who could not visit the Eco Centre in Bago City on the second day visited the composting centre in Talisay after the sessions on the first day where the same composting practices were adopted through technical assistance from Bago City.

The conference concluded with the participants thanking the sponsor and host city of Bago for the successful organisation of the conference and their warm hospitality.