

The Community-based Solid Waste Management Project in Sitio San Nicolas¹

1. Lipa City's Solid Waste Management Problem

Solid waste is the most visible of Lipa's environmental problems such that the Mayor considered its solution as one the flagship programs of her administration. The Environmental Profile and the City Environmental Consultation in November 1999 identified the causes of the problem as:

- The increase in solid waste generation due to rapid industrialization and urbanization of the city;
- The un-segregated waste dumped by residents and commuters in the main roads, creeks, rivers, and vacant lots;
- The prevalence of burning of garbage in the city proper;
- The absence of material recovery facility in most of the urban barangays due to unavailability of vacant lots;
- The ineffective enforcement of local sanitation ordinances and national environmental laws on solid waste management and
- The absence of available site for controlled dump facility and eventually for sanitary landfill.

Lipa City generates approximately 72 tons of solid wastes excluding agricultural wastes annually. It is expected that the household sector will generate more as urbanization of the city continues. The major sources of solid wastes are domestic (households), industries, commercial establishments particularly the city market and agricultural producers and some hospitals.

The poultry and hog industry is another big source. Lipa is the major supplier of poultry and meat products in the Southern Tagalog Region and Metro Manila. Piles of untreated animal wastes from these farms, which are in varying stages of decomposition formed part of solid wastes lying around the city.

The City Environment and Natural Resource Office (City-ENRO), the agency tasked to manage the city's solid wastes, collects only 35 percent of the domestic wastes. This is limited only in the poblacion or city center and adjoining barangay. The City ENRO's ability to collect the city's garbage is hampered by insufficient equipment (Table 1). Uncollected wastes were simply burned or dumped in the streets, canals and creeks. Composting and recycling are rarely practiced.

Table 1. Status and Description of LGU- Owned Garbage Collection Equipment

Type of vehicle	Units	Condition	Ave Capacity	Model	Make
Open Dump Truck	5	Good	5 cum	4D32	Canter
Open Dump Truck	1	Good	5 cum	4D30	Fuso
Open Dump Truck	1	Good	5 cum	4D30	Kia
Open Dump Truck	1	Good	8 cum	KB212	Hino
Bulldozer	1	Fair	140 HP	D60P-11	Komatsu
Water Truck	1	Fair	10,000 gallons		Isuzu

Source: City-ENRO, Ten-Year Solid Waste Management Plan (draft, 2006)

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2. The Task Force on Solid Waste Management (TF-SWM)

At the end of the City Environmental Consultation, the Activity Task Force on Solid Waste Management, which was mobilized in phase 1 for information collection, was beefed up with the addition of new members and became the Task Force on Solid Waste Management (TF-SWM). Its members comprised the City Agriculturist, the City Veterinarian, the General Manager of the International Training Center for Pig Husbandry (ITCPH), a senior manager from the City-ENRO, among others. The task force membership was predominantly from the public sector (Table 2a, main report). One of the biggest source of pollution—the hog and poultry industry, were invited to be part of the task force but did not participate. The private corporate business sector operating in Lipa however sent their representative regularly in the meetings and shared their solid waste management policy and practices.

During the 1st quarter of 2000 the TF-SWM held series of workshops and meetings to further clarify the issue, formulate and refine strategies to address the problem. Various tools were used. The Task Force in one of its meetings drew up a problem tree analysis (Exhibit 1) and formulated a SWOT analysis (Exhibit 2). Brainstorming was common during meetings.

The Task Force considered various projects to address the problem, all emphasizing proper waste management. Separate plans were discussed for managing commercial/residential, industrial/hospital and agricultural wastes. Toxic and hospital wastes would be deposited at an underground receptacle at the public cemetery. The rehabilitation of the Pamintahan River, located in the city proper was also proposed. The river (27 hectares) is one of the six (6) major rivers in Lipa City.

The group did not only limit themselves to the discussions of issues, they also visited manufacturing plants and factories located in the City to look at these companies' waste management facilities and be informed of their policies for protecting the environment. The summary of the pre-implementation activities undertaken by the Task Force is shown in Table 2.

Table 2. Pre-implementation Activities of the Task Force on Solid Waste Management

Date	Activity	Output
April 9, 2000	Workshop	<ul style="list-style-type: none">▪ Problem tree, SWOT analysis and discussion of the possible demonstration project
April 13, 2000	Study tours: Nestle Philippines UPLB College of Engineering PCCARD in Los Banos	<ul style="list-style-type: none">▪ The working group learned the company's policies on environmental protection.▪ Effective solid waste management was discussed, 10% technical aspect. 90% efforts of the people▪ The group got insights on the experiences of Los Banos and La Union on solid waste management.
May 5, 2000	Meeting in Balayan Batangas	<ul style="list-style-type: none">▪ The Batangas Integrated Solid Waste Management was discussed. The project used the New Zealand Technology.
June 6, 2000	Meeting in Tanauan Batangas with different municipalities	<ul style="list-style-type: none">▪ Integrated Solid Waste Management Project was discussed.
August 4 and 7, 2000	Task Force Meeting	<ul style="list-style-type: none">▪ Briefing on the demo project.
August 14 –15 and 17, 2000	Meetings with Officials of Barangay Balintawak	<ul style="list-style-type: none">▪ The Task Force briefed the Barangay Officials on the Demonstration Project.

3. The Community-Based Solid Waste Management Project

The Memorandum of Agreement for implementing the Community-Based Recycling Project in Sitio Nicolas, Barangay Balintawak, Lipa City was signed on November 29, 2000. The signatories to the MOA were the LGU, UNDP, DENR-PMCU, UCCP/LEC and the Barangay Balintawak chairperson. The UCCP/LEC in partnership with the Local-EPM Unit, and Task Force on Solid Waste Management spearheaded the implementation of the project. The approved budget was PhP 500,000.00. The revised work and financial plan of the project is summarized in Exhibit 3.

3.1 Sitio² San Nicolas – the demonstration community

Sitio San Nicolas, the demonstration site for the Community-Based Solid Waste Management Project is an urban community located near the city's main public market where heavy trading activities were conducted. It is separated from the city proper by a river that used to be clean and unpolluted. To date, the river is nearly dead. It was used as dumping site of undisciplined residents and market vendors.

The proximity of Sitio San Nicolas to the public market where the volume of solid waste was heaviest and the undisciplined characteristic of the residents was the basis for choosing Sitio San Nicolas as demo site. A vacant lot was also available for the planned mini waste-recycling depot.

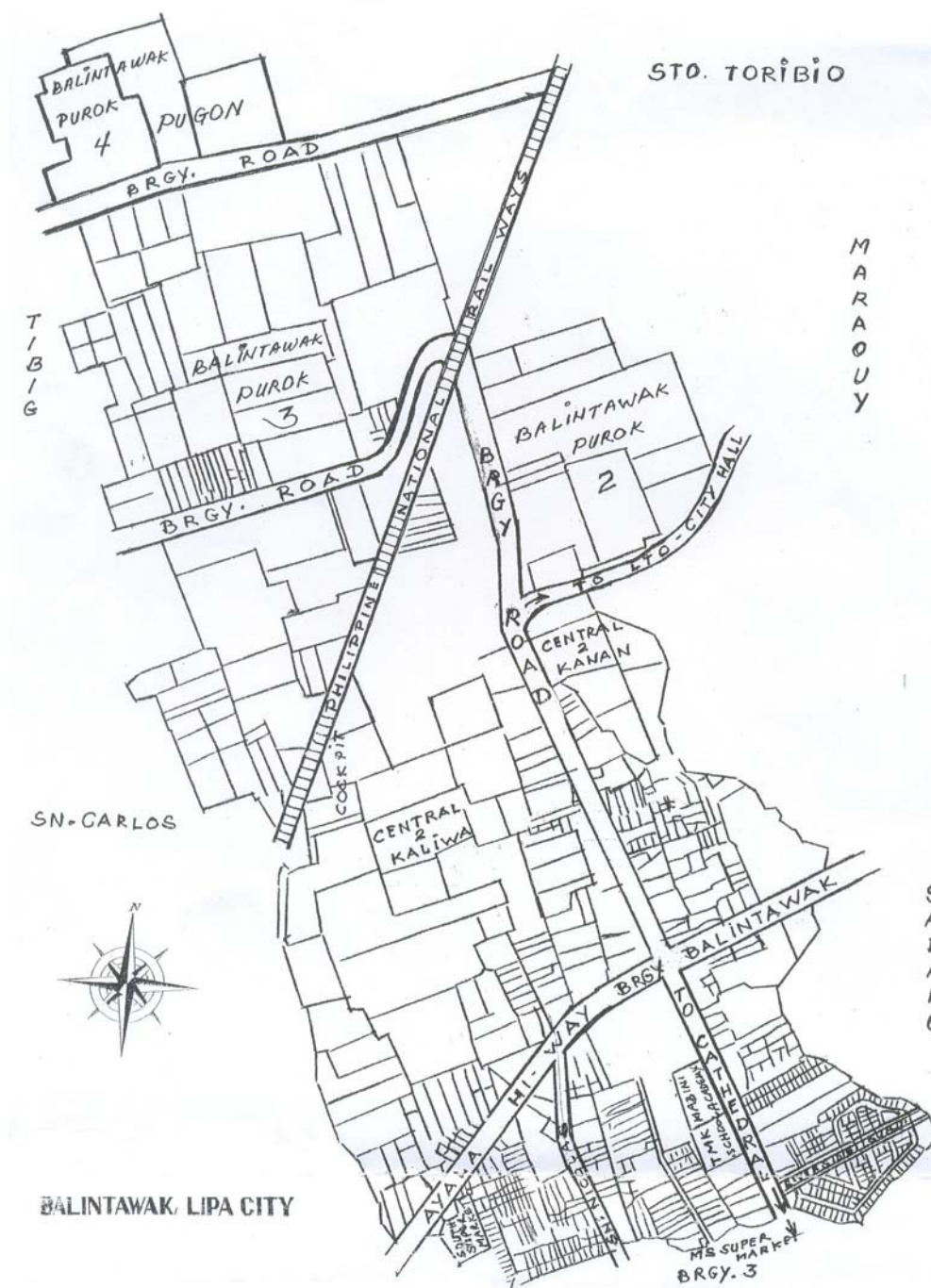
Situated in the Central Business District, the public market generated approximately 2.67 tons of garbage per day, which constituted 1.6 % of the total wastes generated by the city.

Table 3. Socio-demographic characteristics of Barangay Balintawak

Indicator	Details
Population	11,616 (as of November 2004 census), 6353 male and 5,256 female, made up of: <ul style="list-style-type: none">• Residents of Lipa City• Migrants as result of marriage and establishment of business• Temporary residents of Lipa City due to employment
Educational Attainment	Varied: <ul style="list-style-type: none">• Graduates from the schools in the Barangay Balintawak• Out of school youth• College graduates from Lipa City and Metro Manila
Employment	Businessmen, market vendors, private and public officials, garment factory owners, teachers, drivers, engineers, mechanics, refreshment parlor owners, junk shop operators,
Religion	Roman Catholic, Protestants, Muslim, Iglesia Ni Kristo, Born again
Language	Tagalog, English, migrant dialects like, Ilocano, Ilonggo, Bicolano, and Muslim dialect

² Sitio is a local government unit smaller than a Barangay.

Figure 1. Map of Barangay Balintawak



3.2 Local governance

A barangay is a basic political unit that serves as the primary planning and implementing unit of city government policies, plans, programs, projects and activities in the community, and as a forum where the collective views of the people may be expressed, crystallized and considered, and where disputes may be amicably settled.

A barangay is managed by a barangay council composed of officials headed by the barangay chairman and supported by the sangguniang barangay members (barangay councilors), secretary, treasurer, and sangguniang kabataan (youth sector) chairman for local administration.

The barangay chair enforces laws and ordinances, negotiates, enters or signs contracts for and in behalf of the barangay. He/she maintains public order, call and preside over the sessions of the sangguniang barangay. He/she also prepares the annual budget and enforces laws and regulations relating to pollution control and environmental protection.

The sangguniang barangay, composed of seven members, enact ordinances, annual and supplemental budgets and provide the administrative needs of the barangay. They also organize community brigades and services and lastly submit suggestions or recommendations to the city council.

The barangays receive Php2M share from the internal revenue allotment (IRA), 55% of which is allotted to the honoraria of the barangay officials and personnel. Other income of the barangay comes from taxes, fees and charges.

3.3 Stakeholder identification and mobilization

The Core Group

The task fForce on Solid Waste Management identified the core group or the sub-issue TF for the demonstration project. The composition and profile of the core group is shown in Table 4. Efforts were made to invite the members of the Market Vendors Association to join the core group, but because of their work schedule they ignored invitations to meetings and dialogues.

The core group members were assigned specific tasks (Table 5). The core group functioned as the project management coordinating council (PMCC).

Table 4. Profile of the Core Group

Sector	Position in the Organization	Gender	Position in the Core Group
Public:			
Barangay LGU	Barangay Chair	M	Co-chair
LEPM	Deputy Project Director	M	Member
CENRO	Representative	M	Member
Barangay Health Worker	Representative	F	Member
Sanggunian Kabataan	SK Chair	M	Member
Private:			
Junkshop	Owner/Operator	M	Member
Non-Government Organizations:			
LEC	Administrative Pastor	M	Chair
Roman Catholic	Representative	F	Member
Iglesia Ni Kristo	Representative	M	Member
Muslim	Representative	M	Member
Protestant	Representative	F	Member

Table 5. Tasking of core group members

Actor	Responsibilities/Tasks
1.Barangay Chair	❖ Smooth implementation of the project thru Barangay authority, laws and regulations. Help facilitate the information and education campaign on recycling and waste segregation
2.Local-EPM Unit	❖ Ensure delivery of services; provide technical assistance through conduct of training and workshops. Monitor and evaluate the project performance.
3.LEC	❖ Project holder, manage and coordinate project planning and implementation. Ensure full cooperation of the stakeholders Receive financial and technical assistance from LEPM Unit Document project implementation and submit progress and evaluation reports.
4.Barangay Health Workers	❖ Public education and awareness by distributing flyers on solid waste management activities
5.Eco-aides	❖ Collection of garbage and distribution of flyers
6.Cluster heads	❖ Help in the mobilization of the community. Conduct zonal meetings and assemblies for information and awareness campaign
7.Community Residents	❖ Practice segregation at source proper disposal of waste, effective partners in managing the project and protecting the environment

3.4 Project planning

The TF-SWM formulated the objectives of the project as follows:

- To organize households in Barangay San Nicolas on the importance of reduce, reuse, recovery and recycling in waste management;
- To organize local junkshop operators into a cooperative;
- To set up public information billboards;
- To establish a mini waste-recycling depot in the community.

Exhibit 4 shows the results of the Objective Tree Analysis formulated by the Task Force. The analysis listed the benefits to be derived from the project as follows:

- Improved health conditions due to the reduced exposure to harmful pollutants.
- Better/improved public awareness on waste management.
- Reduced volume of waste in Barangay San Nicolas.
- Acceptance of alternative solutions to waste management.
- Improved partnership among local junkshop operators.

The Task Force identified several implementation approaches and expected output as indicated in Table 6.

Table 6. General Approach of the Project

Phase	Activities	Expected Output
Social preparation (4 weeks)	<ul style="list-style-type: none"> • Barangay Officials Consultation • Community Consultations • Consultation with Barangay households • Consultations with Junkshop Operators • Signing of MOA between the City Government, DENR, Brgy. Balintawak and LEC/UCCP 	<ul style="list-style-type: none"> • Barangay Officials briefed on the project • Commitment of support • Signed MOA
Stakeholder identification (4 weeks)	<ul style="list-style-type: none"> • Gathering of data for community profile • Identification of Barangay Core leaders • Identification of eco-aides and volunteers • Participatory rural appraisal 	<ul style="list-style-type: none"> • Community Profile featuring physical demographic and other data relevant to the project • Profile of household wastes • Profile of junkshop operators • Economics of local junkshop operators
Social Mobilization	<ul style="list-style-type: none"> • Information Campaign • Organize mobile propaganda team • Recruit volunteers • Recruit trainers 	<ul style="list-style-type: none"> • Informed community • List of volunteers and trainers
Community Organizing and Development	<ul style="list-style-type: none"> • Capability Building activities • Conduct awareness raising on solid waste management, recycling, reuse, and recovery through seminars, trainings, FGDs and public campaigns • Establishment of Project Operations Systems (e.g. flow from household segregation to community collection and transfer stations to junk shop operator stations; income sharing, etc. • Establishment of Project Management and Implementation Structure 	<ul style="list-style-type: none"> • Seminars/trainings conducted at the Barangay level • Public campaigns conducted using tri media • Project operations guidelines drafted and ratified by community • Roles of Key players (households, Brgy council, junk shop operators, EPM) clearly articulated, understood and agreed upon (as cited in the MOA)
Monitoring and Evaluation	<ul style="list-style-type: none"> • Establish monitoring and evaluation system 	<ul style="list-style-type: none"> • Monitoring and Evaluation Reports

3.5 Project implementation

UCCP/LEC, the project partner

The EPM Unit had limited choice of which organization it could tap to implement the demonstration projects; there were no strong NGOs operating in Lipa that time. The LGU designated the LEC as demo project holder because its administrative pastor who chaired the Task Force on Solid Waste Management and the consultation working group (CWG) had experience managing and environmental project in the past. The EPM Unit's decision to designate a project holder was to facilitate the transfer of project funds. UCCP/LEC and the EPM Unit held the project money in a joint account. Under the MOA for the implementation of the project, UCCP/LEC would have these responsibilities:

- Manage and coordinate project planning and management.
- Ensure the full participation and cooperation of the stakeholders.
- Receive the grant money.
- Document the project.
- Submit reports to the project coordinating council and LEPM unit.

3.6 Activities undertaken (see Exhibit 4)

Capacity building

Various capacity building activities were organized for the core group members and other representatives of various stakeholder groups—youth, women, and religious groups. These are as follows:

1. Trainer's Training of Community leaders was held at St. Joseph Seminary, Lipa City on January 27-28, 2001. About 40 individuals attended the seminar, mainly barangay officials and the sangguniang kabataan (youth sector). A retired director of the Department of Interior and Local Government (DILG) discussed the responsibilities of the barangay officials on management of the environment as mandated in the Local Government Code. The deputy project manager of the LEPM unit talked on the concept of coordination and team building in the implementation of the project. Importance of teamwork was given emphasis.
2. Eco-aide Trainer's Training was held on February 14-16, 2001. Eighteen eco-aides and cluster leaders attended. The city ordinances, national laws on solid waste management and socio-political implications on the demo project were discussed. The sangguniang kabataan chair of Barangay Balintawak presented the different aspects of leadership and stressed the importance of leadership.

3. Naga City Cross Visit. About 11 eco-aides participated in the Trainer's Training for the Garbage Back to Mother Earth and Composting Seminar. The group was exposed to the environmental projects of Naga, sanitation program of the city government and the materials recovery center.
4. Participatory Evaluation and Assessment. This activity was conducted to determine the impact and level of accomplishment of the project on May 26, 2001. Barangay officials, SWM eco-aides, cluster heads and representatives of UCCP and CENRO attended it. The participants evaluated all the activities done and the contribution of each one in the project. A one-month action plan prepared by the eco-aides and cluster heads was presented to the body. The participants also recommended community organizing as one of the main activities of the project. An ad hoc committee was formed to convene the community leaders and discussed future plans of the project.

IEC campaign

A series of IEC activities were undertaken to raise awareness on solid waste management. The activities included radio programs, house-to-house campaign, barangay assemblies and informal dialogues with the stakeholders. The purpose of the campaign was to inform the residents about recycling and waste segregation. Table 7 summarizes the IEC activities of the Demonstration Project.

Table 7. IEC Activities of the Working Group

IEC Activities	Topics Discussed/Content	Performance Indicators
Radio Program	Waste segregation and recycling: <ul style="list-style-type: none"> • Experience of Barangay Fernando Air Base • Sustainability of waste segregation • Schedule of collection of CENRO • Community Organizing • Capability Building activities for • Barangay Health Workers Solid Waste Management: <ul style="list-style-type: none"> • Ecological Resource Recovery Center • Threats of the dumpsite on health of the residents of San Isidro • The dumpsite unable to conform with DENR standards • Demo Project on Solid Waste Management 	Listeners were informed about the demonstration project.
Posting of House Tags and Billboards	Anti-littering ordinance and ordinance prescribing rates of garbage collection fees and penalties for non complying	House tags and billboards posted
Barangay assemblies	Operation "Linis" Program, Earth Day Celebration	100 residents convened
Orientation /meetings with Cluster heads and eco-aides	Roles and responsibilities in the demo project, solid waste management approaches	Meetings conducted
Cluster Dialogue	Anti-Littering Law	Dialogue conducted
Dialogue with Public and Private Teachers/ Garment Factories Owners	Approaches on Solid Waste Management/Demo Project	Dialogues conducted

3.7 Project monitoring and evaluation

The project monitoring and evaluation was the main responsibility of the project management coordinating council. The team met for three consecutive months for activities updates.

House-to-house campaign was conducted to promote the project. This was also one way of getting feedback from the community. Residents complained of the following:

- Other residents who disposed their garbage in vacant lots and creek;
- Lack of garbage cans/bins;
- Inaccessibility of some households;
- Irregular schedule of garbage collection; and
- Burning of garbage in their backyards.

3.8 Project accomplishments

- Capacity building of project participants was carried out. Capacity building essentially focused on orientation on the project, the how of waste segregation, recycling, reuses and composting. The cross visit to Naga City gave the participants the opportunity to learn from the experiences of others.
- Community dialogues with the different sectors of the community were conducted. The barangay cluster heads and volunteers were identified and briefly mobilized but their commitment to the project was not sustained.
- The community profile featuring data relevant to the project was not accomplished.
- About 500 pieces of training materials on Reduce, Recycle and Reuse approaches were produced by UCCP/LEC and distributed during the house-to-house campaign. Whether these were useful in changing attitudes could not be ascertained.
- Information and education activities were carried out to raise the awareness on solid waste management. A 30-minute segment on a radio program where the solid waste problem and waste segregation, reuse, recycling among other topics was discussed on air.
- House tags and billboards were posted in strategic places recommended by the barangay chairperson to remind people of the ordinances and laws on waste disposal. Whether these were effective in generating compliance could not be ascertained. Random ocular inspection of the documentation team however showed piles of garbage strewn
- About 300 households were visited to inform them about the demonstration project on solid waste management. Leaflets on anti-littering law were also distributed during the visits.

- Pushcarts, garbage bins and garden tools were purchased for the implementation of the demonstration project. When the project was pre-terminated, these equipment—pushcarts, garden tools—were not returned to the project; these became the personal property of those involved in the project.

3.9 Issues and constraints in implementation

The implementation of the demonstration project was timed with the 2001 local elections. Local leaders were busy with the campaign, and it was difficult to discuss with the residents anything other than the elections. Others tended to have negative attitudes towards new approaches. Other constraints were as follows:

- Period of project implementation was too short only 6 months, too short to change attitude of the residents.
- The spirit of volunteerism was lacking. Some of those that volunteered later withdrew upon knowing that they had nothing to gain (financially) from the project.
- Difficulty in mobilizing the stakeholders especially the members of the market vendors association and house helps. The market vendors association ignored invitations to join public assemblies. The house helps, who were especially targeted for awareness-raising could not attend during the day; meetings had to be arranged during the evenings to accommodate them.
- The Barangay Chairperson's problem with alcohol created difficulties in implementation. Consensus among the project management team was difficult to reach and agreements reached when he was sober could not be carried when under influence of alcohol.

3.10 Project impact

Physical changes

At the height of project implementation, the streets of San Nicolas were cleaner. Residents participated in the clean-up; practiced waste segregation and wastes were disposed in designated garbage bins. The cleanliness of the neighborhood was maintained for about three months but not for long. Old habits refused to die; some residents began dumping mixed wastes in vacant lots, main roads and creeks. Stallholders in the public market stopped practicing waste segregation as observed by weekly collection in the pick up points. Others burned wastes in their backyard.

Institutional impact

The coordination of the barangay LGU with local government agencies improved. The Department of Agriculture / International Training Center on Pig Husbandry (ITCPH) provided technical assistance and information materials on proper disposal of animal wastes. ITCPH conducted seminars and sent resource persons during barangay assemblies. The City-ENRO, on the other hand, conducted trainings and seminars on waste segregation and composting.

Sitio San Nicolas 6 years after

On March 2, 2001 the Department of Interior and Local Government (DILG) issued Memorandum Circular No. 2001-19, requiring for strict implementation of RA 9003 otherwise known as the Ecological Solid Waste Management Act 2000. Some important provisions of the Act include:

- Closure of existing open dumpsite and conversion of the same into controlled disposal facilities;
- Mandatory segregation of wastes by households;
- Establishment of Material Recovery Facilities and composting facilities;
- Establishment of waste diversion goals, and;
- Authority of LGUs to charge fees for waste management.



Brgy Balintawak file photo

Former demo project site now used as MRF of Sitio San Nicolas.



AIM, Mendoza



AIM, Mendoza

Materials recovery facility and composting facility at the Materials Recovery Center in San Nicolas.

In compliance with the national law, in 2004 the City government carried out IEC activities in all 72 barangays including San Nicolas to explain the law and the City's program on solid waste. Leaflets or flyers explaining the 4Rs—reduce, reuse, recycle and composting in popular version were distributed to the barangays. Barangay assemblies, seminars for barangay officials and leaders, meetings with business sector and church were carried out by the LGU in partnership with the federation of NGOs, and Pusod, Inc. campaign through churches, schools, local radio programs and local newspapers. Barangay Solid Waste Committee and Barangay Enforcers were reactivated and strengthened through a series of capability building activities on proper enforcement of their ordinance and RA 9003.



AIM, Mendoza



AIM, Mendoza

Billboards were posted in strategic places in the barangay.

In Balintawak the ordinance entitled, “*Ordinansa Na Nagaamenda Sa Gawaing Ipinagbabawal Hingil Sa Pamamahala ng Basura at Pagpapanatili ng Kalinisan Sa Barangay at Nagtatakda at Nagpapataw ng Karampatang Parusa Sa Sinumang Napatunayang Lumabag Dito*” was passed. IEC activities were undertaken to raise awareness on solid waste management. Recycling and waste segregation are practiced in all establishments and schools. No segregation no collection policy is being implemented. The wastes are collected from the households by the bio-men and brought to the barangay MRF. The bio-men segregate the recyclables and sold these to the junkshops. The residual wastes in the barangay are collected by CENRO twice a week, every Thursday and Sunday morning at the barangay MRF and brought to the centralized processing facilities and processed into composts.



Brgy Balintawak file photo



Brgy Balintawak file photo

Dumpsite before (left) and after (right) rehabilitation.

3.11 Lessons from experience

Need for rapid community assessment prior to implementation

When Barangay Balintawak was selected, the TF-SWM was not aware of the Barangay Chair's drinking problems. Had they been aware they could have selected another barangay. His drinking problem impaired his capacity to perform his agreed tasks. A more thorough background investigation on the competence of project partners needs to be carried out. A rapid community assessment should have been carried out to identify the potential problem areas early on and develop alternative plans.

Local resource mobilization to enhance community ownership of project

Demonstration project should endeavour to mobilize resources—financial, material and expertise from the community to foster a sense of ownership of the project. The time spent by the barangay health workers in the IEC campaign was a big factor in public information and awareness. The brochures distributed by ITCPH entitled “*Gabay sa Pangangasiwa ng Dumi ng Babuyan*” (Guide to Proper Management of Hog wastes) helped explain to the hog raisers the need to properly manage animal waste disposal, effects of animal wastes to the environment and the different methods of animal waste disposal. ITCPH representatives conducted free seminars and trainings to hog raisers in the community.

The barangay should provide counterpart in the implementation of the project. Provision of local counterpart should be a criterion for selecting demo project partners.

IEC campaign

IEC is a very important tool for informing the public about the demonstration project and mobilize greater public support. IEC activities should be done before or at the start of the project implementation to generate support from target participants. Continuous information and education is also important to change attitudes and practices.

Transparency in project fund management

The lack of transparency in the management of the project funds and allegations that decisions on purchases were made by a few without informing the rest of the project management committee did not foster trust. There was no mechanism for check and balance within the project management team.

4. Recommendations

- ❑ The demonstration project should be launched only in well-selected and organized community. Competence of implementing organizations should be scrutinized.
- ❑ Provision of counterpart resources should be made a criterion for selection of demo project partners. Counterpart resources should be explicitly stated in the project budget.
- ❑ Continuous education is necessary to change attitudes and practices. Educational materials should be in popular form.

Exhibit 1
Problem Tree Analysis

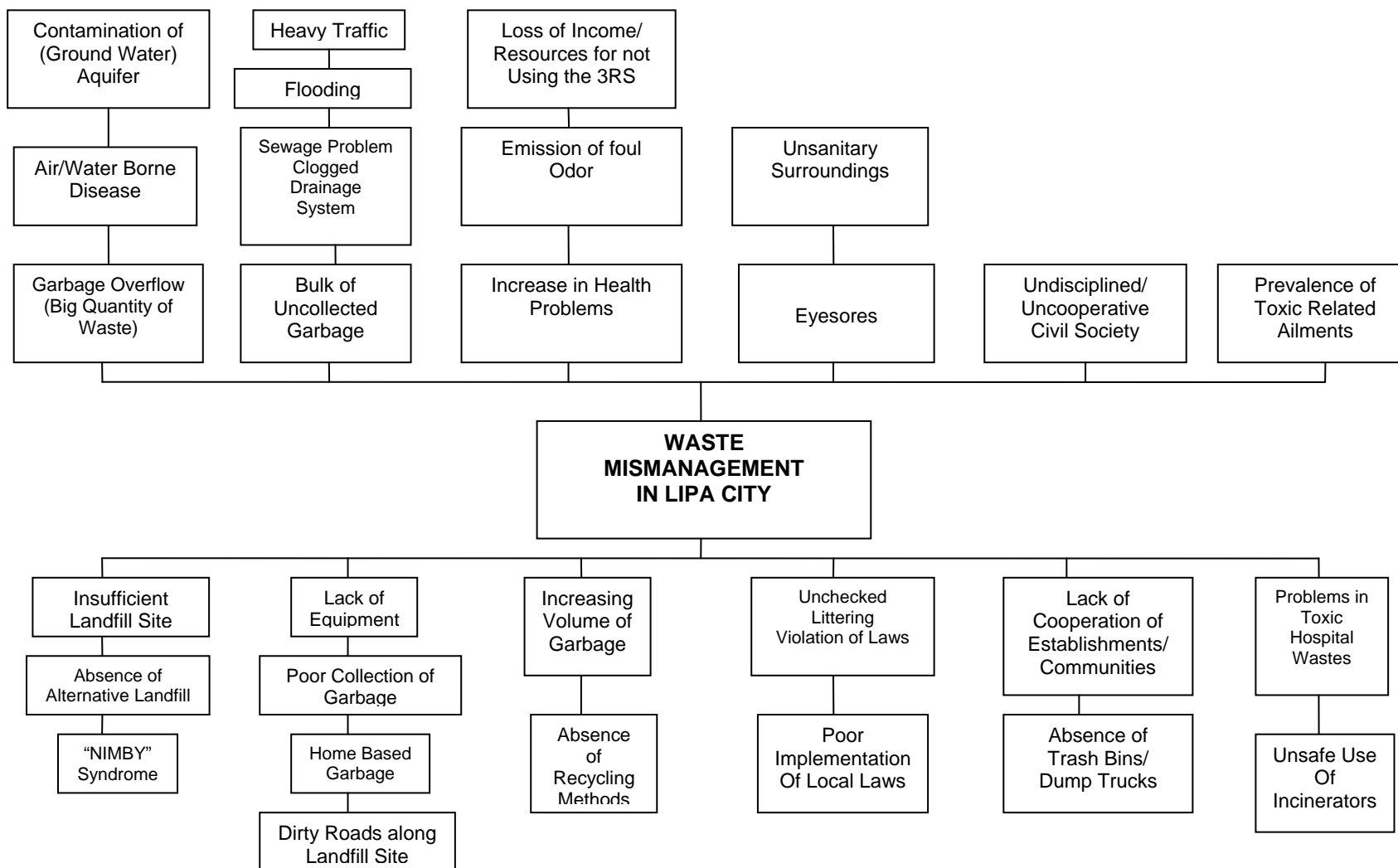


Exhibit 2
SWOT ANALYSIS

<p style="text-align: center;"><u>strengths (S)</u></p> <ol style="list-style-type: none"> 1. Some members are very supportive of the program. High enthusiasm of some members Strong commitment of stakeholders Willingness of the members to cooperate High level of cooperation of stakeholders 2. Technical capability (staff and stakeholders) 3. Some members have good ideas of what they are doing 	<p style="text-align: center;"><u>weaknesses (W)</u></p> <ol style="list-style-type: none"> 1. Few poor attendance Lack of motivation Lost of interest Diminishing enthusiasm of stakeholders 2. The organization is very loose Lack of institutional framework 3. EPM is perceived as program with unlimited resources 4. Lack/aging garbage vehicles 5. Very poor coordination with LGU 6. Slow/lack/weak implementation of some ordinances 7. CEP is based on secondary data
<p style="text-align: center;"><u>opportunities (O)</u></p> <ol style="list-style-type: none"> 1. Venue for external funding agency 2. Support (financial/technical) from private companies 3. Formation of cooperative among junkshop operators 4. Province wide program on Solid Waste Management (SWM) 5. Polluters pays environmental taxation 	<p style="text-align: center;"><u>threats (T)</u></p> <ol style="list-style-type: none"> 1. Urbanization 2. No alternative solution for incinerator 3. There is on going campaign against landfill in Region IV which definitely affect SWM 4. Lack of discipline (public) 5. Termination of contract with UNDP

Exhibit 3
Revised Work and Financial Plan of the Demonstration Project

Activities	Time Table	Location	Source	Budget Amount	Indicator of Performance
<u>Capability Building</u>					
Trainer's Training Of Community Leaders	January	Oblates of St. Joseph San Isidro Dumpsite T.M. Kalaw Elem. School	UNDP	P10, 100.00	Community Leaders trained
Eco-aides Trainer's Training	January	T.M. Kalaw Elem. School DAR/ITCPH ITCPH/ DAR	UNDP	10,800.00	Eco-aides and SWM enforcers trained
Project Cycle Management	March-July	ITCPH/DAR	UNDP	20,000.00	Training of staff conducted
Community-based SWM	March	UCCP	UNDP	10,687.25	Community Leaders trained
Training materials/ visual aides	February-July		UNDP	77,068.66	Supplies delivered & visual aides printed
<u>IEC</u>					
Radio Program	February March	99.9 GVFM	UNDP	21,822.00	Radio program aired
House tags	February	San Nicolas	UNDP	8,000.00	House tags and billboards posted
House-to-house campaign	February-July	San Nicolas	UNDP	30,000.00	Campaign conducted to 300 households
Barangay workshop	March	San Isidro dumpsite/ San Nicolas	UNDP	12,084.00	Barangay informed & mobilized
Meeting w/ Private School Admin	March July	The Mabini Academy	UNDP	855.00	Meeting Conducted
Meeting w/ Public Sch Principals & Supervisors	February July	T.M. Kalaw Elementary School	UNDP		Meeting Conducted
Meeting with Garment Factory Owners	March	Cornejo's Function Hall	UNDP		Meeting Conducted
Cross Visit to Naga City	February	Naga City	UNDP	33,526.54	Cross visit done
Streamers/ Posters	February July	San Nicolas	UNDP	5,719.00	Streamers Printed
Mural painting	March-July	San Nicolas	UNDP	30,000.00	Painting Done

Mobile Propaganda	March	San Nicolas	UNDP	4,788.00	Propaganda Conducted
Billboards	March	San Nicolas	UNDP	29,750.00	Billboards Posted
<u>Initial Implementation and Mobilization</u>					
Initial Barangay Assembly and Consultation	February	San Nicolas	UNDP	4,200.00	Barangay Assembly conducted
Identification, orientation, briefing of leaders and volunteers	February July	Cornejo's Function Hall	UNDP	5,000.00	Leaders identified
Brgy. Participatory Evaluation and Assessment	March	San Nicolas	UNDP	12,000.00	Project evaluated and assessed
2 nd Brgy Assembly	March	San Nicolas	UNDP	7,811.10	Barangay Assembly Conducted
Joint Brgy, Devt. Council Mgt. & Project Coordinating Council	February	San Nicolas	UNDP	5,667.25	Meeting conducted w/ BDC & PMCC
3 rd Brgy Assembly	March	San Nicolas	UNDP	10,452.15	Barangay consulted
Push Carts	February	San Nicolas	UNDP	38,700.00	Push carts procured
Container bins & Plastic bags	February	San Nicolas	UNDP	88,712.05	Garbage bins & plastics Distributed
Garden Tools	February	San Nicolas	UNDP	12, 906.00	Tools procured
Lobbying Anti-stray Animals	February	San Nicolas	UNDP	5,000.00	Owners informed
Policy Meeting & Consultation	March-July	San Nicolas	UNDP	5,251.00	Policy Meeting & Consultation
Total				P500,000.00	

Exhibit 4
Activity Milestones

Date	Actors	Activity/Process	Output
November 29, 2000	Mayor of Lipa City DENR, LEPM Unit UCCP Barangay Chairman	MOA Signing	MOA regarding the Community-based Recycling Project at Sitio San Nicolas,
December 14, 2000	LEPM Unit/LEC Barangay Chairman	Official Launching of the Demo Project	Demo Project launched.
January 27-28, 2001	LEPM Unit LEC	Trainer's Training of community	1 training conducted, 40 participants
February 14-16, 2001	LEPM Unit / LEC	Eco-aides Trainer's Training	1 training held, 18 eco-aides trained
March 5-7, 2001	LEPM Unit / LEC	Naga City Cross Visit	1 cross visit done, 11 eco- aide participated
March & April, 2001	Project Management Coordinating Council	Project Management Coordinating Council Meeting	2 meetings held
May 26, 2001	PMCC, Barangay Council	Participatory Evaluation and Assessment	1 Evaluation and Assessment conducted, 30 participants
February 2001	LEC	Production of training materials and visual aides	500 pieces training materials on reduce, recycle and reuse
February 2001	LEC	Production of streamers	4 streamers produced
February – March 2001	PM	Radio programs	Radio programs aired
February – March 2001	LEC/LEPM/Cluster Heads	House-to-house campaign	300 households visited to promote the project
February 2001	LEC & Eco-aides	House tags	House tags posted
April 2001	LEPM/LEC	Barangay Assemblies	100 residents convened
February 2001	LEPM/TLC/LEC	Procurement of push carts	6 pieces of push carts procured
February 2001	TLC/LEPM/LEC	Procurement of garbage bins and sorters	66 units of garbage bins and 20 units of sorters procured
February 2001	TLC/LEPM/LEC	Procurement of garden tools	300 pieces of broomstick, 4 units wheelbarrow, 20 pcs. Karit, 5 pcs. Spade, 5 pcs. Rake procured
February 2001	City Veterinarian Office	Animal owners informed	14 dogs caught by City Veterinarian Office