

Chapter 4

4.0 Vision, Objectives, Strategies and Targets:

4.1. Vision, Mission and Goals (VMG)

Vision

Ten years from now, Jagna is a progressive, clean and healthy municipality with an income generating and well-managed ESWM facilities and strict enforcement of the Solid Waste Management rules and regulations as committed to the protection of the environment.”

Mission

ESWM Board of Jagna, is committed to the effective implementation of SWM plan, ensure establishment of SWM facilities and efficient delivery of SWM services.

Goals

1. To develop a comprehensive Solid Waste Management System and adopt measures to ensure the effective implementation of SWM plan.
2. To structure revenue-generating projects for the viability of Solid Waste Management Program.
3. To formulate and enforce the rules and regulations on Solid Waste Management.

4.2 . Specific Objectives of the 10-year ISWM Plan

1. Review and revision of existing ISWM Ordinances for implementation by year 2004. Ordinances should emanate from the desired plan of the LGU to improve ISWM services. Likewise, it shall conform with the provisions on RA 9003 as the guiding legal arsenal for its implementation.
2. Segregation at all sources. 3 containers for urban and 2 for rural barangays. 100 % implementation for the entire municipality.
3. Conversion of Open Dump to Controlled Dump by year 2005. Conversion shall be done by covering the open dump by earth.
4. Establishment of a Sanitary Landfill by year 2007. Establishment shall be by phase.

5. Establishment of a central MRF in barangay Tejero to cater 8 urban barangays covered by regular collection. Barangay MRF shall be established each rural barangay.
6. Educate its constituents to proper IEC and awareness campaign the ISWM program particularly on waste segregation, composting, recycling through MRF operation, SLF and the overall target of reducing waste at source, citing the required provisions of RA 9003.
7. Establish an ISWM Organization Structure at the municipal and barangay levels to oversee and take charge of the implementation of the 10-year plan
8. Establish collection network plan, route and schedule for effectivity and efficiency. This shall be subject to public awareness and appreciation.
9. Provide healthy and clean environment for the people of Jagna

4.3. *General Strategy for implementation*

RA 9003 requires that waste management of an LGU should pursue a waste stream designed to integrate the principle of reuse, reduce and recycle within the process. This includes 4 stages, to wit: Reduction at Source; Collection and Transport; MRF and treatment and Disposal Management.

Module 2, Solid Waste Management Assessment (SWMA), of the ISWM planning framework brings out the current status of the solid waste situation and the services provided by the local government unit of the municipality. Hence, it served as a guide for decision-makers to reflect and decide on possible strategies to resolve the issue on waste management.

With the technical assistance of the EcoGov project, the ESWM Board, together with its Technical Working Group (TWG) convened and put into table different strategies and options, which could potentially be the best solution to improve its solid waste services for its constituents. These strategies underwent tedious qualitative analysis by examining its pros and cons, using the criteria of adaptability, applicability and cost efficiency. Learnings from the group's educational tour likewise augment its decision makers on the probable options they would like to adopt.

Figure 4.a is the general strategy, institutional arrangements, the LGU plans to implement, in the next ten years, in the municipality.

Figure 4.a: General Strategy

STAGE I. Reduction at Source

Segregation at Source: 2 containers at rural areas and 3 for the urban areas. The strategy is a combination of control and incentives mechanism with a full implementation for the whole municipality. Compulsory composting at rural brgy's with case-to-case basis at the urban barangays.

STAGE II. Collection and Transport

Barangay LGU collects only recyclable waste at rural areas. LGU collects all waste at the urban area except for about 20% of biodegradable waste from Household without area for composting. All commercial & institutional establishment wastes shall be collected by the LGU, as well

STAGE IV. Disposal Management

Conversion of open dump to controlled dumpsite and establishment and operation of a Sanitary Landfill (SLF) by year 2007, that could likewise cater cluster LGUs

STAGE III. MRF and Treatment

LGU shall establish 1 central MRF with bio-composting facility to cater recyclable and biodegradable wastes from urban (collection area) barangays and the public market. Each rural barangay shall establish an MRF for their recyclable wastes

Stage I: Waste reduction and segregation at source.

As provided by the law, the LGU plans to implement segregation at source, from all its waste sources. In the 8 urban barangays, two color coded containers or other indicators comfortable by the owner, for the recyclable and the residuals/special wastes, shall be required from the generators themselves. However, for those who wish to have their biodegradable wastes collected, another container shall therefore be required, hence 3 containers for the said generator. Composting shall be made compulsory in the rural areas while it will be a case to case basis in the urban. For residents in remote and secluded areas, 2 pits shall be required, to facilitate biodegradable waste and for the treatment of residual and special wastes. Provided however that wastes potential to secrete chemicals are secured in plastic containers before it is dumped into the cells. It shall be a 100% Implementation in all barangays of the municipality.

There will be communal garbage receptacles in selected public places. At the wharf, plaza and cemetery, which will be manned and secured by operation “*tanods*” and agencies concerned in the area. However, in the market, stalls and other transient vendors shall provide their own separate containers for their wastes.

Massive Information, Education and Communication (IEC) campaign is planned in the first year of implementation. It shall be focus on the residents who, as a result of the assessment process, was found to be the number 1 break-away generator of solid wastes. Training of trainers shall be conducted to facilitate the information drive in the barangay level. The drive shall be conducted through general assemblies and meetings while commercial establishment operators shall be advised through seminars. Information materials like brochures, flyers, posters and billboard shall be prepared, distributed and posted, respectively, in strategic areas.

Enforcement shall be motivated through control and incentive mechanisms. Ordinances and guidelines shall be crafted, highlighting the incentives and penalties for those who, by any effort, abide or neglects the provisions therein, thus making legal basis on its implementation. There shall be fines and penalties for non-compliance while rewards through incentives and recognition shall be given for those who persistent complied with the guidelines.

Stage II: Collection and Transport

At present, only 7 out of 8 urban barangays are covered by the LGU’s waste collection services with an average of more or less 70% of the entire populace. However, beginning 2005, the LGU plans to increase its area to 8 barangays with an average of about 95% coverage of its entire area in 2012. In 2006, the LGU planned to collect residual and special wastes in all the 33 barangays in the municipality. Annex 4.a, is the proposed expansion percentage of the collection coverage.

The LGU shall collect all types of wastes in the 8 urban barangays. It shall have a collection schedule and route to maximize the area of coverage with high ratio of effectivity and efficiency. Annex 4.b, is the proposed collection schedule and route for the LGU collection services. On the other hand, it is expected that only about 20% of the residential biodegradable wastes shall be collected with extra fee. All market wastes shall likewise be collected by the LGU itself. Collection fee shall be collected in the 8 urban barangays for collection as part of the revenue generation of the LGU for the maintenance and operation of the SWM services.

In rural barangays, the barangay LGU shall collect its recyclable wastes, through a collection system to be established by the Barangay Solid Waste Management Committee. The Municipal LGU on its part shall collect residuals and special wastes once a week on a specific time and day.

As guidelines, there shall be no collection of unsegregated wastes. All waste for collection should be placed outside in a well-secured manner, or containers, free from animal destructions. Time allowance shall not be more than 30 minutes before collection schedule to minimize eye-sores for and the possibilities of being rummaged by stray animals. Otherwise, same as unsegregated wastes, this shall not be collected.

Enforcement mechanisms and guidelines shall also be crafted, to support the strategy of collection.

Likewise, the plan shall be disseminated through proper and intense IEC campaign for all waste generators. Strategies on waste segregation shall likewise be applied to this part of the waste stream in the municipality.

Enforcement mechanisms are likewise implemented in the collection stage. There will be no collection for unsegregated and unsecured waste, to be determined by the collectors themselves. These shall be supported by an ordinance providing the guidelines and mechanisms of the said collection strategy.

To augment the collection services of the LGU, it is envisioned to acquire additional 3 cu.m. compactor and 6 cu. m. dumptruck, replacing in time the existing dilapidated facilities the LGU has at present.

Stage III: Materials Recovery Facility.

To cater the turning in of recyclable materials from the 8 urban barangays, the LGU proposed to have a central MRF to be established and operated by the LGU itself. All recyclables collected by the LGU collection shall be deposited to the MRF, to include those from the barangay MRF, which is likewise to be established and operated by the barangay LGUs themselves. Barangay MRFs can however have the option to sell their materials to preferred buyers, otherwise they can request the municipality to have their materials collected.

The central MRF shall be so designed to have a small-scale processing and handicraft production as well, as alternative livelihood for its personnel. It shall be

made sure to have generated income enough to be self-sufficient for its operation. Though seed capital is still part of the plan to start with its buy and sell endeavor. Capability building is part of the plan, to be facilitated in coordination with its local Municipal Social Welfare and Development Office (MSWDO).

The LGU likewise envisioned of having a bio-composting facility, using vermin technology as its medium. Hence composting facility is part of the plan, to be established within the MRF premises.

Collectively with the other stages of the waste flow, an ordinance providing the policies and guidelines on the establishment and operation of the said MRFs shall be crafted. This includes the cash flow and the organization to take charge with the revenues generated from the facility.

Stage IV: Disposal Management.

The LGU at present has an existing open dumpsite about 5 kms. from its central business district. However, with the mandates of RA 9003, the LGU planned to improve the facility in the disposal area. The open dumpsite shall be converted into controlled dumpsite. The plan is to cover it with limestone and have the area fenced to control the entry of scavengers and other stray animals. Personnel from the municipality shall be designated to man and watch over at the site and make sure that only residuals and selected special wastes shall be dumped. This shall operate until the end of year 2006, wherein establishment of a Sanitary Landfill (SLF) shall commence.

By 2007, the controlled dumpsite shall definitely be closed with the operation of the SLF. This facility shall be open to host garbage disposal from its adjacent municipalities, collecting tipping fee for its maintenance. Again personnel shall be designated to watch over the site and maintain the sanitation of the area. Likewise, waste dumped into the area shall be certain to be only residuals and special wastes.

Abandoned controlled dumpsite shall be rehabilitated. Tree planting shall be arranged with the coordination of its local Municipal Agriculture Office (MAO), in order to bring back the natural environment of the area.

4.4. Waste Flow

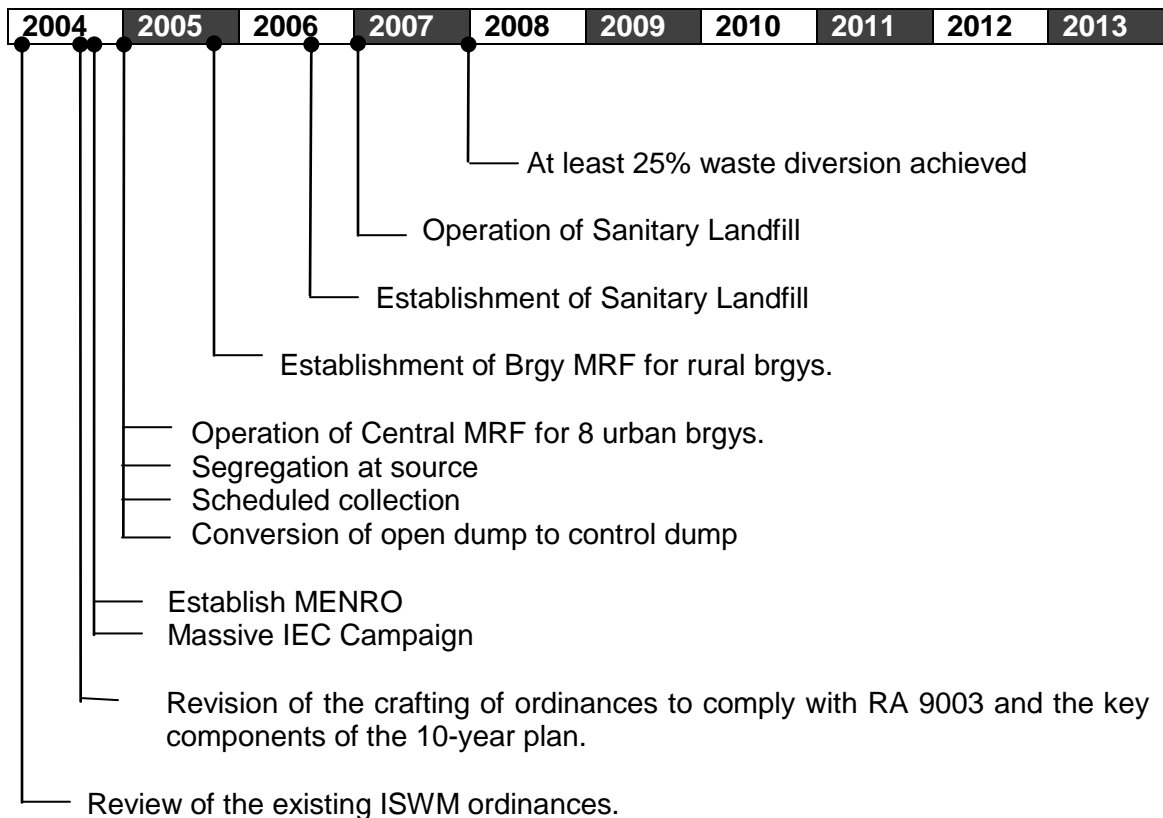
The total waste generation in the collection area is approximately 4.1 tons per day. But with the implementation of the 4 stages of the waste stream, only about less than 1.4 tons of these wastes shall be disposed and dumped into the disposal area. Diversion will be about 66% of the total waste, for 2004. This is the desired plan and could be the ideal scenario. However, experience tells the leaders in the municipality that ventures on managements normally gets knock off in the first instance and hence assumed only about 65% of compliance in the first year of implementation. This manifestation brings the % diversion to about 43% in the first year of implementation. This easily complies with the requirement of at least 25% diversion. However, after 4

years, waste diversion is seen to go up to about 57%. This is so because of the increase of waste collection coverage from 7 urban Barangays to 33 barangays, covering the whole municipality. Nevertheless, by 2012, this diversion can reach to about 66%, with the assumed compliance to be about 85%. Waste flow, as illustrated in table 4-b, shows figures and targets using the principle of reduce, recycle and reuse, hence complied with the provisions of RA 9003.

4.5. Key Milestones

With the general strategy discussed above, the figure below shall be the LGU's key implementation milestones within the 10-year timeframe of the plan.

Figure 4.b Key milestones timeframe



In the diagram above, it is emphasize that the actual implementation of the plan is on year 2005. Pre-implementation stages should however commence in year 2004. This shall take off with the passage of new ordinances, enforcing and legitimizing the plan. An office should likewise be established in order to realize the planned program of activities and strategies. Information dissemination should simultaneously be conducted. Though this shall start between the 3rd and 4th quarter of 2004, it shall further proceed in the succeeding years for total awareness and appreciation from its constituents.

At least 25% of waste diversion shall be achieved by end of 2007. Though it is modest to presume the figure as required by the law, it is not far from the possibility however that this diversion in the first 3 year of implementation could reach up to even 50%. This is illustrated in Table 4.a, waste flow.

Table 4.a. Waste Flow for the Municipality of Jagna:

	Waste at Source				Collection & Transport								Recovery								Disposal			
					Municipality				Barangay				Municipality				Barangay							
	2004	2008	2012	%	2004	2008	2012	%	2004	2008	2012	%	2004	2008	2012	%	2004	2008	2012	%	2004	2008	2012	%
Residential																								
URBAN Barangays																								
Biodegradable	1084	1643	1984	26%	212	329	397	5%					180	101	122	4%					0	58	92	0%
Recyclable	237	359	434	6%					231	359	434	6%					231	359	434	6%	93	144	173	2%
Residuals	332	504	608	8%	325	504	608	8%													325	504	608	8%
Special Waste	28	43	52	1%	28	43	52	1%													28	43	52	1%
RURAL Barangays																								
Biodegradable	-	1777	2800	0%													-	388	612	5%	0	155	245	0%
Recyclable	-	388	612	0%					-	388	612	5%					-	388	612	5%	0	155	245	0%
Residuals	-	545	858	0%	0	545	858	0%													106	125	149	3%
Special Waste	-	47	74	0%	0	47	74	0%													2	2	2	0.04%
Market and establishments within the market area																								
Biodegradable	679	770	919	16%	657	770	919	16%					558	655	781	14%					99	116	138	2%
Recyclable	31	36	42	1%	30	36	42	1%					12	14	17	0.3%					12	14	17	0.3%
Residuals	110	125	149	3%	106	125	149	3%													106	125	149	3%
Special Waste	2	2	2	0%	2	2	2	0%													2	2	2	0.04%
Commercial and Institutional Establishments																								
Biodegradable	1,031	1170	1396	25%	998	1170	1396	24%					848	1,096	1,308	21%					150	176	209	4%
Recyclable	149	169	202	4%	144	169	202	4%					58	995	1,187	1%					58	68	81	1%
Residuals	399	453	540	10%	386	453	540	9%													386	453	540	9%
Special Waste	40	46	55	1%	39	46	55	1%													39	46	55	1%
OVERALL TOTAL	4123	8075	10727	100%	2888	4191	5240	70%	231	747	1046	10%	1657	2860	3415	40%	231	747	1046	10%	1365	1983	2458	34%

Assumptions:

Only about 20% of biodegradable wastes from urban barangays are for collection
 compostable biodegradable 85%
 residual biodegradable 15%
 salable recyclable 40%
 salvageable recyclable 20%
 residual recyclable 40%
 In the first year only 65% will comply; 2008; 75% and in 2012; 85%

SUMMARY:	2004	2008	2012	
Total Generation at collection area	4005	8075	10727	Projected diversion with only % compliance
Total Collection	3119	4938	6286	
Total MRF collection	1888	3608	4460	2004 2008 2012
Total Disposal	1365	1983	2458	% compliance 65% 75% 85%
Total Waste Diversion	2640	6092	8269	

Percent diversion	78%	66%	65%	42%	57%	66%	← Actual percent diversion
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