

## Effectiveness in Implementation of Anti-Plastic Ordinance in Batangas City

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**Abstract** - *This research entitled “Effectiveness of the Implementation of Anti-Plastic Ordinance” aimed to assess the level of implementation of the Anti-Plastic Ordinance. It specifically aimed to determine the profile of the respondents in terms of category of respondents, their age, gender and civil status, the level of effectiveness of the implementation of the anti-plastic ordinance, the problems encountered in the implementation of the ordinance, and verify if there is significant difference on the effectiveness of the implementation of the said ordinance when grouped according to people variables of the respondents and propose an improvement plan based on the result of the study. It used the descriptive type of research and utilized 120 respondents composed of vendors, households, students and implementers of the ordinance. The study revealed that the anti-plastic ordinance is effectively implemented, cooperation amongst community members is the major problem, and profile variables including age, civil status and respondent’s category affect the effective implementation of the ordinance. To alleviate problems involved in the implementation, an improvement plan was proposed by the researchers.*

**Keywords:** *Effectiveness, Implementation, Ordinance*

### INTRODUCTION

Article II of the 1987 Constitution

*“Section 16. The State shall protect and advance the right of the people to a balanced and healthy ecology in accord and with the rhythm and harmony of nature.”*

Section 84 of Environmental Code of Batangas City Ordinance no. 16 series of 2010 adopted the regulation on the use of plastic and Styrofoam material for packaging in all business transactions within the city. While Section 85 of the same Code prohibits all the business establishments and/or individual from selling and providing plastic bags to customers packaging materials on wet and dry goods and improper disposal of solid wastes. The same code provided penalty for such act.

Under Section 86 of Environmental Code of Batangas City, the fine for the first offense is 500.00 pesos, 1000.00 pesos for second offense and 1,500.00 pesos for succeeding offenses and/or 6-month imprisonment upon discretion of court.

Waste management is a huge problem over the world. More and more countries strive to lessen the amount of waste collected each year. Be it from industries, companies or more specifically household. The landfill starts to pile collected garbage to amount several tons of wastes.

According to the report of Knoblauch (2009) that plastic has molded society in many ways that make life both easier and safer. But the synthetic material also has left harmful imprints on the environment and perhaps human health. Since its mass production began in the 1940s, plastic's wide range of unique properties has propelled it to an essential status in society. Next year, more than 300 million tons will be produced worldwide. The amount of plastic manufactured in the first ten years of this century will approach the total produced in the entire last century, according to the report. Gourmelon (2015) mentioned that recovery and recycling have remained insufficient, and millions of tons of plastics end up in landfills and oceans each year.

According to Adviento (2014), the Philippines has enjoyed the benefits of using plastics throughout the years. Similar to what has been noted earlier, plastic usage in the country has been largely used for packaging purposes. Up until four years ago, plastics are widely used in commercial establishments such as groceries, supermarkets, drugstores, fast food chains, and wet markets. This plastic bags, whether the durable or thin types, were given to customers when buying goods.

But as people became more wasteful with plastics, the consequences of overwhelming landfills became a pressing issue.

Plastics come in different types, sizes and colors. It can be said that in the country there is a plastic type for every buyer's preference or needs. There are plastics that are so huge it can be used a garbage bag, while some are so minuscule that people can put small amounts of condiments like oil or cigarettes (a concept called tingi) in it for selling. Indeed, the culture of massive consumption and packaging convenience in the country is so pervasive that the usage of plastic became a necessity rather than an option.

In Grate (2011), the National Solid Waste Management Commission (NSWMC), which the DENR secretary chairs, Metro Manila generates more than 8,700 tons of garbage daily, or around 25% of the country's total daily generation of 35,000 tons. Household owners use plastics and Styrofoam materials for packaging food while establishments use it to pack their goods especially when it is sold to customers. It is easier to visit the market without a basket to carry on your way since plastic bags are lighter and more convenient. However, loads of these materials congest the waterways that may cause floods and heavy rains or buried underground that may impede growth of plants. It can be noted that typhoon Milenyo, Ondoy, and Glenda strike Southern Tagalog, the national road particularly route of Alangilan, intersection of P. Burgos Street, areas of New Public Market to BSU and BA-NA-HI-S were flooded.

Batangas City which is composed to thousands of households generally use plastic materials, aside from the various establishments, food chains, restaurants that use it for packaging of goods is not an exemption. This may not be as great problem if residents initiate to segregate and recycle. However, despite the continuous request and action of the local government for residents to segregate garbage, it is only a written action because most do not follow. Through this, the LGU was prompted to develop an ordinance to penalize the community members who will not follow. An example lifted from a section of the ordinance, wherein use of styrofoam and plastic for packaging is prohibited. This is not only implemented at the dry market, also, this provision is also, this provision is also implemented at the wet market and to all establishments in Batangas City.

The ban on plastic bags and other plastic single-use products has reached fever pitch across the globe, in view of the collective response to environment protection. For instance, the action of Batangas City has already spread to other municipalities of the province. Tanauan City, Lipa City, Rosario also ban the use of plastic materials. The aim of the ordinance is to promote healthier environment and protect the mother earth for the welfare of the future human generation (thefilipinoconnection.net).

For this reason, the researchers were prompted to determine the effectiveness of the Anti-Plastic Ordinance of Batangas City in terms of its implementation.

### **OBJECTIVES OF THE STUDY**

This study focused on the effectiveness of the implementation of the anti-plastic ordinance under Environmental Code of Batangas City. Specifically, it aimed to determine the profile of the respondents in terms of category of respondents; age, gender and civil status; Determine the effectiveness of the implementation of the anti-plastic ordinance as assessed by the respondents; assess the problems encountered in the implementation of the anti-plastic ordinance; test the difference on the effectiveness of the implementation of the said ordinance when grouped according to people variables; and propose an improvement plan based on the result of the study.

### **METHODS**

#### **Research Design**

This study used the descriptive type of research which described characteristics of a population or phenomenon of being study. Descriptive research answers the question about how, when and why the characteristics occurred. The characteristics use to describe the situation or populations are usually some kind of categorical scheme also known as descriptive categories.

The data description in this kind of research is too accurate and systematic. The description used frequent averages and other statistical calculations.

### **Participants of the study**

The participants of the study were the residents of different barangays in Batangas City including the vendors, students and implementers of the ordinance. A total of 120 participants were chosen as the respondents of the study.

### **Instrument**

The researchers used a structured questionnaire as their instrument to gather information and data. They conducted informal interview to gather additional information.

Part 1 of the questionnaire included the profile of the respondents, Part 2 contained items on the extent of implementation of the anti – plastic ordinance and Part 3 contained the problem encountered in the implementation of the ordinance.

### **Procedure**

The study was conceptualized by researchers through the help of their adviser, where books, internet, journal, unpublished and published thesis were used when the title and objectives were determined. The researchers conducted the literature review through internet browsing and library reference material. The researchers also brain stormed to formulate the questionnaire and was validated by the competent persons upon completion.

### **Data Analysis**

To interpret and analyze the result, all data were computed using frequency distribution, percentage and weighted mean. Further distribution and percentage were mainly used in the profile of the respondents. Weighted mean was used to determine the effectiveness of the anti-plastic ordinance under Batangas E-code and to assess the problems in the implementation such ordinance. Analysis of Variance (ANOVA) was used to verify if there existed significant difference on the effectiveness of the implementation on the said ordinance when grouped according to profile variable.

The given scale was used to interpret the result of the data gathered in terms of implementation: 3.50 – 4.00 – Highly Implemented (HI); 2.50 – 3.49 – Implemented (I); 1.50 – 2.49 –

Moderately Implemented (MI); 1.00 – 1.49 – Not Implemented (NI). Meanwhile, this scale was used to interpret the data gathered from the problems encountered: 3.50 – 4.00 – Strongly Agree (SA); 2.50 – 3.49 – Agree (A); 1.50 – 2.49 – Disagree (D); 1.00 – 1.49 – Strongly Disagree (SD)

## RESULTS AND DISCUSSION

**Table 1. Distribution of Respondents According to Profile (N = 120)**

Category of Respondents	Frequency	Percentage	Rank
Vendors	30	25.0	2.5
Household	30	25.0	2.5
Students	30	25.0	2.5
Implementers	30	25.0	2.5
<b>Sex</b>			
Male	58	48.3	2
Female	62	51.7	1
<b>Age</b>			
below 21	28	23.3	2
21 – 30	27	22.5	3
31 – 40	39	32.5	1
41 and above	26	21.7	4
<b>Civil Status</b>			
Single	46	38.3	2
Married	65	54.2	1
Widowed	6	5.0	3
Separated	3	2.5	4

Table 1 presented the profile of the respondents in which categorized as vendors, households, students and implementers.

In terms of sex majority were female because most of the vendors and household are mothers which consisted of 51.7 percent while 48.3 were male.

In terms of ages, 31 – 40 years old go the highest percentage of 32.5 percent and rank number one. On the other hand, 41 years old and above got the lowest percentage of 21.7.

In terms of civil status, married got the highest percentage of 54.2 mainly because of the vendors, households and implementers are married and have their own family. While single, ranked number two because of the students who were interviewed.

**Table 2. Effectiveness of the Implementation of the Anti-Plastic Ordinance**

<b>Indicators</b>	<b>WM</b>	<b>VI</b>	<b>Rank</b>
1. The use of plastics bags and Styrofoam for dry goods is prohibited.	3.70	Highly Implemented	1
2. All business establishments pack dry good products in biodegradable materials such as recycled products carton, boxes and paper bags.	3.61	Highly Implemented	2
3. Dry goods maybe packed in plastic bags or non-biodegradable packing materials provided that such packing materials were supplied by the customers.	3.41	Implemented	7.5
4. The use of plastic bags on wet goods (fresh fish, meat products) is regulated.	3.43	Implemented	4.5
5. No business establishment offers or sells plastic bags to be used as secondary packaging material or as primary packaging on dry goods.	3.41	Implemented	7.5
6. The use of Styrofoam as packaging materials or as containers for food, fruits and vegetables containers is also prohibited.	3.38	Implemented	10
7. Plastic bags and Styrofoam containers are hereby de-categorized under non-biodegradable wastes and hence shall not be collected during the collection during the collection schedule of non-biodegradable waste products.	3.43	Implemented	4.5
8. Plastic bags and Styrofoam when categorized as non-biodegradable wastes were surrendered to their respective barangay MRF provided that these waste materials are cleaned and dried prior to its turn over to the barangay.	3.34	Implemented	11
9. The City ENRO monitors the effective implementation of the banning of plastic.	3.42	Implemented	6
10. Implementation of the banning of plastic and Styrofoam covers market 1, 2, 3, all local government institution and all enterprises within its premises, all educational institution, all business enterprise within the urban areas of the city.	3.40	Implemented	9
11. The Information Education and Communication Campaign – The City continuously promote the ordinance through the conduct of massive information education and communication campaign using media (print, radio, television and internet).	3.49	Implemented	3
12. Violators of the ordinance are penalized properly.	2.72	Implemented	12
<b>Composite Mean</b>	<b>3.39</b>	<b>Implemented</b>	

Table 2 presents the level of effectiveness of the implementation of the anti-plastic ordinance of Batangas City E-code. Results showed that it was rated Implemented as indicated by the composite mean of 3.39. Among the items cited, the prohibition in the use of plastic bags and Styrofoam for dry goods and the usage of biodegradable materials such as recycled products were determined as highly implemented with the weighted mean of 3.70. They also agreed that the continuous promotion of ordinance by vast information education and communication campaign using media (print, radio, television and internet) in implemented with the weighted mean of 3.49. The penalty or fine of from 500-1,000 pesos and the revocation of business permit motivates the vendors and as well as buyers to follow the provision. Connected to this result, the massive information campaign of the City regarding the provisions of the ordinance as well as the fine as penalty imposed should there be a violator has developed consciousness and awareness to the public regarding use of plastic bags.

Earth Policy Institute (May, 1, 2014) stated that campaign on plastic bag ban is worldwide. Since it has been discussed that improper waste management of plastic has tremendous effect to the environment particularly to both land and ocean while burning these materials can damage the atmosphere, Middle East, composed of Israel, Oman and UAE has already proposed ban or phase-out of plastic bags, from production to importation.

The prohibition in the use of Styrofoam as packaging materials for food, fruits and vegetables ( $x=3.38$ ), its prohibition covers market 1, 2 and 3 and all enterprises within its premises, all educational institutions and all business enterprises within the city ((3.40), and cleaning and drying of plastic bags and Styrofoam prior to turn over to the barangay ( $x=3.34$ ) obtained the lowest on the rank but still interpreted as effective.

Tubongibaan.blogspot.com reported that the ordinance applies to both vendor and buyer, that whoever they caught will be subjected to some penalties and as to those business establishments. Such ordinance also created the TFK or Task Force Kalikasan, who check the people's compliance to the ordinance. Members of the TFK walk around town with camera to take photos of the non-complying constituents. The photos that



were will be printed and evidence the act should they deny such. This will be sent to the offender with a letter of reminder of what he/she has committed, including its corresponding penalty. Not only the TFK is tasked with the enforcement of the ordinance, the services of the municipal police and barangay officials down to barangay tanod is summoned for strict and consistent implementation.

**Table 3. Problems Encountered in the Effective Implementation of the Anti-Plastic Ordinance**

Indicators	WM	VI	Rank
1. No cooperation among residents and/or barangay officials, business and educational establishments.	3.55	SA	1
2. Lack of strategic disposal areas of plastic and styrofoam waste for collection	3.29	A	7
3. Lack of awareness and knowledge about the campaign	3.25	A	9
4. Irregular schedule of collection of plastic and styrofoam waste products.	3.23	A	10
5. Limited number of waste disposal personnel.	3.28	A	8
6. Lack of personnel to continuously monitor all entities within the scope of the ordinance.	3.33	A	2
7. Lack of financial assistance of barangay and/or local government.	3.32	A	4
8. Non-compliance with the environmental practices (Reduce, Reuse, Recycle/5s)	3.32	A	4
9. Lack of maintenance equipment and materials.	3.32	A	4
10. No strict consequences or penalties for violators.	3.31	A	6
<b>Composite Mean</b>	<b>3.32</b>	<b>A</b>	

Table 3 presents the problem encountered in the implementation of the Anti-Plastic Ordinance of the Batangas City E Code. It can be gleaned that respondent agree with the problem cited as indicated of the composite mean of 3.32. All items yield with values of weighted mean ranging from 3.23 - 3.55. The item (item 1) ranked first (3.55). It was followed by (item 6) in ranked 2 (WM = 3.33). The researchers concluded that the reason why respondents agreed that there is no cooperation among residents and/or barangay officials, business and

educational establishments is due to what Filipinos traditionally do to their wastes product. Filipinos already used to the segregation of their wastes products of bottle plastic and not plastic, papers and junk metals even before the ordinance has been declared to sell it to one person who we called “magbobote”. Very few home owners do the segregation and bring those wastes products to their respective barangay MRF and also not all barangay have their wastes disposal personnel who regularly and continuously monitor and collect the wastes products. It’s only the City who have the disposal personnel who’s every other day or when it is the schedule of the collection go round in the city to collect but those barangays that is outside the city doesn’t have their wastes disposal personnel who goes round their barangay and collect their wastes products. So what they do to their wastes is segregate it and wait for “Magbobote” to sell it to him.

Implementing an ordinance require consistency and support from the community, implementers and local government. In the City of Malabon, (PDI, September 2013) the anti-plastic ordinance was withdrawn prior to its implementation. This is mainly due to the loopholes seen in the law. The City mayor also stated that the city is one of the leading manufacturers of plastic and the area or location of the City has to be considered likewise before the implementation.

Conversely, the item (item 5) placed 8 (3.38). In ranked 9, was the item 3 with 3.35. The item that was least rated was item 4 with 2.23. Researchers analyses why respondents put this into the lowest rank among the other problem encounter and we come up with the explanation that, it’s because citizens who live here in Batangas City already aware and have knowledge about the campaign and not really a problem anymore for the implementers of the said ordinance. They may not be as knowledgeable as the implementers do but the citizens who’s under the provision already aware of the prohibition of the use of plastic and Styrofoam. Researchers also got the hint from the respondents that even they live inside the city they could tell that there weren’t enough wastes disposal personnel goes round to check and collect their wastes that affects the schedule of the collection when it supposed to be collected. Still the personnel able to do their work to collect the waste product in the city.

According to Macob (2011) here are indeed different opinions among the public market vendors regarding the issue. Venus Lamsen, a mini-grocery owner, approves the ordinance so as to lessen the plastic garbage and make the air fresh again. However, another store owner, Custodio believes otherwise. Custodio, who has been in the business for 25 years, dislikes the idea of the plastic bag ban/control. She said that paper bags, aside from being more expensive, are not as durable as plastic bags. Meanwhile, a six-year vegetable vendor considers both sides; Helena Camagay said that it bears no problem with her if the ordinance gets implemented but she sympathizes with those who work in the plastic industry especially the employees. Furthermore, a fruit stall owner, Dianne Gil, also approves the restriction on plastic bags. Surprisingly, Jenny Fernandez who owns a plastic and Styrofoam products store is more than willing to support the ordinance. "...*kasi kung papel na 'yong gagamitin 'di pwede namang 'yon na ang ibenta ko,*" Fernandez optimistically said. Another fellow who is in favor of the ordinance is Vilma Sison, a 48-year-old meat vendor who has been selling meat for 21 years already. She is a Bachelor of Science in Commerce graduate yet chose to work in the market than get employed in some other businesses. According to Sison, she tried to use papers for the packaging of meat products even before the existence of the said ordinance. However, most of her customers complained about it so she stopped and returned to plastic bags. Sison realized the benefits of using paper or reusable bags instead of plastic to the environment and to the people. She also wishes that others would eventually understand that the advantages of the ordinance outweigh the disadvantages. Likewise, Vilma Bancod, a 20-year fish vendor accepts the ordinance as long as customers will also be fine with it. In fact, according to her, using plastic bags only for primary packaging will save her plastic bags, thus will save her money.

On the part of the customers, several views also arise. Some support the ordinance but some do not. Charlie Estrada, 41 years old from *Barangay* Estanza, believes that the ordinance is good since it will prevent the clogging of waterways largely caused by plastic products. In addition, Delia Dumlao, a housewife and a frequent market buyer, is willing to bring her own *bayong*.

Likewise, Shernalyn Ferrer, a secondary school teacher thinks that the restriction's benefits will gradually be realized by all the people. However, a housewife who does not want to be named disapproves the idea because paper bags she said are of poor-quality as carrier. She is also not willing to bring her own *bayong* because she said that *bayong* are bulky.

Despite all the opinions, the ordinance is expected to get implemented several months from now. According to Councilor Vargas, the implementation of the said ordinance relies much on Mayor Ernesto C. Castañeda Jr. and the Municipal Environment and Natural Resources Officer. She also said that as a legislator, the most that she can do to help in the implementation is by disseminating the information. In effect, Councilor Vargas has appeared in some local television news and public affairs programs and visited several institutions to inform the populace of the benefits and purposes of the said ordinance.

Furthermore, last July, in an article "Plastic ban may mean job losses" by Tarra Quismundo, the Climate Change Commission said that it will pursue its mission of controlling the use of plastic bags however it will also consider the program's effects on the people who are in such business. Councilor Vargas believes likewise, that is why she allotted a transition period of six months to 1 year for the townspeople to be prepared for the change. If after that period the ordinance is still not put into action, Councilor Vargas said that she will bring the ordinance to the higher legislative body.

Aside from the ordinance, Councilor Vargas, in her struggle to help the environment, also proposes for the purchase of the 'threshing' machines. These machines will convert plastic materials into hollow blocks. She said that Los Baños, Laguna has been using these machines for a while now that produce better-quality hollow blocks. She wants to use these machines to eliminate the plastic wastes collected from different *barangays* and stuck in *Barangay* Quibaol.

Indeed, there are different ways to help the environment. First step is to choose on which side to take.

**Table 4. Difference on the Effectiveness of the Implementation of the Anti-Plastic Ordinance when Grouped According to Profile Variable  $\alpha = 0.05$**

Profile Variables	F <sub>c</sub>	p-value	Interpretation
Category of respondents	8.130	0.000	Highly Significant
Sex	0.686	0.506	Not Significant
Age	12.797	0.000	Highly Significant
Civil Status	3.753	0.013	Significant

*Legend: Significant at p-value < 0.05; HS – Highly Significant; S – Significant; NS – Not Significant*

Based from the table, the computed F – values of the profile variables category of respondents, age and civil status were all greater than the critical value and the resulted p-values were all less than 0.05 level of significance, thus the null hypothesis of no significant difference on the effectiveness of the implementation of the anti-plastic ordinance when grouped according to the aforementioned profile variables is rejected. This means that significant differences exist and that respondents have assessed the effectiveness of the implementation of the anti-plastic ordinance to be different. This means that respondents, whether vendors, household, students or implementers, with different age range; single, married, widower or separated have assessed the effectiveness of the implementation of the anti-plastic ordinance to be of different extent.

**Table 5. Proposed Improvement Plan on the Effectiveness of Implementation of Anti-Plastic Ordinance**

Key Results Area	Proposed Strategies/ Activities	Persons Involved	Success Indicator	Target Date
Enhanced cooperation among residents and/or barangay officials, business and educational establishment	Organize and conduct seminar for barangay council members to be slowly disseminated to households Adopt advertisements through radio, television and social media for the residents, business and educational establishments	Local gov't, barangay officials and business and educational establishment	Increased 2% per annum	June 2016

Augment the number personnel to continuously monitor all entities within the scope of the ordinance	Encourage volunteers from each barangay who will supervise the ordinance implementation Waste management may be proposed to be included in the environmental scope to be supervised by assigned barangay council/officer Hire a supervisor to monitor all the entities within the scope of the ordinance	Local gov't, barangay officials and business and educational establishments	Increased 3% every 3 years	July 2016
Gain additional financial assistance for barangay and/or local government	Have a solicit from the community Barangay officials and/or LGUs should budget and estimate the money that should be spent on the barangay.	Local gov't, barangay officials and business and educational establishment	Increased 5% per annum	July 2016
Intensify compliance with the environmental practices (Reduce, Reuse, Recycle/5s	Spread garbage bins with a label then set it apart from different storages	Local gov't, barangay officials and business and educational establishment	Increased 4% per annum	June 2016
Maintain equipment and materials for waste collection and management	Barangay officials and LGUs should propose and buy the needed materials	Local gov't & barangay officials	Sustained	August 2016

## CONCLUSION

Majority of the respondents were vendors, household owners, students and implementers, female, all 31-40 and married. The ordinance is implemented effectively specifically the provision of the ordinance prohibiting the use of plastic bags and Styrofoam

for dry goods. No cooperation among residents, barangay officials, business and educational establishment prevails. Profile of the respondents affects the effective implementation of the ordinance in terms of category of respondents, age and civil status. An improvement plan is proposed to alleviate problems encountered.

### **RECOMMENDATION**

The implementers particularly Defense Security Service operatives may be more assertive and vigorous in the strict enforcement of the salient provisions of the city ordinance. That the City government or LGU may involve more barangay assemblies and dialogue centered not only in the ordinance but more on proper solid waste management. The City government adopt an incentive program for a clean and green environment competition that would motivate barangay participants to excel in environmental sanitation. The LGU, with the help of NGOs initiate consciousness or awareness drive using various media to disseminate information on proper solid waste management. The future researchers may conduct study focusing on other variables or areas of interest in environmental sanitation.

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