

Level of Knowledge and Reasons for Compliance and Non Compliance of City Ordinance No. 8975 among the Urban Barangay Chairmen of Cagayan de Oro City

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Abstract - The Solid Waste Management Act of the Philippines was passed in Congress in light of the mounting garbage problem that has compromised public health and the environment. In line with this, Cagayan de Oro City put into implementation City Ordinance No. 8975-2003 or Mandatory Segregation of Waste at Source. The study determined following: (1) the level of knowledge of urban barangay leaders regarding City Ordinance Number 8975, in terms of: nature and purpose and features of the City Ordinance 8975; (2) the level of compliance of urban barangay leaders toward City Ordinance No. 8975; (3) the most prevalent reason that encourages compliance of the ordinance; (4) the most prevalent reason that discourages compliance of the ordinance; and (5) the significant relationship between level of knowledge and prevalent reason that encourages and discourages compliance of City Ordinance 8975. On the average, the urban barangay chairmen had technical background of the Ordinance in terms of its nature and features. It was also apparent that the major reason for compliance was personal knowledge while non compliance was institutional illegitimacy and ineffectiveness. Further analysis also demonstrated that a significant relationship exists between level of knowledge of City Ordinance 8975 and the primary reason for compliance and non compliance to the mandate of the mentioned ordinance.

Keywords - Compliance and non-compliance city ordinance, waste segregation

INTRODUCTION

In the Philippines today, one of the top priorities in most local government units is solid waste management. It is the common view that when garbage is collected and, nowhere in sight, from the vicinity of the community, there is no garbage problem. In the local government side, collection of garbage pertains to solid waste management. As long as the mound of garbage is collected it is a problem of “out of sight and out of mind” (ADB, 2004). When garbage is managed properly, it does not lay scattered and it will not be an eye sore. Because of that, government officials and residents alike would have peace of mind and would not be perplexed by the problems brought about by irresponsible waste management.

In many local government units, solid waste is being managed according to the mandate of the Local Government Code of 1991 (Chan Robles Group, 1999). However, solid waste management according to the local government code is limited to collection and dumping of garbage into an open dumpsite, oftentimes not properly situated and putting the public at risk to airborne infection and other detrimental effects that may occur from exposed dumpsites (Bagno-Segne, Salcedo, and Guirol, 2004).

In 2003, the Philippine government passed and reinforced the Ecological Waste Management of 2000 (Republic Act 9003). The law emphasizes solid waste avoidance and volume reduction through source reduction and waste minimization measures with the protection of public health and the environment as the primary goal (Coowanitwong, 2008).

There are four salient features in the law; one is Section 20 which establishes a mandatory, solid waste diversion rate of 25% at the local level and requires that each local government unit in the next five years to divert annually 5% of its solid wastes through reusing, recycling, and composting. Second is Section 21 which requires the mandatory segregation of solid wastes at source to include household, institutional, industrial, commercial and agricultural sources. In this provision, the segregated wastes are properly marked as can-be-composted, non-

recyclable, recyclable or special wastes. The segregation and collection of biodegradable waste that can be composted and reused is conducted at the barangay level, while the collection of non-recyclable materials and special wastes is the responsibility of the municipality or city according to the provision (Section 10). Third, Article 4 (Section 26-33) and Article 5 (Section 34-35) require the establishment of recycling and composting programs, including an inventory of existing markets for recyclable and can-be-composted materials, the establishment of materials recovery facilities at the local level and setting up of drop-off locations for recyclable materials. Standards for non-environmentally acceptable products and packaging will be developed and imposed on manufacturing and commercial establishments. Lastly, it is defined in Section 47 that local government units have the authority to collect solid waste management fees. The local government units can impose fees sufficient to pay the costs of preparing, adopting, and implementing a solid waste management plan. The following factors shall be the basis for setting the fees: types of solid wastes, amount/volume of waste, and distance to waste management facilities.

In compliance to Republic Act 9003 (RA 9003), the city government of Cagayan de Oro passed Ordinance No. 8975-2003 or the Waste Segregation Ordinance requiring mandatory segregation of wastes at source and providing penalty for this violation. Statistical data would attest that in Cagayan de Oro City, the total volume of garbage disposed at the dumpsite increased from 268,782.5 m³ in 2000; 294,921 m³ in 2001; 306,556.5 m³ in 2002; 310,810.7 m³ in 2003; then 265,617.4 m³ in 2004; 200,307.5 m³ in 2005; 166,291 m³ in 2006; and 61,156.6 m³ in 2007. The increase from 2000-2003 is surmised to be due to changing consumption habits (e.g. popularity of fast food chains) and/or a larger area serviced by public and private solid waste collectors. According to Bagno-Segne, Salcedo, and Guirol (2004), the constant increase in per capita waste generation, in addition to population growth and the influx of transients in the City brought by recent development efforts are major concerns in the management of waste.

Given the above circumstances, this research explored why some urban barangay leaders are more likely to comply with the mandate of City Ordinance No. 8975-2003 or Mandatory Segregation of Waste at Source while others do not. The study hopes to provide an explanation of how the leaders may likely to comply or not with the mandate of the law.

FRAMEWORK

The theories and conceptual discussions below may explain why some individuals comply and others do not comply with the mandate of the law.

A. Rational choice theory

Majority of theories on compliance fall under the general rubric of Rational Choice Theory, whereby humans are seen as rational agents who behave in accordance with known preferences, choosing strategies conducive to their realizing the most desired outcomes (Cook and Levi 1990): humans are regarded as interest or utility maximizers. Researchers' emphases vary, however, on what constitutes the values to be maximized.

B. Economic Theory

Economic models of compliance suggest that individuals subject to regulatory constraints act rationally so as to maximize the material gains obtained from complying (or not complying) relative to the costs of their course of action. According to Schwartz and Tullock (1975), compliance is determined by the effectiveness of sanctions, which is defined as the product of the amount of the penalty and the probability of the penalty being imposed. Schwartz and Tullock, Sutinen and Gauvin (1989) claim that individuals' calculation of the costs and benefits of compliance is influenced by the probability of detection and conviction.

C. Legitimacy of Authority Theory

Tyler (2006) emphasized legitimacy in explaining compliance behavior. According to him, legitimacy derives from the beliefs citizens hold about the normative appropriateness of government structures, officials, and processes. Of central importance is the belief that rules and regulations are entitled to be obeyed by virtue of who made the decision or how it was made. When members of the polity believe that government is legitimate, they are more likely to defer to political

authorities and uphold laws. Legitimacy denotes popular acceptance of government officials' right to govern. As such it is distinct from the ability of the government to compel compliance through the threat or use of sanctions and/or its ability to motivate compliance by the provision of rewards or services.

A major effect of legitimacy is an increased likelihood of compliance with governmental rules and regulations (Levi and Sacks 2007). A government perceived as legitimate can expect widespread public cooperation for such voluntary acts as voting, volunteer military service and participation in community problem solving as well as quasi-voluntary compliance with taxes and enlistment (Levi 1997; Levi and Sacks 2007). Legitimacy also leads people to be more willing to defer to the law and to the decisions of legal authorities such as the police and the courts (Tyler 1990). Without legitimacy, people may be less willing to support government programs that redistribute economic resources (Hetherington 2005). Legitimacy shapes citizens' reactions to government policies (Weatherford 1992) and provides government with grounds for eliciting citizen support other than appeals to immediate self-interest. Citizens are more likely to support and volunteer to fight in wars (Leff 1991; Levi 1997) and comply with health regulations during an epidemic (Lieberman 2007) when they perceive government as legitimate.

They are also more willing to work with government authorities to solve problems in their communities (Sunshine and Tyler, 2003; Tyler and Fagan, in press). Although it is possible to rule using only coercive power, legitimate power makes governing easier and more effective. Without legitimacy, governments have to expend more resources on monitoring and enforcement to induce sacrifice and compliance. The existence of legitimacy reduces the transaction costs of governing by reducing reliance on coercion and monitoring. Hence, while scholars of politics disagree about whether legitimacy is a necessary component of an effective government, everyone recognizes that governments benefit when they have legitimacy. This is especially true of emerging governments, which find motivating their publics to be a key element in viability, and during periods of crisis or change, when governments are least able to either reward their citizens or effectively deploy system of surveillance and sanctioning. Governments are most dependent upon the cooperation of their citizens under those circumstances in

which they are least able to obtaining it via the mechanisms of reward and punishment.

D. Deterrence, peer opinion, and personal morality theory

Deterrence, peer opinion, and personal morality are the three most important factors of why people obey the law. Since many threats of sanctions have been implemented over the years with little success, and since it is difficult to control the effect of peer opinion in this manner, it is necessary for the focus to be on personal morality. Tyler's (2006) "Normative Perspective" includes the ideas of peer opinions and normative values in a direct relationship with the perceived legitimacy of a law. Participation in the creation of a law, the functionality of the law, and communicating the law to the citizens positively will increase the legitimacy of the law. The legitimacy of a law contributes to a person's "internalized obligations", which are the most powerful factors in a person's compliance with the law.

Scholz (1985) suggests that models of compliance should include influences such as markets as well as social and personal norms. Robert Wade (1988) examines social and personal norms, as they influence compliance with rules. Wade's study showed that obedience with rules is motivated by material gains rather than social (reputation) and moral considerations: "it should be remembered," Wade writes, "that for many in the population whatever sense of obligation they feel is probably secondary to the sanctions they would face as a result of their general subordination."

While many scholars focus on enforcement or rules as the determinants of compliance, another group of scholars emphasizes perceptions about rules. Margaret Levi (1988) contends that compliance is "quasi-voluntary," that is, shaped by a combination of coercion and ideology. She, too, considers the effectiveness of sanctions, but her contribution to understanding compliance behavior lies in her pointing out the importance of perceptions about rules (is it fair?) and satisfaction (do citizens get a return from their compliance?).

Several authors have argued that the reasons why individuals do not comply with laws is driven by a reinforcement mechanism (Battmann and Klumb, 1993; Dörner, 1989, 1996; Gonzalez, 1995). As expressed by the theory, rules are violated because operators had frequently

violated them before. In connection with the learning theory, breaking the rules is usually reinforced.

E. Personal character theory

Horney (1945) suggested that individuals can be characterized as compliant, aggressive, or detached. Interestingly, compliant oriented persons as defined and operationalized in the CAD (Interpersonal Orientation Scale) of Cohen (1967), are those who desire to be a part of the activities of others (i.e. who move toward others). Rubin and Brown (1975) described that the individual who is high in interpersonal orientation is to be “first and foremost, responsive to the interpersonal aspects of his/her relationship with others. He/She is both interested in, and reactive to, variations in the others behavior”. In addition, a person with a high interpersonal orientation is described as taking others behavior personally and as being sensitive and reactive to others cooperativeness or competitiveness; the distribution of power and dependence in the relationship; and others adherence and deviation from norms of equity, exchange, and reciprocity. However, an individual who possesses a low interpersonal orientation is “characterized by a non-responsiveness to the interpersonal aspects of his/her relationship with the other. Moreover, this individual is unlikely to respond to others cooperation and competition in a social interaction setting. Their behavior is designed to achieve as much tangible or intangible gain for themselves at the expense of others. Presumably, an individual with a high interpersonal orientation would be most desired in the context of compliance.

Based on the discussion above, it can be surmised that the following factors would lead to individuals to more likely comply:

Reasons that may influence likelihood of compliance

A. Personal gain and interest

- a. fits one's interest/satisfaction
- b. meets one's desired outcomes
- c. gains more than the cost of action
- d. fits one's personal conviction/obligation

- B. Institutional effectiveness and legitimacy**
 - a. sanctions are seen as imposed effectively for non-compliance
 - b. non-compliance is seen as effectively detected
 - c. government structure is considered as legitimate
 - d. government officials are thought of as legitimate
 - e. government processes seen as legitimate
 - f. coercive power (use of force) is seen as present and applied
- C. Social pressure**
 - a. peers exerts pressure to comply
 - b. community exerts pressure to comply
- D. Personal Knowledge**
 - a. personal participation in the making of the law
 - b. personal view of beneficial effect of the law
 - c. personal information/knowledge of the law

OBJECTIVES OF THE STUDY

This study explored why some urban barangay leaders in Cagayan de Oro City are more likely to comply with City Ordinance No. 8975-2003 specifically Section 3 while others exhibit likelihood of non-compliance. Specifically, it determined the (1) level of knowledge of urban barangay leaders regarding City Ordinance No.8975, in terms of nature and purpose and features of the City Ordinance 8975; (2) level of compliance of urban barangay leaders toward City Ordinance No. 8975; (3) most prevalent reason that encourages compliance of the ordinance; (4) most prevalent reason that discourages the non compliance of the ordinance; and (5) significant relationship between the level of knowledge and the prevalent reason that encourages and discourages compliance of City Ordinance 8975.

METHODS

This study utilized an exploratory survey in characterizing the likelihood of compliance to City Ordinance-8975-2003 among urban barangays in Cagayan de Oro. The method is appropriate in the study since this research looks at a small group of participants, or a group as

a whole (Bennagen, Nepomuceno, and Covar, 2002). The survey was done through a questionnaire checklist.

The respondents were the barangay chairmen of the urban barangays of Cagayan de Oro City. The study employed universal sampling which means that all the 40 barangay captains were sampled in the study. This was done to provide an overall picture or scenario on the compliance of the chairmen to the mandate of City Ordinance 8975.

The study was guided by a survey questionnaire. The questionnaire was researcher-made and customized to relate to the researcher formulated conceptual framework and it specifically focused on the barangay chairmen's the level of knowledge with regards to City Ordinance 8975 and the reasons for compliance and non-compliance with the ordinance. The questionnaire was divided into four (4) parts. Part I explored the knowledge level of the urban barangay leaders. It grounded the study and provided respondents a reflective position in answering the succeeding portions of the questionnaire. It determined the level of awareness of selected urban barangay chairmen's on the nature, purpose, and features of City Ordinance 8975 through a multiple choice test. The indicators of knowledge were measured according to the following rating scale:

Scores	Indication
1-2	Low knowledge
3-4	Fair Knowledge
5-6	Moderate knowledge
7-8	High knowledge
9-10	Very high knowledge

Part II focused on the level of compliance or non-compliance of the urban barangay leaders by ascertaining the overall pattern of the selected urban barangay leaders' compliance or non-compliance with the mandate of the City Ordinance.

Part III inquired into the most prevalent factor that may explain why the urban barangay units comply or do not comply with the mandate of the Ordinance. This was done by looking into the most likely factor that may encourage compliance, in the range of one (1) to five (5) under the category of (A) Personal gain and interest, (B)

Institutional Legitimacy and Effectiveness, (C) Social Pressure and (D) Personal Knowledge; where:

Ranges	Description/Meaning
4	Last reason for compliance
3	Third reason for compliance
2	Second reason for compliance
1	Primary reason for compliance

Part IV was the opposite of the target assessment that Part III would like to consider. Thus, it looked into the most likely factors that may encourage non-compliance, in the range of zero (0) to five (5) under the category of (A) Personal cost and disinterest, (B) Institutional illegitimacy and ineffectiveness, (C) Lack of Social Pressure and (D) Lack of Personal Knowledge; where:

Ranges	Description/Meaning
4	Last reason for non-compliance
3	Third reason for non-compliance
2	Second reason for non-compliance
1	Primary reason for non-compliance

The data gathering procedure started with a request to conduct the study from the Dean of the College of Arts and Sciences and Panel of Advisers. A letter of permission was made for this purpose. Upon approval, the researchers sent the approved letter to conduct study duly signed by the Dean and the panel of advisers to the Barangay Captains in the selected urban barangays in Cagayan de Oro City. The letter informed the Barangay Captains that the researchers would be conducting the study in their areas of jurisdiction. Once letter is received, the researchers provided the relevant Officers three days to schedule the interview and survey. The researchers collected the time and place of interview for guidance.

The survey was given at the most convenient time and place chosen by the barangay chairmen. This is necessary because the survey will be personally given to the barangay chairmen, where the researcher/s must be present while the chairman answers the questions. The

purpose of this is to assure that data gathered would come truly from the respondent.

Simple statistical analysis of averages and percentages were used to analyze the data on the level of knowledge, compliance, and the prevalent reasons for compliance and noncompliance to City Ordinance 8975. Moreover, test of hypotheses was done using a Chi Square Test for Association in addressing Problem 5.

RESULTS AND DISCUSSION

The level of knowledge of urban barangay leaders regarding City Ordinance No.8975 in terms of its nature, purpose and features

The data revealed that most of the respondents have moderate level of knowledge in the City Ordinance. This implies that the barangay chairmen had enough technical know how on the contents of said ordinance in terms of its nature, purpose and its features. Awareness of the City Ordinance on the part of the barangay chairmen is essential to support environmental sanitation and proper solid waste management in light of the recent flooding that made Cagayan de Oro City the headlines of national television. Knowledge of the provisions of the ordinance would help barangay officers mobilize their constituents and promote community participation and public support since they have knowledge on the scope and limitation of their responsibilities as community leaders.

Objective 2. The level of compliance of urban barangay leaders toward City Ordinance - 8975

The data revealed that most of the respondents are performing their duties and responsibilities as implementers of the ordinance. It is stipulated in the Ordinance that their duties include the following: initiate the conduct of resource recovery for compostable, recyclable, and re-usable wastes (Section 3e), establish a Material Recovery Facility Station (Section 4), and supervise waste segregation and resource recovery from the household, building premises or place of business within the respective jurisdiction Section 4c).

The most prevalent reason that encourages compliance of the ordinance

Some barangay captains adhere to City Ordinance because of the following reasons: interest/satisfaction meets desired outcomes, gains more than the cost of action, and one's personal conviction/obligation. Therefore, adherence to City Ordinance 8975 is their way to avoid any conflict with their ideologies. As leaders in their respective communities they are very concerned with personal integrity and moral ascendancy. For them, compliance to the Ordinance is self-protection from government inquiry and investigation.

A few complied because there are sanctions imposed effectively for non-compliance, non-compliance is seen as effectively detected, government structure is considered as legitimate, government officials are thought of as legitimate, government processes seen as legitimate, coercive power (use of force) is seen as present and applied. Weber (1968) explained that legitimacy facilitates domination, a particular form of power. A legitimate ruler or government elicits willing deference and obedience by justifying its exercise of authority with arguments the populace believes are normatively appropriate (Tyler 2006b) and, as recent scholarship emphasizes, reasonable (Swain 2006). Legitimacy is a concept meant to capture the beliefs that bolster that willing obedience. One of these is a sense of obligation which leads to voluntary deference to the directives of legitimate authorities and rules (Hurd and Hopcroft 1999; Kelman and Hamilton 1989; Tyler 2006).

Lastly, three barangay chairmen were moved by social pressure. Looking at the frequency, social pressure does not carry so much weight in their decision to comply with Ordinance 8975. Thus, they are not affected by their peers and community. This is contrary to Taib and Razak (2008) and Dao and Ofori (2008). Their studies showed that positive attitude or degree of favorableness towards environmental laws is both religiously and socially influenced.

This would indicate that the barangay captains in the urban barangays were aware of the beneficial effects and personal knowledge of the ordinance. Beneficial results of implementation of solid waste management ordinance in the Philippines included increased awareness and participation in local governance processes within the community, improved information sharing with the national government and

private sector, fostered transparency and accountability in local government priority setting, budgeting, and service delivery, formation of good relationships between the government and community groups, through the creation of task forces, and successful implementation of demonstration projects resulted in the reduction of solid waste and a shift in environmental behavior (United Nations University, 2008). Snellenberg and de Peppel (2008) listed personal knowledge as one of the key elements for compliance.

The most prevalent reason that discourages compliance of the ordinance

The data revealed that most respondents' reason for non compliance is institutional ineffectiveness and illegitimacy. The norms surrounding compliance derive largely from the credibility of the laws and the institutions responsible for implementing those laws. For example, the social norm may be noncompliance in countries where laws have historically not been enforced, either because the law is unenforceable or because the institutions responsible for enforcement have lacked the political power or resources to enforce. There may also be a resistance to enforcement in countries where recent regimes have imposed laws against the will of the citizens. It may take longer for enforcement programs to build credibility in these countries. Strategies to build credibility will vary. In some cultures, aggressive enforcement will provide credibility. In others, it may be important to have an initial period of promotion and encouragement to create a spirit of cooperation, followed by a well-publicized shift to more aggressive enforcement to signal that there will be consequences for noncompliance. In other cultures, a mixed approach at the outset may be most successful. The government's will to enforce environmental laws - that is, to affirmatively promote voluntary compliance and identify and impose legal consequences on those who do not comply voluntarily - indicates and influences social values. Not enforcing a law tends to express a value that compliance is not important. A goal on the part of the government to bring a majority of the regulated community into compliance sends a message that compliance is important and helps build a social norm of compliance.

Eight barangay chairmen would not comply with the Ordinance due to personal cost and indifference which means that it does not fit their intent/satisfaction, meet one's desired outcomes, maximize gain but incur costs and fit one's personal conviction/obligation. Leaders may fear a loss of prestige that can result if information about noncompliance to environmental regulations is made public. Conversely, compliance will likely be low in countries where there has been little or no social disapproval associated with breaking laws and/or damaging the environment.

Moreover, eight respondents cited lack of personal knowledge. This means they must know they are subject to requirements, they must understand what steps to take to create compliance, they must have access to the necessary technology to prevent, monitor, control, or clean up pollution, and they must know how to operate it correctly. A lack of knowledge or technology can be a significant barrier to compliance. This barrier can be removed by providing education, outreach, and technical assistance.

Very few cited lack of social pressure as the prevalent reason for not complying. The finding disclosed the implication of less social pressure to non-compliance to City Ordinance 8975. Favorable relationships with society may also provide an incentive to comply. On the other hand, a desire to avoid confrontation may prevent program personnel from pursuing the full range of enforcement actions they may need to take to ensure compliance.

The significant relationship between level of knowledge and factors that encourage or discourage compliance of City Ordinance No.8975

The data revealed that there is a significant relationship between level of knowledge in the City Ordinance and prevalent reason for complying with the ordinance. It would be noted that the more knowledgeable the barangay chairmen are, the more likely they cite personal knowledge and personal gain and interest as the major factor affecting their compliance. Because barangay captains are aware of the situation they have higher control over their behavior and it is leaned towards compliance.

Knowledge is important since it would make community leaders

become aware of environmental problems and provide them with skills and motivation to resolve those problems and to prevent new ones from occurring.

CONCLUSIONS

The need for adequate solid waste management is imperative in highly urbanized areas like Cagayan de Oro City. With the formulation and compulsory enforcement of the City Ordinance-8975 waste management is given importance. In many areas, the lack of environmentally friendly, sustainable and affordable waste management has lead to the widespread dumping and burning of solid waste. This will not occur in Cagayan de Oro City's urban center because of the high compliance with the Ordinance-8975 which is targeted on adequately managing solid waste using simple systems that minimize impact to the environment.

An environmental enforcement program will be most effective if its provisions are based on an understanding of the underlying factors associated with compliance and noncompliance with the mandate of City Ordinance-8975. Moreover, knowledge of the law is a prerequisite to its implementation. Lack of knowledge will result to low compliance or low compassion with the spirit of the law. Understanding of the nature, purposes and the mechanisms of the law will enable the leaders to implement mitigating measures to solve the current garbage situation in the City. Hence, as discovered, the key to compliance to the mandate of the Ordinance is having a solid knowledge of the law. On the other hand, non compliance is attributed to the ineffectiveness of the local government unit underscoring the importance of environmental governance which is critical to the attainment of a sound solid waste management.

RECOMMENDATIONS

In light of the results of the study, the following are recommended:

1. An annual training-seminar on the environmental management and waste management must be conducted with emphasis on the provisions of City Ordinance-8975 and its corresponding sanctions. This will give the barangay chairmen a review of the ordinance and will remind them of the importance of the law.

2. A random check on every barangay on whether they have complied with the mandate of the ordinance must be done by the City government to show to every barangay chairman that they are serious in implementing the ordinance.
3. Conduct a “clean and green” contest of some sort and provide incentives thereto to encourage the barangay chairmen to compete with each other and in effect achieve the objective of the ordinance.
4. More follow up studies should be conducted. It would be suggested that future researchers should document the implementation or non implementation of the ordinance as well as validate its findings with views and assessment of the residents on this regard. In this manner, a better assessment of compliance or non-compliance could be presented and a better understanding of the reasons for compliance or non-compliance would be ascertained.
5. Another area for further study would be to conduct a thorough review of the mandate of the law putting more emphasis the “penalty and reward” as well as the mechanisms of its implementation. This will emphasize the legitimacy of the city government and provide the environmental managers not only an umbrella of power over the barangay chairmen but a direct authority to punish or reward them whatever the case may be.

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