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AN ASSESSMENT ON THE TOTAL VIABLE COUNT OF ESCHERICHIA COLI IN SELECTED DRINKS OF CANTEENS AT A SCHOOL IN BATAAN

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ABSTRACT

The numerous recorded waterborne cases in and out of Bataan urged the study to determine the total viable count (TVC) of *E. coli* and coliforms in selected drinks served in the five canteen concessionaires of a school in Bataan. As noted, such tests may serve as an index for the safety and quality of the drinks. A total of five samples were collected and properly preserved to be then analyzed at a regional Department of Science and Technology of the Republic of the Philippines. The total coliform count of the samples ranged from being an estimated of less than 10 up to 1.8×10^3 total coliform colonies per 100 ml while *E. coli* counts ranged from an estimated of less than 10 up to an estimated less than 2.5×10^2 colonies per 100 ml. All the sampled drinks possessed both total coliform counts and *E. coli* counts that failed to meet the standards set by the Department of Health of the Philippines and were labeled as non-compliant. In this regard, there is an evident *E. coli* contamination across the canteens of the tested school, while there was no clear cause of contamination. It is speculated that unsanitary handling, contaminated ice, or environmental factors might have affected the samples. If left unchecked, this contamination may lead to a potential health hazard to the students, notably in the case of a diarrheal outbreak. Thus, it is suggested that the school takes precautionary measures to ensure the safety of the students and prevent any future risks.

Keywords: *E. coli*, total coliform, Drinks, School canteens, Bataan

INTRODUCTION

The Philippines has been tackling problems with the accessibility of people to clean and potable water. This concern is the result of issues brought about by the country's growing population, rapid industrialization, irrigation requirement and urbanization which is often present in rural areas. Several water-related infrastructure investments have been made to meet the ever-growing demand for clean water, however, waterborne diseases cannot be reduced unless people are provided with enough knowledge on their water will be contaminated (Onichandran, et.al., 2014).

A report released by the Department of Health, Philippines (DOH) on May 31, 2019, showed that 15,056 cases of waterborne diseases were recorded between January and May earlier this year; 6,130 cases of which were of acute bloody diarrhea (DOH, 2019). The same report explains that water contamination causes waterborne illnesses which give gastrointestinal symptoms such as diarrhea, abdominal pain, nausea, and vomiting. Waterborne diseases in general are dangerous to human lives. A commonly known bacteria such as *Escherichia coli* (*E. coli*) is recognized to cause the mentioned illness in the report (Brazier, 2017). Several studies from different parts of the globe argue that contaminated water is what causes these gastrointestinal infections, leading

to diarrhea (Rossi, Beilke, & Fer, 2017), (Ding, et al., 2017) and (Ahmed, Nasreen, & Parveen, 2009).

Food and water may be contaminated through cross contamination especially when an environment with numerous interpersonal relations occur, which is why the school is a prime example for these contaminations; students gather at a singular area to purchase and consume food and water during their breaks (Nhlapo, Lues, & Groenewald, 2014). In the case of the presence of a contaminated batch of drinks, an outbreak of disease is likely to happen. Young students, especially those in the primary education, are more prone to these waterborne diseases due to their weak immune system (Rossi, Beilke, & Fer, 2017). Currently, literature on water contamination and beverage analysis in schools in Bataan is not evident.

As mentioned, there have been numerous recorded cases of waterborne diseases in the Philippines, 147 of these diseases were diarrheal cases in Region 3 (DOH, 2019). There was also another record concerning waterborne diseases. The record presents that in the province of Bataan there were 13,328 cases of diarrhea between 2010 and 2015, however, these cases were not consistent because the years wherein the cases occurred were not specified. It would be that: in 2010 there were 1,806 cases; in 2011 there were 6,057; and in 2014 there were 5,465. The spike in diarrhea during 2014 suggests that rather than the supply of water being the source of contamination, it must be the individual events that introduces bacteria, such as handling, personal hygiene, or contamination from the environment (PEMSEA and Provincial Government of Bataan, 2017). Another study reports that 5,006 confirmed cases of cholera affecting all age groups happened from 2008 to 2013 in the Philippines. The report reasoned that inaccessible water facilities urged the residents to obtain water from contaminated bodies of water such as rivers or streams, and that in severe cases would show symptoms of watery diarrhea and vomiting which could lead to dehydration and in extreme cases, death (Lopez, Macasaet, Ylade, Tayag, & Ali, 2015). One report by the World Health Organization (WHO) presented from January to November in the year of 2013; 28,224 clinically diagnosed typhoid fever cases were recorded in the Philippines, the disease shows symptoms of high fever, abdominal pain, vomiting, and weakness; some older individuals may experience constipation while younger children may have diarrhea (WHO, 2014). The Organization also defined that typhoid fever is more prevalent in undeveloped countries, especially where unsafe drinking water is present. Another study conducted in Iligan city, Philippines determined the presence

of pathogenic bacteria in the drinking water in Iligan City Central School and Iligan City North Central School (Nagba, Palangan, Yu, Opena, & Baguio, 2012). The researchers identified *E. coli*, *Salmonella* sp., *Klebsiella pneumoniae*, *Enterobacter aerogenes*, and *Klebsiella oxytoca* in Iligan City Central School and *E. coli*, *Salmonella* sp. and *Shigella* sp. in Iligan City North Central School; these bacteria particularly, *E. coli* and *Salmonella*, are defined in the study to cause diarrheal illnesses and enteric fever (typhoid). Moreover, there was a recorded case of contamination which happened in May 25, 2012 in the province of Bataan; it involves 96 individuals ranging from 2 to 17 years old, all in which have consumed a common food called “dirty ice cream” (National Disaster Risk Reduction and Management Council, 2012) and (Refraccion, 2012). Most of the victims were confined at the Bataan General Hospital in Balanga City.

It is alarming that despite having recorded these cases there is no clear advancement on local water contamination studies in Bataan, especially in the context of schools. International studies argue that in most cases, *E. coli* is one of the bacteria which causes waterborne diseases (Tan, et al., 2013), (Cabral, 2010) and (Pandey, Kass, Soupir, Biswas, & Singh, 2014). Fecal contamination in the microbiological quality of water generally signals the presence of *E. coli* (Paraoan, Rivera, & Vital, 2017). The same study also argues that although not all strains of *E. coli* are harmful, it still is described as an indicator organism for other pathogenic bacteria. Illnesses such as diarrhea, fever, abdominal pain, and even vomiting root from the harmful strains of *E. coli*; *E. coli* O157:H7 is one example (Brazier, 2017). This strain of *E. coli* produces toxin called Shiga toxin, that is commonly grouped as Shiga toxin-producing *E. coli* (STEC) (Centers for Disease Control and Prevention, U.S. Department of Health & Human Services, 2014).

Water sources may be contaminated with *E. coli* through a variety of ways, such as an unfunctional sewage system, sewage overflows, and agricultural runoff (Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), 2015). Other ways of *E. coli* reaching a water source could be through animal or human feces making its way to a river or lake where a population gets their water supply; it could also be just by plain human to human contact, most of the time this is when an infected person does not wash hands after excretion of feces (HealthlinkBC, 2017). *E. coli* may be transmitted through contaminated water, the individual could acquire these bacteria through drinking, using contaminated ice cubes, swimming, or even eating food washed with the

contaminated water (Davis, 2019). Other potential modes of transmission could be through the environment, one study suggested relaying by insects linked with animal feces; one common example is through houseflies (Lindeberg, Egedal, Phelps, & Hossain, 2017). Housefly larvae are observed to grow in animal feces. In most developed countries, the detection of *E. coli* is used as a sign for enteric organisms, it is insisted that *E. coli* may serve as an index on sanitary quality (Ali, Hussain, & Hussain, 2011).

Thus, this study determined the total viable count (TVC) of *E. coli* and Coliforms in selected drinks served in five canteen concessionaires in a school in Bataan. The study aimed to present the possibility of the presence of harmful strains of *E. coli*, particularly the serotype 0157. The study only counted for *E. coli* and coliforms, which is why TVC is an appropriate method as it is a selective method. This method means that medium and conditions such as temperature will all be accustomed for the desired bacteria, in this case *E. coli* and coliforms (Todar, 2012) and (LibreTexts, 2019). A microbial assessment is greatly affected by the safety and quality of the food or drinks being tested (Illes, Toth, Dunay, Lehota, & Bittsanszky, 2018). Researchers claim that unsatisfactory results may suggest unsanitary procedures by the school canteen staff or unsanitary instruments used when preparing a drink or meal. These results then fuel the urge to conduct interventions among existing procedures to avoid contamination. The study emphasized that objective data resulting from these types of testing shows if there is proper obedience to food safety procedures. Another study also claimed that such testing may ensure safety from the different ways that food may be contaminated (Nhlapo, Lues, & Groenewald, 2014).

The success of this study will provide progression to the literature of water contamination in Bataan. The results obtained could encourage other schools in Bataan to pay adequate attention to their own canteens and assess their food safety standards. The school to be tested will have a basis for possible future interventions in terms of food and drink safety.

The microbial testing conducted was limited to the best-selling drinks of the five canteen concessionaires in a school in Bataan. The study determined the TVC of the bacteria *E. coli* and coliforms only. The acidity, temperature, oxygen level, and moisture of the samples were not identified during the sampling. The canteens' and school's identity remained anonymous and the microbial results of their best-selling drink were used for research purposes only.

METHODS

Sampling procedure

Authorization to conduct such study was secured from the Student Affairs of the school to ensure the participation of the selected canteen concessionaires. The five selected canteen concessionaires of the school were then informed of their involvement in the study and asked what is their best-selling drink which is not a product of other companies (Water bottles, Soda cans, etc.) and requires physical preparation by a staff. To preserve anonymity of the canteens, they were given an alphabetical name along with their best-selling drink. Appropriate amounts of the best-selling drink were purchased from the five canteen concessionaires on the same day. Samples were stored in sterile polyethylene terephthalate bottles then immediately kept in an insulated container filled with ice for transportation to the Regional Standards and Testing Laboratory of the Department of Science and Technology, Regional Office No. 3. Keeping the samples in a storage with temperatures below 10°C is recommended to preserve most of the physical, chemical, and microbiological characteristics of the sample, ice may be used to cool the sample down before transport (Environmental Protection Agency, Washington, DC. Office of Water, 2010). It is also advised that the maximum transport time of the samples is six hours.

Microbial testing

The Regional laboratory proceeded to testing two days after receiving the samples. The laboratory determined the *E. coli* and coliform counts using a Solid Chromogenic Medium, Chromogenic Substrate (Pour Plate), according to Chapter 4 / Edition 8 of the Bacteriological Analytical Manual (BAM) online of 2001. According to the manual, the laboratory utilized violet- red bile agar (VRBA) and to identify *E. coli*, it used 100g 4-methyl-umbelliferyl—D-glucuronide (MUG) per ml in the VRBA overlay to observe for fluorescent colonies under longwave ultraviolet (UV) light. It was then incubated for 18-24h at 35°C, after which all purple-red colonies that are 0.5mm or larger and surrounded by zone of precipitated bile acids were counted. To validate, select colonies were then confirmed to be producing gas as coliform organisms by incubating at 35°C in a tube of brilliant green lactose bile (BGLB) broth and examined at 24 and 48h. A gram stain was then performed to exclude gram-positive, lactose-fermenting bacilli, then the number of colonies per gram was determined

by multiplying percentage of tubes confirmed as positive by original VRBA count.

Analysis of data

Upon receiving the results, the total coliform counts were then compared to the Philippine National Standards for Drinking Water of 2017, released by the Philippines' Department of Health thru the Department Administrative Order (DAO) No. 2017-0010 in June 2017. The results of the analysis were compared to the standards based on the membrane filter technique of DAO 2017-0010 since the procedure used a solid chromogenic medium filter.

RESULTS AND DISCUSSION

All samples for the total coliform count have failed to achieve the standards set by the DOH and thus were labeled as non-compliant, as shown in Table 1. Drink C had the most with 1800 total coliform colonies per 100 ml. Drink A and E follows with 730 and 650 total coliform colonies per 100 ml, respectively. The remaining drinks, B and D, both garnered an estimated count of less than 10 total coliform colonies per 100 ml. Since all the drinks tested had the presence of *E. coli*, as shown in Table 2, it is probable that the total coliforms are fecal coliforms (Washington State Department of Health, 2016). The results shown are most probably due to the same reason how *E. coli* is transmitted.

Table 1: Total Coliform count of the selected school canteen drinks

Sample	Total Coliform (colonies per 100 mL)	Remarks	Standard Value (DOH DAO No. 2017-0010) (colonies per 100 mL)
A	7.3 x 10 ² cfu/g	Non – compliant	MFT:<1
B	Estimated less than 10 cfu/mL	Non - compliant	MFT:<1
C	1.8 x 10 ³ cfu/mL	Non – compliant	MFT:<1
D	Estimated less than 10 cfu/mL	Non – compliant	MFT:<1
E	6.5 x 10 ² cfu/mL	Non – compliant	MFT:<1

*MFT: Membrane Filter Technique

As for the *E. coli* count compared to the DOH standards, all drinks are labeled as non-standard due to the presence of *E. coli*. Only drink A had more than 10 colonies per 100 ml with 250, as shown in Table 2. The rest of the drinks had an estimated count of less than 10. As stated, *E. coli* roots from Total coliforms, specifically a fecal coliform group. It is probable that the fecal coliform groups in Table 1 caused the presence of *E. coli*. The spike in Drink A may be due to the reason that it required more ice in preparation or simply poorer handling among the rest.

Table 2: *E. coli* count of the selected school canteen drinks

Sample	<i>E. Coli</i> (colonies per 100 mL)	Remarks	Standard Value (DOH DAO No. 2017-0010) (colonies per 100 mL)
A	Estimated less than 2.5x10 ²	Non – compliant	MFT:<1
B	Estimated less than 10	Non - compliant	MFT:<1
C	Estimated less than 10	Non – compliant	MFT:<1
D	Estimated less than 10	Non – compliant	MFT:<1
E	Estimated less than 10	Non – compliant	MFT:<1

*MFT: Membrane Filter Technique

It is speculated that these non-compliant results may be caused by unsanitary handling or the use of unsanitary equipment when preparing the purchased drink (Illes, Toth, Dunay, Lehota, & Bittsanszky, 2018). In this case, it was visibly observable during the sampling that most of the canteen staff failed to wash their hands before preparing the purchased drink, however the equipment used were washed thoroughly beforehand; this was a cause for concern as mentioned that human to human contact is one of the modes of transmission of *E. coli* (HealthlinkBC, 2017). Another notable observance was that only drinks B and D did not use ice in preparing their drink and coincidentally these canteens also garnered the least coliform counts. It is then suspected that the ice used by the canteens may be one of the concerns as *E. coli* may be transmitted through consumption of contaminated ice too (Davis, 2019). Lastly, four out of the five canteens were located outside the school's main building, it could be that environmental factors have affected the handling of the staff and caused the contamination (Lindeberg, Egedal, Phelps, & Hossain, 2017).

CONCLUSION

In general, the study found that the school had an evident case of *E. coli* contamination across their canteens. There was no clear cause for such contamination, but it is speculated that unsanitary handling, contaminated ice, or environmental factors affected the samples. If brought to extreme cases, the school is at risk of a potential diarrheal outbreak among its students. The school may take precautionary measures to assess the contamination before such outbreak happens. It is suggested that the management pursue new policies regarding the issue, especially for those canteens located outside the main building of the school.

RECOMMENDATIONS

The study only tested for the presence of *E. coli*, but it did not test for Enterotoxigenic *E. coli*, a harmful type of *E. coli* which is a major cause of diarrheal diseases. Therefore, such tests are recommended for the upcoming researchers in the field. It may also be recommended to find clearer causes for such contaminations in schools through either an assessment on the knowledge of Good Manufacturing Practices (GMP) of the canteen staff or a surface swab test on the food contact surfaces. After which, proper interventions or sanitary procedures may be produced. The study could also go beyond testing the best-selling drink for each canteen; maybe even testing several drinks or test multiple schools around Bataan. Finally, it is a must to deliver safe and reliable drinking water to customers 24 hours a day, 365 days a year. If the water supply becomes contaminated, consumers can become seriously ill. As such, it is recommended to conduct a regular testing of the water and ice used in the preparation of the drinks sold in the school canteen.

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POLITICAL PARTICIPATION OF CITIZENS IN THE SIXTH DISTRICT OF MANILA THROUGH POLICY FORMULATION PROCEDURES IN LOCAL GOVERNMENT UNITS

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ABSTRACT

The Philippines has been known as one of the nations which follow the democratic type of government. Democracy, also known as the rule of many, has been used for many years. However, democracy, although it boasts that the people have freedom, is not absolute. There are laws and limitations because it would be chaos without control. Mostly, the citizens elect people who will represent them. But there is a thing called direct democracy wherein the people, or the electorate themselves, meddle with the government's affairs. The main problem that can be seen is that, even though the people have the right to initiate to make and amend laws, some just do not care or do not want to involve themselves in politics. This paper's primary aim is to focus on policy formulation procedures in local government units and to determine how involved the people are in exercising their rights in their locale. To be more specific, this paper also aims to evaluate how informed the citizens are of their rights in exercising their rights in direct democracy, to determine whether the citizens only engage in it when they see it as beneficial for them, and to analyze whether policymakers should only be for those who have knowledge and wisdom in the field. The theory that the researcher contextualized in this study is Herbert Simon's Decision-Making Theory. In conducting this research, the qualitative approach was used through descriptive phenomenology. The gathered data shows that citizens are not aware of their right to initiate new policies and that they rely on their contribution to elect representatives to formulate policies without directly engaging with them. The initiative to participate in policy formulation is close to non-existent as the citizens are either not aware that they have the right to do so or think that they are not the right persons to partake in the said affairs.

Keywords: democracy, direct democracy, political participation, policy formulation, local government units

INTRODUCTION

Direct democracy can be exercised when mandated in the constitution. Initiative and referendum are forms of practicing and exercising one's rights in direct democracy. In a direct democracy, the people have the power themselves, in which they can act as the government, just like what democracy means: the rule of many. The rights of the people to participate in politics do not end after the elections. The

political rights of the people do not only limit them to vote for a certain candidate through ballots. In Local Government Units (LGU/s), like cities, provinces, municipalities, and the like, there are procedures wherein the people can directly propose policies for their locale.

Many Filipino citizens have not even finished elementary because of poverty. Some would first try to think of ways to get food on their plates; getting an education is not the priority. Even if there are public schools that are owned by

the state, some still cannot afford to send their children to school. It is not surprising that many citizens do not know their rights, except for the basic rights, like the right to live, to have a name, and the like. When it comes to political rights, no one bats an eye until it is the elections. It is as if this is the only right, they have when it comes to politics or the government.

The electorates or the citizens themselves are probably the most important people in a politician's perspective. In the Philippines, wherein democracy is practiced, politicians, like the president, vice president, congressmen, and even barangay officials, are elected by registered voters. These voters, however, have way more power than just shading a ballot every election. Registered voters can also propose bills to be enacted as laws, provided that the criteria needed are fulfilled.

The general objective of this paper is to describe how politically involved the citizens are in terms of policy formulation under the procedures of their locale (attending meetings/seminars with regards to the topic and participating in the proposal of policies). However, to further provide supporting data on the said objectives, the researcher specifically added three more aims: (1) to determine how the citizens initiate in exercising their rights to direct democracy; (2) to describe whether citizens only engage in politics if they can benefit from it; and (3) to explain why those who can formulate policies should be limited only to those who have enough knowledge legally and politically.

THEORETICAL BACKGROUND

The "Administrative Behavior: A Study of Decision-Making Processes in Administrative Organization" is a book written by Herbert Alexander Simon. The said book states that "decision-making is the heart of the administration, and that the vocabulary of administrative theory must be derived from the logic and psychology of human choice," and it attempts to describe administrative organizations "in a way that will provide the basis for scientific analysis." He believed that it should be for the welfare of all, or at least most of the members of the organization. Organizational inducements, rewards, and sanctions are all designed to form, strengthen, and maintain this identification.

Simon's theory of administrative behavior helped this research in reaching its objective as this paper focuses on the participation of the citizens in policy formulation procedures in local government units. In policy formulation, there are

important factors to consider, and decision-making is one of them. This theory best describes how these factors affect and complement each other's relationships.

LITERATURE REVIEW

Direct Democracy

In an article written by Epstein, he wanted to remind the readers about what Aristotle felt about democracy: that it was impolite. And that, according to him, republican was the preferred form because it was known to avoid the populist will. Although the researcher agrees that we must all be reminded that democracy is a perverted type, it still needs to be appreciated as it is widely used. Epstein's article focuses on the design of constitutional democracy and its role for the people.

Direct democracy has emerged as a central part of the government in the United States in the 21st century and has been playing an important role in the explanation of institutional trust (Matsusaka, 2010; Freitag and Ackermann, 2016). Matsusaka did a case study in California regarding voter initiatives, while Freitag and Ackermann did one on Switzerland, which is the most advanced country worldwide in terms of direct democracy. Its role in explaining institutional trust is what makes the article different. It was mentioned that "conscientious" individuals do not want to meddle with politics and that these individuals gave a lower trust rate because they feel like they were forced to become politically involved even if they do not want to. With this, I can say that direct democracy plays a huge role in many countries in the world. Through this, people engage in the government without changing the fact that there are elected representatives. And that upon reading these, its interpretation can also be varying.

Though democracy might be giving people many things to enjoy, it also gives some problems, especially when people overuse their free will. However, democracy can still be seen as a beautiful thing because of what it has given to the citizens of the Philippines as described by Corazon Ignacio. Also stated by the same person in an article is that the biggest threat to democracy in the Philippines is no other than the people who the electorates voted for: the politicians. In this, many may agree. Many people assume that politics is dirty mainly because of the people in it. However, we all are a part of politics because it is natural. The problem though is in the higher part of the hierarchy. These politicians have power,

something that not every individual has, and power in the wrong hands is indeed a terrifying threat.

In 2016, Davies explained how referendums take part in constitutional reform. In the literature, it is said that referendums are made to superficially invite the people themselves to directly choose an option with regards to a certain political question. Also included in the article is that even though referendums may be seen appealing as it involves people directly, there are serious questions about their genuine legitimacy. This article defines and describes what referendums do. The main thing that caught the researcher's attention, though, is that the article is questioning the referendum's legitimacy. The article explained that the problem is on the "elite control" over the process.

Political Participation

Political participation comes in many shapes and sizes. Participating in politics does not only mean that a person should be able to learn and live the language of politicians. Political participation does not necessarily require a person to want to become a politician. It goes beyond what the name suggests. Being able to be involved and engaged in the government is not something you see every day. It is said that political participation happens only in the election season because, in the Philippines, the people directly elect the representatives, senators, and even the president through plurality vote. But being a simple individual who genuinely cares about his/her community makes him/her politically involved. That occurs when that person tries to become a better citizen by knowing and learning his/her rights by heart and becomes even better by sharing them with others. Political participation is when you attend meetings and seminars organized by the barangay, depending on its agenda. Political participation is when you go out to the streets and fight for what you believe in and what you know is right. In RA 7160, Section 397, meetings, or assemblies are to be done in a barangay, which is composed of all the actual residents for at least six (6) months, fifteen (15) years of age or over, citizens of the Philippines, and duly registered in the list of barangay assembly members.

Groshek and Dimitrova (2013) studied the relationship between political participation and online media use. They focused on the use of weblogs. It was regarding the campaign news and information on the United States presidential elections in 2008. The results were surprising. Many people would probably assume that the relationship of the two

would fall on the positive side, but it is not. Most of the well-visited blogs are not that informed when it comes to politics, so the popular ones are not involved, which means there is less audience. The study did not focus on social networking sites since they cannot find any sensible and significant effect related to the topic. This study would help compare and contrast the past and the present. Nowadays, it is not unknown that social media has played a vital role in campaigns and that many people are more "involved" and "politically inclined." Since many realize that being involved does not only end in voting and that it does not have an age requirement, many more are now brave to voice out their opinions and express their thoughts through social media platforms.

Policy Formulation

RA 7160 is known to be a code that delegates autonomy and accountability to local government units. Specifically, this provision also includes how the citizens can participate in the law-making body.

Section 398. Powers of the Barangay Assembly. - The barangay assembly shall:

(a) Initiate legislative processes by recommending to the Sangguniang barangay the adoption of measures for the welfare of the barangay and the city or municipality concerned.

(b) Decide on the adoption of initiative as a legal process whereby the registered voters of the barangay may directly propose, enact, or amend any ordinance; and

(c) Hear and pass upon the semestral report of the Sangguniang barangay concerning its activities and finances."

Craft and Howlett (2012) assessed the policy formulation and the decision-making factors related to it. In the article that they authored, they argued that the utility of both the implied content and the locational dimensions of traditional models of policy advice systems are challenged by the emergence of advisory sources and polycentrism. In their literature, the focuses are only on the actors and their training in decision-making. The authors, however, suggested that there is a required step in the development of an improved understanding of the structure and functioning of policy advice systems, and that is a more articulate conceptual depiction and detailed specification of the interactions affecting the actors related to providing advice to decision-makers. The researcher believes that this step is important.

Formulating a policy is not something that someone can do instantly. Just like many other critical things, it must be thought upon thoroughly for it to be efficient.

SIMULACRUM

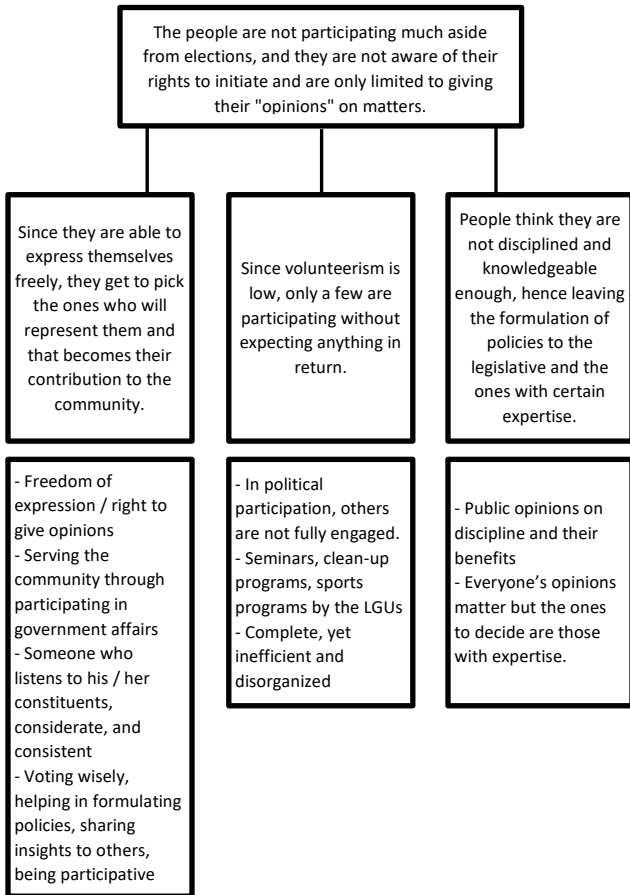


Figure 1. Research Simulacrum

METHODOLOGY

The researcher of the study used the qualitative approach in conducting this study as it is the best approach for the respondents to be able to answer the questions with appropriateness and honesty. The research design that was used was descriptive phenomenology. The respondents of this study were five (5) registered voters from the district who have been residents of the district for at least 3 years equivalent to the officials' tenure of office. All of them were also able to vote for at least two elections already, which

shows that they have politically participated and have exercised their rights. Also, the researcher thought that it is fair to also ask for the sentiments of two (2) government officials, one of which is a city councilor. It is only proper that this has been done as it erased the possibility of having a biased outcome.

The researcher conducted a face-to-face, one-on-one interview on registered voters as well as local government officials. The one-on-one interview was voice recorded and transcribed, wherein the researcher incorporated the answers into themes, which were used to analyze the data further and thoroughly. To further strengthen the gathered data, the researcher also went to the Department of Interior and Local Government - Manila for records on the government activities/assemblies done by the local government in the district. The researcher was permitted to analyze the data on the documented reports by the barangays of District 6.

This study was done in the sixth district of Manila, under District Representative Rosenda Ocampo, with a land area of 7.79 km² and an estimated population of 295,245. Under District 6 are Pandacan, Sta. Ana, San Miguel and Sta. Mesa. The forty-four barangays included in this study were based on the given records of the Barangay Bureau in the City of Manila, under the Department of Interior and Local Government.

RESULTS AND ANALYSIS

Since they can express themselves freely, they get to pick the ones who will represent them and that becomes their contribution to the community

Voting in the elections is one of the people's rights to direct democracy. Through voting, the electorates are also participating in politics. The Philippines is a republic-democratic country and that is why we elect representatives that will govern the nation. These few individuals will legislate and implement laws and policies for the people's welfare. Registered voters can choose who they want based on their criteria, and that becomes their contribution. Direct democracy is focused on the people's rights and how they can affect and influence the government. Indeed, if you vote for the right persons, then progress is not impossible to achieve. However, in most cases, because of this right of the people—their right to suffrage—it is being taken for granted. Many

think that politics has become a popularity contest, which is wrong in a sense. Your popularity does not directly affect your competence; hence, it should not be the sole basis of the people. Also, based on the answers of the respondents, people tend to vote for those who give “something” as a gift before elections, and through that, the people believe in the kindness of that individual’s heart, not knowing their real agenda—which is to gain their trust, then their votes. To be able to contribute, one must think of the things that might affect his/her “contribution” and its impact afterward.

When asked about their rights to direct democracy, most of the respondents answered their right to express their thoughts and opinions, also known as their freedom of expression. One respondent shared his insight on direct democracy, and I quote, “Direct democracy is a form of democracy where people have direct participation in policy/decision-making through a proper consensus. Even though our country currently enacts a policy via representation, we can effectively affect our corresponding representative by sharing our insights (especially for controversial bills such as the death penalty and reproductive health bills) using different social media platforms. One of them is Facebook.” Freedom of expression is widely used and is exercised by all, be it a registered voter or not. But when talking about direct democracy, the expected answers are actions that involve the people and the government directly, hence the term. Good examples are election, initiative, and referendum, which involve the public in government affairs.

Aside from paying taxes and obeying the laws, policies, and ordinances being implemented, many respondents said that people are participating in government affairs, such as the clean-up drives and sports leagues that the LGUs do in the communities. Respondent one described the participation of his community in government affairs as active. He also reiterated that the programs are good as it is really helping in the progress of the community, especially the sports league in which the youth is more involved. That through this, their time and attention is focused on the program, diverting them away from doing bad vices like drug addiction. Since not everyone knows how the government and politics work, the ones who know these try to inform those who do not. In this, the researcher learned that it is a big help to inform others and help them understand how politics work. These small steps are vital in the development of the community.

It is very important to know how the people want their officials to be. The assumed result for this is positive since everyone should always be vigilant and always choose the right persons for the positions. They were also asked if they think the elected representatives are enough to represent and govern the people. The answers vary and that is not surprising at all, knowing that each one is unique, and that includes each one’s perception. As what is mentioned above, the answers varied; however, there were also significant similarities. The people want someone who listens to them. They know their rights and that they should have a voice in the things the government should do. Further, the people want a considerate leader, who knows how to weigh things and how to balance their priorities and give importance to the affecting factors in any case. What the respondents also want to see is how the government officials engage with the people and how they adjust to the status of their constituents. Also, the citizens and the government must both commit to be able to cooperate to attain the goals and aims of each. The people know what they like to see in an individual who must represent them well. The respondents believe that the number of representatives that they have is enough because just like what a respondent said, it is hard to lead with so many voices, because there will be dissenting opinions, and that makes it hard to decide on certain things.

Since volunteerism is low, only a few are participating without expecting anything in return

The volunteerism of the citizens when it comes to political participation is so low that both the citizens and the government know that the people only attend if they can get something in return. Based on the gathered data, it has been known that most have little participation when it comes to assemblies. The researcher asked the barangay captain in the vicinity for an honest description of the people’s participation in their area specifically on barangay assemblies. She answered without filter that in their barangay when they invite people to participate, most of them ask them first if they will be given “stubs.” By “stubs,” she meant the stubs being given to families that shall be presented in exchange for food or gift bags, that without these “stubs,” people become passive about attending seminars or assemblies. According to her, some would even tell excuses like they have a lot of work to do, or that they still have house chores that they must work on just to find reasons not to join the forum, hence her statement that the people only participate when they can take something home. But of course, she told the researcher that

she does not want to generalize, and that is when she mentioned that the senior citizens are the ones who she can always go to. She said that the elders go without saying and expecting anything at all, even though it is a hassle because they are more sensitive due to their age. She said that she is grateful that there are people like them who are always willing to give their time to engage with the LGU's affairs. That even with the heat and all, they have the senior citizens who they can always count on. With all of that said, the researcher has come to analyze that indeed, volunteerism is something the citizens can work on to help achieve their goals to genuine progress.

The citizens play an essential role in the government and politics. In participating politically, one must be fully engaged. And since most of the activities of the local government happen in the barangay, in terms of assemblies, the attendees must not show apathy on the tackled issues because these are the things that need to be addressed. But unfortunately, nowadays, it seems like people are always asking for benefits in exchange for their participation.

The reports from DILG were mostly composed of the pictures of the actual event, the people who attended, the attendance, and the minutes on addressing the topics and issues that were raised. One of the most recurring issues that were addressed in the aforementioned assemblies was about the senior citizens. Other issues like health, education, and environmental aspects were frequently discussed. Unfortunately, numbers don't lie, and the number of attendees is far from what one would expect in an assembly.

People think they are not disciplined and knowledgeable enough, hence leaving the formulation of policies to the legislative and the ones with certain expertise

Policy formulation is a difficult task and a challenging process. According to the city councilor that the researcher was able to interview, there is a so-called parliamentary procedure. The term is difficult to understand. It was said to be a long procedure. Before publishing a policy or an ordinance, the councilor said that they conduct public consultations and public hearings first before anything. These are done to be able to get the opinions and reactions of the people. He said that this is an important step in policy formulation. Included in the interview protocol is the respondents' knowledge of the "policy advice system," which unfortunately many are not aware of and have not heard of

before. Though when asked if the people must have a say in policymaking, the respondents were quick to respond that they must be heard. If you ask them why –they will respond that it is because they are the ones who know what they lack and what they need. True enough and that goes without saying. Though others disagree that everyone must be heard, and that is because they have reservations. They said that some do not care, and they are saying only what they want to say for their benefit. One said that the opinions must always have a basis to be valid. Upon interpretation, it is agreed that the opinions must be first validated; if it has weight, it will be the process of formulation. Also, the people can still have a say through the means of initiating or asking for help on how to come up with policies that they know would help their community develop. It is only a matter of educating the public on simple steps in helping to formulate simple policies that could lead to a gradual breakthrough.

DISCUSSION

The researcher made an in-depth study to contextualize the importance of the people's knowledge of their rights. It is known that most people are aware of their basic rights, like their rights to life, liberty, property; to have a name; to have an education; and the like. But this study is focused on the citizens' knowledge and awareness of their political rights. To be able to participate in government affairs is a gift of democracy, and it must be maximized. However, as this study has concluded, it has been known that most of the citizens are not aware of the so-called local initiatives, wherein there are procedures in policy formulation that they can use as ordinary citizens. After all the analysis the gathered data has gone through, the researcher came up with the outcome that the people are not participating much aside from elections and that they are not aware of their rights to initiate and are only limited to giving their "opinions" on matters.

One observation that the researcher has established is that the government's lack of effort to introduce the topic of initiative and referendum to the public greatly affects their lack of participation in policy formulation. Listening to the constituents' opinions is one thing and involving them in the process is another. The low amount of volunteerism can also somehow be interrelated with the lack of public trust in the government and its officials. The people do not want to do anything with the government unless it can directly benefit

them. The local government units could have been more proactive in this sense as the people's engagement would allow them to gather raw inputs from the ground which could address more issues in the locale.

Taking everything into account, the researcher concludes that the people are not directly participating much aside from elections, that they are not aware of their rights to initiate and are only limited to giving their "opinions" on matters. They cannot maximize their rights as they are not well-educated on things like such. The political participation of the people is not that intact, and they are not aware of their rights and the procedures in policy formulation. The theory on administrative behavior helped in the analysis of the data wherein it is important in decision-making. Again, mentioned in the book of Simon is that "Decision-making is the heart of the administration, and that the vocabulary of administrative theory must be derived from the logic and psychology of human choice." The researcher concludes that decision-making is the heart, not only of administration but also of policy formulation.

As discussed above, the process is long and that makes it challenging and gruesome that, in a sense, is the make or break of the publication of the policy. Deriving from the logic and psychology of human choice is interpreted by the researcher as though it is kind of limiting the decision-making to those who have enough knowledge and expertise in a certain aspect as it is, again, by human choice. It cannot be done by just anyone not possessing the level of reasoning it requires. This proves the assumption of this paper that the formulation of policies should be limited to those who have enough knowledge in the field, which, in this case, is more on legal and political. But this does not disregard the fact that the people's opinions are a crucial factor in the decision-making itself. Also proven by the respondents themselves is the assumption that the people are only participating in activities wherein they can get something out of. The researcher also claims that it is based on the human choice as to why or why not they want to engage. As to the deduction on how the citizens initiate their rights to direct democracy, it is unsurprisingly low. They are only aware of their voting rights and rights to free speech. All in all, the objectives of this paper were obtained.

After conducting this study on the political participation of Manila - District 6 citizens on policy formulation procedures in LGUs, the researcher has come with the following recommendations:

- The citizens should be educated on their political rights. Local government units, such as barangay officials should encourage their constituents through regular meetings whether they have suggestions for policies that they would like to see in their respective communities. Further, they must help the people fulfill the same whenever they try to formulate a certain policy in hopes of motivating them. The researcher felt that citizens tend to limit themselves on the simplest forms of rights and they cannot maximize their rights to be engaged in the government. Through the LGUs intervention, the citizens will become more aware of their certain democratic powers collectively. Currently, wherein people are more politically involved, people from the "ground" can be a huge factor in progressive policymaking by providing them with readily available and accessible information.
- The government should conduct extra measures on their activities. Make sure that the people know what the government does for them. Through this, the people's political trust will increase because they know and they see where their taxes are going, and that their elected officials are working hard for the sake of the community's development.
- The public should learn to initiate and volunteer, not only for their sake but also for the whole community. They should try to propose policies that would need small steps but come up with a big impact.

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BIOSORPTION OF OIL AND GREASE IN ARTIFICIAL WASTEWATER USING OYSTER SHELL (*Crassostrea malabonensis*)

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ABSTRACT

This study aims to explore the ability of oyster (*Crassostrea malabonensis*) shells as an adsorbent of oil and grease in wastewater. Numerous pollutants can harm our environment. Oil and grease are examples of a pollutant that can cause a serious problem to our environment. Effects of varying amounts of powdered oyster shell and a varying amount of contact time on the sorption capacity of powdered oyster shell on the biosorption using oyster shell were observed. The solutions were then analyzed using Gravimetry (n-Hexane Extraction) (SM 5520 B). The results were used to estimate the adsorbent sorption capacity. The results revealed that a high percentage of adsorption was obtained at a contact time of 24 hours (69.74%) and an adsorbent dosage of 30 grams (79.17%). Generally, the more adsorbent dosage and the longer the contact time, the higher the percentage adsorption of oil and grease.

Keywords: oyster shells, equilibrium test, oil and grease, adsorbent dosage, contact time

INTRODUCTION

Major oil spills have come to the attention of the public and media (Fingas, 2019). Oil pollution that is caused by routine ship operations is one of the most significant cases of marine pollution. For the past decade, around 24,000 tons of oil were spilled by tankers every year worldwide (Karakasi & Moutsatsou, 2010 as cited in Muhammad, et. al., 2015). Oil and grease contain fats, waxes, oils, and other related elements found in water, generally wastewater (Environmental Protection Agency (EPA), 1999). There are many factors to why there are present oil and grease in wastewater for example are restaurants, farmhouses, food processing industry, and slaughterhouses (Hamid et al., 2015).

The contamination of groundwater and the subsequent clean-up has been the biggest concern with oil and grease spills. With the number of instances, oil spills and pollution still pose an environmental problem in the world. Oil spill

brings damage to marine life, contamination of water because spilled oil damages the shoreline, birds, and other wildlife that is dependent upon the affected water. The consequence of oil spills in bodies of water, both environmental and financial losses, the search for an environmentally sound remediation solution is needed. Accidents of spilling the oil usually happen while the oil undergoes the utilization process, resulting in loss of energy together with threats to the environment. There are several causes of oil spillage, such as the irresponsibility of humans, vandalizing, illegal disposal, or natural catastrophes like earthquakes and hurricanes. It also affected our economy's fisheries, agriculture, and tourism (Olufemi & Otolurin, 2017). A high concentration of oil and grease in the sewer system can lead to clogging because of the disposal of oil and grease inside the sewer system (Hamid et al., 2015). One of the reasons why marine animals die is because of oil spillage, through the depletion of dissolved oxygen in the water which is important for marine animals to survive (Chikwe and Oglobe, 2019).

The methods in many instances used to remove spilled oil involve booms, dispersants, skimmers, in situ burning, and so on. However, most of them need huge monetary input and their use is constrained because of cost factors that often reject the importance of air pollution control. In addition, most dispersants are frequently inflammable and bring health hazards to operators, potentially harming animal, and plant life (Olufemi & Otolurin, 2017). The clean-up operations on oil spills can also be a factor for more damage to fragile coastal marsh and environment. The adsorption process can treat oil and grease spillage by using appropriate adsorbents. Adsorption means the process of chemical or physical separation, demanding the activity and presence of adsorbent and adsorbate in a given liquid system. Adsorption indicates physiochemical processes wherein adsorbents such as bentonite, zeolite, alumina, animal shells, activated carbon, and activated charcoal get rid of adsorbates from any liquid system by physically attracting onto its surface through the use of intermolecular forces (Chikwe & Ogbale, 2019). Oil can be absorbed from the sea surface through the use of appropriate sorbent materials. There is an important capacity in sorbents for the recovery of oil from the sea surface, the least dangerous risks on ecosystems, and a low price. Adsorption or absorption mechanisms are two of the ways on how sorbents recover from an oil spill. Adsorption is the process of distributing adsorbates over the surface of the adsorbent. Meanwhile, absorption deals with the distribution of the absorbate throughout the absorbent's body. If added to an oil spill, sorbents can change the oil from liquid to semisolid phase. The oil can be easily recovered by getting rid of the sorbent structure. Sorbent's hydrophobicity or oleophilicity is one of the major disadvantages of sorbent properties that influences the effectiveness of oil sorption in the presence of water (Nwadiogbu et. al., 2016).

The process of wastewater treatment uses biosorption to remove organic and inorganic pollutants, heavy metals, micropollutants, and priority substances (Derco & Vrana, 2018). Biosorption is usually used to remove heavy metals in water. Using natural sorbents in cleaning up an oil spill with eco-friendly and cost-effective materials is likely to yield good results, and further attention should be given to this aspect. Natural sorbents are effective and eco-friendly sorbents in cleaning up the oil spill. The use of oyster (*Crassostrea malabonensis*) shells as a cost-effective, alternative, and non-toxic adsorbent not only lessen the impact to the environment but also adds economic and utility worth to it as a waste. Accordingly, reusing waste oyster shells as an adsorbent for wastewater remediation does not only give a

new way of modifying the environment but also give worth to waste, therefore it contributes to the improvement of the oyster meat trade (Xu et al., 2018). The recycling of shell waste offers many advantages and has potential application in various fields; however, oyster shell waste has potential in wastewater treatment (Ramakrishna et. al. 2018).

Oysters are a type of bivalve mollusk that grows in brisk water. It is commonly found in the coastal area wherein then fresh water and brine water meet. Like in many other living organisms, oysters need a specific environmental condition to survive, but in general, oysters can be found in most of the places around the earth. It also has been the usual food near the coastal area around the world. Since the demand for oysters has increased, aquaculture technologies were developed to supply more. The aquaculture is improving economically, but on the other hand, the environmental part remains problematic. Over-cultivation without thinking of the consequences will affect the stability of the coastal environment. Also, the disposal of the waste shell from the oyster is one of the problems. Moreover, the methods in recycling the waste oyster shell are not properly developed and the oyster shells are dumped as food waste. Wrong management of the shells gives the tendency to contaminate the farming area, which would result in affecting the products that the farmers made and constantly affect the means of support of the community (Chilakala et al., 2019). Some oyster shells are used to condition the soil and to provide feeds for the chicken, while other oyster shells are abandoned in the field and produce a nasty fishy smell for a long period. Thus, new applications on making use of the waste oyster shell are anticipated to contribute to raising recycling awareness within the society (Asaoka et al., 2009). They are left in a huge pile on the side of the sea in the form of seaside dumping and shore landfills because of the trouble in guarding landfill sites or lacking support for the economy in recycling (Huh et al., 2016).

When a marine shell is heated at a high temperature, the calcium carbonate in the shell turns into calcium oxide. Then the following treatment with water turns the calcium oxide into calcium hydrate, $\text{Ca}(\text{OH})_2$, which is a major exothermic reaction. In the condition of oil spills, it is known that when the calcium hydrate product is mixed into an oil-contaminated body of water, the product will bind with the oil, forcing the oil to detach from the water with calcium hydrate product, resulting in a clean and uncontaminated water layer (Filbert, 2007).

The study is aimed to determine the adsorption potential of oyster shells in the removal of oil and grease in wastewater. Specifically, it would determine the effects of adsorbent dosage on oil and grease adsorption and the effect of contact time on oil and grease on the equilibrium loading. Determining the effects of adsorbent dosage and contact time will aid in the determination of the oyster shells' biosorption potential. The study intends to help the coast guards to solve the problem of oil spills in an eco-friendly and cost-effective way. This study would help identify potential biosorbent that can be used to remove pollutants in water. The study will benefit the local industry because the study gives value to the waste oyster shells.

In this study, the oyster shell will be tested as an adsorbent of oil and grease in wastewater. The wastewater that will be used is artificially made with distilled water and oil and grease. This study will be focusing on oil and grease only; moreover, other water pollutants will not be covered. Other factors that affect biosorption such as temperature will not be included in this study.

METHODOLOGY

Speciation of Oyster (*Crassostrea malabonensis*)

The oyster shells were specified in the Bureau of Fisheries and Aquatic Resources in Capitol Drive, Balanga City, Bataan.

Preparation of the Biosorbent

The oyster shells were purchased at the Public Market of Orani, Bataan. The shells were properly washed with distilled water to remove the residual musculature and sun-dried for 72 hours. Afterward, the dried shells were crushed using mortar and pestle and passed through a sieve to obtain fine particles.

Artificial Wastewater

The artificial wastewater was made by mixing oil grease with distilled water to produce a solution stock solution. Additional distilled water was added to adjust its concentration.

Equilibrium Test

A sequence of equilibrium test was performed in a room with a temperature of 30 degrees Celsius (Mariano, 2010).

To determine the equilibrium, an adsorption test was carried out by adding powdered oyster shell to the 6 solutions of oil & grease and varied amount of powdered oyster shell added and length of adsorption time. The samples were subjected to constant stirring for 24 hours. After waiting for the designated contact time, a decantation process was done to separate the mixture. The solutions were being brought to the CRL Environmental Laboratory for analysis. The test method used was Gravimetry (n-Hexane Extraction) (SM 5520 B). Effects of varying amounts of powdered oyster shell and a varying amount of time on the sorption capacity of powdered oyster shell on the biosorption using oyster shell were observed. The results were used to estimate the adsorbent sorption capacity. The equation was used to determine the efficiency of the test (Mariano, 2010 as cited in Lampitoc et. al., 2015).

$$\%adsorption = \left(\frac{C_i - C_{eq}}{C_i} \right) \times 100$$

Where:

C_i = initial concentration of the adsorbate, (mg/L)

C_{eq} = final concentration of the adsorbate, (mg/L)

RESULTS AND DISCUSSION

The Bureau of Fisheries and Aquatic Resources specified the oyster as the *Crassostrea malabonensis*. For the performance study, two parameters were used to determine the ability of oyster shell powder as an adsorbent. The two parameters were contact time and adsorbent dosage.

Effect of Contact Time

The performance of the powdered oyster shell to absorb the oil and grease at the assigned time was studied. The study of contact time was to find the desirable time for the highest oil removal for the performance study experiment. Table 1 shows the result of the equilibrium test at a varying contact

time and constant adsorbate dosage of 10 grams. The initial concentration was found to be 889 ppm.

Table 1. Results of Varying Contact Time

Contact Time (hours)	Final Concentration (mg/L)	Percentage Adsorption (%)
12	539	39.37
18	422	52.53
24	269	69.74

The results showed that the highest percentage removal occurred where the oyster shell powder was in contact for 24 hours as shown in figure 1. More so, it was found out that as the contact time increases, the percentage of oil and grease removal also increases. The percentage removal of oil and grease ranged from 39 percent to 70 percent with a varying contact time. In 2018, Hale et al. stated that the various types of bacteria living around oyster reefs could have evolved to help oysters rid themselves of oil and oil-related chemicals. These bacteria could biodegrade oil or eat and break down oil.

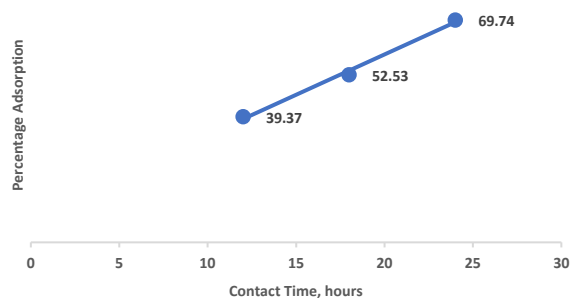


Figure 1. Effect of contact time on the percentage of oil and grease removal

Effect of Adsorbent Dosage

The adsorbent dosage study was studied to determine the advisable dosage for the highest of oil and grease removal. The varying adsorbent dosage was put into a 24-hour contact time. Table 2 shows the result of the equilibrium test at varying adsorbate dosage and constant contact time of 24 hours. Notably, the increment of the percentage removal is around approximately 6-7 percent per increment of 10 grams of adsorbate dosage.

Table 2. Results of Varying Adsorbent Dosage

Adsorbent Dosage (grams)	Final Concentration (mg/L)	Percentage Adsorption (%)
10	300	66.25
20	248	72.10
30	185	79.19

The results showed that the percentage removal shows changes with the increase of adsorbent dosage. Figure 2 showed that at 30 grams of oyster shell powder, 79.19 percent of the oil and grease were removed from the solution. In addition, it was found out that there was a direct relationship between the adsorbate dosage and percentage removal. The percentage removal ranged from 66 percent to 79 percent.

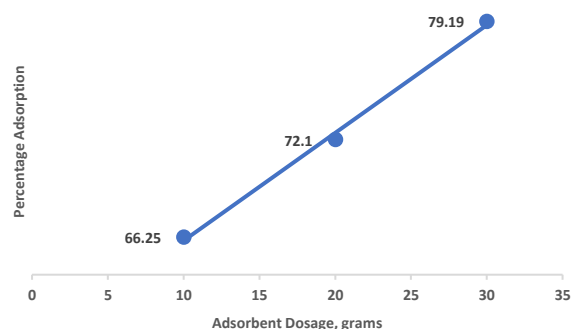


Figure 1. Effect of Adsorbent Dosage on the percentage of oil and grease removal

When the oyster shell powder was poured into the artificial wastewater, it was observed that the oil and grease slowly turned into a semisolid phase. The more adsorbent dosage and the longer the contact time, the larger oil and grease content will turn into a semisolid phase. Due to gravity, the semisolid phase of oil and grease fell to the bottom of the container (Karakasi & Moutsatsou, 2010). The findings were consistent with the study of Hamid et. al. in 2015 where oyster shells were used as an adsorbent.

CONCLUSION

The effect of contact time and the effect of adsorbent dosage were determined. As a conclusion from this research study, it shows that oyster shell powder can act as an

adsorbent material in removing oil and grease from wastewater. The sample with 30 grams of adsorbent and 24 hours of contact time resulted in the highest percentage removal of 79.19 percent of the oil and grease.

It is suggested that for further studies, experiment on another water pollutant to determine the highest adsorption efficiency of the oyster shell powder. It is also recommended that for future studies, the effect of varying temperature, initial concentration, and varying pH could also be studied.

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THE ROLE OF THE PHILIPPINE COMMISSION ON WOMEN (PCW) AND GABRIELA PARTY-LIST GROUP IN ERADICATING VICTIM BLAMING ON SOCIAL MEDIA

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ABSTRACT

Victim-blaming on social media became increasingly influential which includes spreading negative comments to large masses. It allows individuals to create and publish content for free and gather audiences all over the world. This study will focus on the role of government agencies such as the Philippine Commission on Women (PCW) and the GABRIELA Party-list group in eliminating victim-blaming on social media in the Philippines. Victim Feminist Theoretical approach was used to establish a foundational understanding of the roles, programs, advocacies, support system, and social media propagandas of the two agencies. An additional in-depth case study in qualitative-descriptive approach was conducted to this research. Study shows that the response of the victim towards the crime committed to them opens the factor that they may be responsible for their life's misfortune. Despite the lack of policies and laws covering the issue of victim-blaming, the role that the Philippine Commission on Women (PCW) and GABRIELA in eradicating victim-blaming on social media to publicly educate the community to recognize and reduce victim-blaming in themselves and others. The researcher recommends that more policies should be submitted to address the issue.

Keywords: Victim-blaming, Social media, Victim feminist theory

INTRODUCTION

As internet penetration takes on the world, people have grown fond of the usage of different apps like Facebook (FB), Messenger, Twitter, Instagram (IG), Snapchat, Wattsup, Viber, and others. The boundaries of conversation between families, friends, and new acquaintances separated through states and nations have diminished with the help of these social media apps. The use of these apps has certainly made a huge difference in the lives of human beings around the globe. Not solely is it used for constant verbal exchange but also market networking as well.

Asia has dominated the biggest social networking market (FB) and that happens to be the Philippines in 2011. Six years after, the Philippines still ranks number 1 and is titled as the "Social Media Capital of the World". Makati City and Pasay City located in the Philippines was also named as the "Selfie Capital" of the world in 2014 (Vince, 2014).

The digital lifestyle is an extension of the way we live today. It is one's reality-powered by using apps, sites, and devices that compliment one's physical lifestyle. Users of social media apps pursuits to accomplish stuff such as to socialize, to discover, to shop, to travel, and most importantly, to express themselves. Internet users' intention in spending extra time in social media apps helps them in developing new ideas, taking part with different users, sharing

their internal most ideas and feelings, expressing their artistic Genius, and of the route to socialize, make friends and find partners on dating apps. The above stated are pros of the world's modernity, the way of life, and globalization. However, each pros have its cons. In the easiest get the right of entry to self-expression, are these people, the so-called "netizens", using their rights to self-express for the benefit of everyone? Or is it the other way around?

Theoretical Background

Feminists became aware of harassment as a source of women's disempowerment and as a section of their systematic oppression. Violence in opposition to girls is one of the most salient effects of systemic gender inequality across the globe. For the past three decades, violence in opposition to ladies in the US has been addressed by feminist and social justice-oriented campaigns supposed to raise recognition about the incidence of violence and to grant girls with the physical and psychological capabilities to avoid and combat their doable encounters with violence (Frazier & Falmagne, 2014). In the realm of feminism, "victim feminism" is addressed as casts women who are "beleaguered, fragile, intuitive angels" and encourages them to "seek energy through an identification of powerlessness" affords a long-lasting of attributes of victim feminism that she detects in a host of feminist activities, institutions, and texts. "Victim feminism" is something that Christina Hoff Sommers, a resident scholar at the American Enterprise Institute and author of *Who Stole Feminism* outlined as what she describes as "fainting couch feminism". That is, the idea that modern feminism has trained or enabled women to see themselves as victims. The conversation was specifically framed around the issue of sexuality. It views women as fragile and easily traumatized. It calls for special protections for women in sexual assault cases because it views women as an oppressed and silenced class (Busch, 2017).

Feminism shall be the main guiding theory of this paper since this is also the frame that is used by PCW and GABRIELA in their advocacies and actions.

Literature Review

Victim-blaming

To understand rape culture, it is defined as violence in the form of rape, incest, murder, and battery. It is generally understood that we consider rape and assault as what it is —

a crime. Rape culture starts with victimization "boys will be boys", rape jokes, non-consensual photography, homophobia, and victim-blaming. This is why women do not report because every time they do, the media tears the victims apart.

Why did these women wait so long to come out? They must be lying. If he, did it, they would have come forward.

She's lying. Even police officers too often take it for granted that the woman is lying about being raped.

She was wearing something provocative. Right, because women wearing baggy jeans and sweatshirts don't get raped?

She was drinking too much. Being drunk isn't an open invitation to have sex. Remember that pesky little word, consent? It's hard to give consent if you're unconscious (Galpin, 2017).

Women who become victims of sexual harassment have the right to protect themselves. They must take some actions towards these kinds of unlawful doings and must not let fear overpower them. Sometimes women just ignore all kinds of harassment that they experience. At other times, they reacted, for example, by staring back at the harasser, hitting them, or shouting at them. Also, women chose to move away from harassers due to fear that the situation might escalate further. It was also said that some women did not want to create such scenes (Quinn, 2002). This fear is the cause why these male harassers start pointing fingers and putting the blame on their victims or commonly known as "Victim Blaming". It is the case when men or other people would say that women wearing sexy clothes provoke men to give sexual gestures to them. People would tell them that they wouldn't be harassed by wearing loose clothing that cover their bodies. Despite knowing clothing could not provide protection from harassment and believing that clothes were not responsible for harassment, women would continue to wear clothes that covered her body so that no one would get a chance to blame them for the harassment. Confronted with complaints about sexual harassment or accounts in the media, some men claim that women are too sensitive or that they too often misinterpret men's intentions. In contrast, some women note with frustration that men just "don't get it" and lament the seeming inadequacy of sexual harassment policies (Quinn, 2002).

Social Media

In recent years, the term social media has become a popular way to describe a collection of online systems that allow for the production, storage, and distribution of user-generated content (UGC). Social media allows for the creation of a virtual social space where groups of users can come together in synchronous and asynchronous interactions. These interactions can be structured (such as threaded responses to blog posts that are moderated), semi-structured (e.g. the discussion amongst groups of friends within extended FB social networks), or unstructured (such as in Twitter, where topics are not 'owned' but tied together through the ad hoc application of hashtags that can be used to locate and link together posts by a variety of different users. Cohen (2011) points out that definitional ambiguity reduces our ability to make concrete statements about social media. Common definitions include allusions to the comparative ease of participation in social media, and its emphasis on multiple and simultaneous user participation in the production of conversational, initiation, response, and comment, social filtering/quality control (Chen, 2013).

The gender equality principle in the 1987 Philippine Constitution became the government agenda because of women's concerns. Thus, establishing the Philippine Commission on Women (PCW) which is the primary policymaking and coordinating body on women and gender equality concerns. As the policymaking body and oversight agency on women's concerns, the PCW acts as an advocate of women's empowerment, gender equity, and gender equality in the Philippines. It was formerly known as the National Commission on the Role of Filipino Women (NCRFW) until August 14, 2009, when it was renamed as PCW and its mandate was expanded by the enactment of Republic Act 9710, otherwise known as the Magna Carta of Women (MCW). The PCW, together with Senator Riza Hontiveros as the Chairperson of the Senate Committee on women and the author of Senate Bill (SB) 1252 or the gender-based electronic violence (GBEV) bill, seek to give women more protection against sexual harassment and violence, including attacks on social media (Elemia, 2016).

Another political Filipina group that demands equality, social justice, democracy, and freedom is the GABRIELA. Founded on the 28th of October 2000, Gabriela Women's Party is the biggest alliance of women's organizations in the Philippines. Rich with experiences and lessons of having been the Philippine women's movement in its over 20 years of existence, GABRIELA in 2001 first joined the electoral arena

and Secretary-General Liza Largoza Maza ran as the party-list representative under Bayan Muna (People First) Party. With the passage of pro-women legislation including the Anti-Violence Against Women and Children Act in the 12th Congress and the anti-Trafficking in Persons Act, Gabriela Women's Party fielded its nominees in the national party-list elections for the first time in 2004.

Victim Blaming on Social Media

"Social media has become a powerful tool for expression, information, and advocacy, but it has also become an avenue for harassment, misogyny, and homophobia. Fifty-seven percent (57%) of online violence resulted in physical harm and fifty-three percent (53%) have been perpetrated by someone known to the victim. Filipino youth are the biggest consumers of the Internet, with six out of ten aged 15-24 being regular Internet users, and seventy-eight percent (78%) having mobile phones. Currently, there are forty-seven (47) million active FB accounts in the Philippines, but there are those who cross the line, and the problem must be addressed. There is an urgent need to institute protective measures and strategic policies to combat the prevalence of the rape culture in our society which leads to physical sexual assault and other forms of violence against our women and children. You have the power to change the social media landscape. With your peers, you can promote equality and respect, and finally stand up against online violence. Let's reclaim the Internet," –Sen. Riza Hontiveros, chairperson of the Senate Committee on women (News, 2017).

The case of Jennifer Laude has skyrocketed on different social media platforms. Jennifer "Jerry" Laude, a transgender individual, was allegedly murdered by a U.S. Marine, Private First Class in 2014. The militant group representing the lesbian, gay, bisexual, and transgender (LGBT) community cried foul over "hate posts" online against murdered transgender Jennifer Laude. Some netizens also blamed the death of Laude herself for being transgender, which is the general term for those who identify their gender as opposite from their biological sex. These outbursts of discrimination show how hostile some sections of the Philippine society can be towards people of different gender, (Cayabyab, 2014).

ASSUMPTIONS

The primary assumption of this study is to describe the role of the Philippine Commission on Women and the

GABRIELA Party-list Group in eradicating victim-blaming on social media. Hence, the assumptions based on the discussion above are as follows:

- The PCW supported senate bills that would combat the issue of victim-blaming on social media.
- The GABRIELA Party List created “Gabbie” an online app that may help address problems about victimization, harassment, and other cyber-crime-related issues.

METHODS

Approach

A case study qualitative approach was used in this research. Interviews with the elite/ head of government agencies were conducted by the researcher.

Design

To have an in-depth understanding with regards to the role of the Philippine Commission on Women (PCW) and GABRIELA Partylist Group in combating the rampant issue of victim-blaming on social media, a case study design qualitative, the descriptive approach was used to describe the role of the PCW and GABRIELA party-list group in eradicating victim-blaming on social media. To further disseminate the programs and advocacies they have implemented in eliminating discrimination towards women on social media in the Philippines, the study also aims to know more about the support system and legal remedies that are given to the victims of sexual assaults, harassment, bullying they have had encountered thru social media and also to elaborate the roles of the Philippine Commission on Women (PCW) and GABRIELA Party-list group in combating victim-blaming on social media.

Data Gathering Technique

During the gathering of data, the researcher conducted an Expert interview on two of the representatives of the PCW and learned more about their actions in addressing the issues of victim-blaming on social media. A Key Informant Interview (K.I.I.) on two of GABRIELA Party-list Group

and knew more about their social media propaganda in eradicating the issue of victim-blaming were also done.

Research Locale

This study was conducted in two different offices in Metro Manila; one is done in Room 104, 1st Floor, Philippine Commission on Women Building, 1145, Jose Laurel Street, San Miguel, Manila where the Philippine Commission on Women’s head office is located and the other one is in Central Avenue, Constitution Hills, Quezon City, where the head office of GABRIELA Party-list group is located.

RESULTS AND ANALYSIS

PROGRAM INFORMATION

The National Demographic and Health Survey (NDHS) reported that only 3 out of 10 Filipino women sought help after being sexually abused and they sought help from their family and friends than from lawyers or police officers. The World Health Organization (WHO) observed reasons such as not enough support systems, fear or risk of retaliation, shame, blame, disbelief, social stigma, and fear or risk of mistreatment are reasons why women do not report directly to authorities. According to the PCW, Filipino women keep their silence due to the “cultural and social stigmatization” that is following rape. The third of the most reported case of Violence Against Women (VAW) in the Philippines is rape. While seeking justice, survivors tend to receive discrimination like victim-blaming instead of support due to misinformation.

Long before the age of social media, people target victims in gossips and hatred *“when ladies or LGBTQ members experience misfortune such as rape, or harassment even catcalling the neighborhood has so much to say such as they wore provocative clothes, they went out late at night, etc.”* said PCW. Now with the internet, as it could be used to amplify advocacies it is also a tool for spreading hate comments and victim-blaming. The threatening problem of this social media caters people to give their opinions without being sensitive about the issue. *“Unfortunately, there are no specific laws which directly address victim-blaming, no programs as well that focus on the issue alone,”* PCW on protocol 1. Despite the rampant issue of victim-blaming on social media, the government has not yet made any laws on

its eradication, but Akbayan Senator Riza Hontiveros passed the Anti-Discrimination Bill (ADB) which subjects to stop victim-blaming as an excuse for crimes. *"We are hopeful that this bill will soon become a law to raise awareness to users of social media and even non-users to be mindful and that freedom of expression is not absolute especially when it comes to sensitive cases such as rape or harassment"* PCW on protocol 10.

Even without a specific policy or program or law about victim-blaming, the PCW highlighted the Memorandum Circular No. 2017-114: Guidelines in Monitoring the Functionality of Violence Against Women (VAW) Desk in every barangay. It is the easiest access to address VAW cases in a gender-responsive manner who are experiencing violence and exploitation in any form. Another is R.A. 8008 the Anti-CyberBullying of National Bureau of Investigation (NBI) bullying in the form of using computers or gadgets through the internet. These laws still pertain to protecting victims to help in regaining themselves with the tragic experience they have had encountered.

"Sexual Harassment is a sensitive issue and for victims not to hesitate to report such acts we made a tool that people use every day, for easy access. It's called Gabbiegabriela, a chatbot where victims can file complaints or reports that they have had experienced" GABRIELA on protocol 4. In late 2017, the chatbot was created and Gabriela recently introduced the first chatbot in the Philippines to help make the reporting of sexual harassment easier. It can be found on Facebook messenger, and they can handle reports with confidentiality and comfortably.

"Teaching respect is the best campaign vs. Rape" GABRIELA on protocol 1. Furthermore, they emphasized police stations that the Women and Children's Protection Desk (WCPD) should also learn how to handle cases of Violence Against Women and Their Children (VAWC) for they have been receiving unprofessional complaints like *"complainants were told that maybe they were naggers that's why their husbands beat them up when they went to Women's desk and filed a report. That's victim-blaming and it is causing women to lose trust in the capacity of authorities to solve a problem like this"* GABRIELA on protocol 5. With a lack of knowledge on the issue, authorities do not know how to handle situations on which it is necessary to act with precautions towards their complainants.

Support System

The Philippines local statistics drew a painful picture that out of five women, three have experienced sexual harassment, and every hour one woman is raped. Survivors

of this mistreatment tend to be silent to forget this tragic scenario of their life. People surrounding the survivors do not know what to say or react to cases like this. To help them, one must understand the struggle that they are going through. Studies have proven that sexual trauma can cause psychological harm. *"I couldn't sleep on my bed for over a year. I also got agitated when people would touch me."* A lot of survivors report intense feelings of guilt, stress, shame after the experience, and terror which lead to long-term mental health problems like anxiety, depression, or even post-traumatic stress disorder. Experts say sharing can help alleviate negative emotions that will help victims heal so they can get advice on the next action they can do whether legal or psychological.

In this age of social media, it is now a powerful tool to create a community for survivors to share their experiences, to receive moral support from other survivors, to gain knowledge on how to handle related cases, and to share courage that they are not alone in this fight. *"Being able to establish that small but safe place to talk about shared experiences without being judged can make a huge impact on survivors."* GABRIELA on protocol 9. However, survivors' decision in coming out is difficult for it only brings up old pain and trauma and many are not ready for that. *"Victims do not seek remedies or ask for expert's help because they think they will get judges or humiliated or get blamed instead of being understood and sympathized and victim-blaming is very much alive here in the Philippines."* GABRIELA.

"Gabbiegabriela chatbot can file a complaint that they can submit to their lawyers, human resource departments or government agencies or even directly to Gabriela." Protocol 3. With this kind of program, victims can feel safe and at ease because they are surrounded by people who support them.

Role in Eradicating Victim-blaming

Public Education

Victim-blaming has now become a trend in many cases, society tells the victim to change their behavior for them to avoid being harassed or raped. *"Dress less provocatively, drink less alcohol, do not stay out late at night they make the victims believe that it's their fault why they got attacked."* Victims feel weak, passive, or vulnerable in the stage where they are at their lowest due to the negative feedback society is throwing at them. *"It is a traumatic experience to get blamed and it can lead to increases in mental health challenges such as depression, anxiety, etc. The tendency for victim-blaming also is that it decreases the possibility to seek help and support"*

due to fear of being further shamed or judged" GABRIELA on protocol 15.

GABRIELA Partylist Group is emphasizing massive education on consent and the concept of victim-blaming. Women are being informed of their rights and men are being informed on how to respect the opposite sex. They are against the public stigma on a particular way of dressing to be respected and avoid being raped. Instead of focusing on dress codes, giving education to the public, especially to men, that they should understand that consent from a person is important and not to force themselves. According to GABRIELA, they are correcting the notion that wearing short skirts and getting drunk cause rape. In addition, what they want people to understand is that rapists are the ones responsible for cases of rape. With the kind of mindset society has, victims lose trust in police officers or authorities about their complaints for they would feel unsafe and condoned.

Rape prevention education for young boys and men is important so they can learn about consent and hold themselves accountable for their misconduct. To address prejudices towards the victim, public education is necessary to groom the younger generation to be sensitive, aware and influence others positively.

Policy-Making

In victim-blaming, women are in nature seductive, and men are at the mercy of women and that is natural hormones. In layman's terms, women are "asking for it" with the behavior and attire that makes men out of control with their sexual drive. In rare cases, women are not wearing provocative clothing or expressing themselves sexually. There will never be a justification for the act of rape or harassment by an offender. So, to stop pointing fingers, policies should strictly be implemented.

In this culture of victim-blaming, instead of recognizing and punishing the criminals, the quick and simple solution for many is that it's much easier to point the finger over the victim rather than punish the perpetrators because it is the stigma, and it gives underprivileged and oppressed groups an idea that they can avoid abuse and social injustice if they make themselves in a particular fashion or manner. *"Since there aren't laws that focus on victim-blaming, people easily get away with it, even celebrities or government officials cannot be held accountable"* PCW on protocol 16. The only person at fault for a crime is the perpetrator. When perpetrators make excuses, hold them

accountable and do not let them rationalize their actions by blaming the victim or minimizing their crime.

"Lots of laws protect women. We're very good at making laws but it's the implementation part that we need to work on, there's still a lot of work that needs to be done in media, especially in social media," PCW on protocol 6. In terms of policy implementation despite the existing law, no specific law focuses on victim-blaming, and according to PCW that the implementation of these laws or policies is tough work.

Women Empowerment

The Angono Municipal Police issued 10-point guidelines on what women should do or how women should behave to prevent getting raped on their Facebook page which gathered negative comments from different women advocates. *"What a classic case of victim-blaming and gross misinformation of rape"* GABRIELA on protocol 12. According to the do's and don'ts of guidelines released by the Angono Municipal Police Station, women are encouraged not to wear short skirts and not to get drunk to prevent from being raped. GABRIELA urges to delete the public advisory on rape that the Angono Municipal Police Station posted on social media. *"Short skirts don't cause rape. Drinking does not cause rape. Rapists do cause rape. The misogynist exhortations of the President do cause rape"* GABRIELA.

Women advocate groups such as GABRIELA organize protests as their way of addressing issues on women's rights. It is one way of empowering oppressed victims to boost their self-esteem and regain their self-worth. Through seminars and group workshops being conducted by GABRIELA, they explain the phase that victims are experiencing. Proper guidance, psychological assessment, and other strategies will give enough support for them to heal and overcome the trauma that they have experienced. The successful recipients of those seminar workshops give back by being part of the organization as volunteers and becoming an inspiration to others.

DISCUSSIONS

Study shows that the response of the victim towards the crime committed to them opens the factor that they may be responsible for their life's misfortune. They start to blame themselves for the behavior they have committed and leave

the perpetrator free of guilt. The victimization they are experiencing contributes to their guilt feeling due to lack of education and support from peers. Social media is now the tool for crimes like victim-blaming. Misogynist perpetrators hide behind dummy accounts to feel dominant over the others. The Philippine Commission on Women (PCW) being the policy-making body that sights women's rights in the Philippines may have disregarded the rampant issue of victim-blaming that has been happening on social media. Without policies or programs specifically tackling or addressing victim-blaming, there will be no person that shall be held liable. More victims will fear to speak up for themselves. Without the appropriate programs about victim-blaming it does not just reinforce the fallacies perpetrated and social expectations, but also the victim is prevented for the crimes committed against them as well as the ability for them to recover. GABRIELA is an active movement that fights for women's rights has no policies as well to help in raising awareness about the existence of the culture of victim-blaming. Through the years, a rapist has been off the hook cause of the victims' failure to fight them off.

GABRIELA aims to change a law and culture that have condemned women. The support system that the organization has made in seeking to achieve gender equality is being recognized by the government. The empowerment they give to the members and victims of victim-blaming is making a huge impact in helping them overcome traumatic experiences. Seminars, workshops, forums conducted by the two organizations in educating and guiding oppressed groups will help for their fast recovery. Despite the lack of policies and laws covering the issue of victim-blaming, the roles that the Philippine Commission on Women (PCW) and GABRIELA in eradicating victim-blaming on social media are to publicly educate the community to recognize and reduce victim-blaming in themselves and others. To make policies that shall hold perpetrators liable for their actions, and to empower and support the victims to regain their self-worth.

RECOMMENDATION

Upon understanding the role that the government agencies and organization plays in eradicating the rampant issue of victim-blaming on social media the researcher recommends that more policies should be submitted to

address the issue and for it to be taken seriously there must be corresponding penalties to the offenders. As a policy-making organization, the Philippine Commission in Women (PCW) and GABRIELA need to act upon the issue with proper dissemination of information and raising awareness about its impact on the victims and their perpetrators.

Positive environments like groups shall help victims feel safer and less guilty about what they are going through. People who handle them with vulnerability and sensitivity slowly forget the past experiences they had. and strengthen the bond that connects each other to be an inspiration to other victims.

Lastly, proper education on young adults, that in an early age they shall grow cautious with other people's emotions and learn to respect the right of others. Education, if not to eradicate at least lessen the rate of victim-blaming on social media and to use it as a platform in raising awareness. Further, the researcher is recommending that more studies regarding victim-blaming should be conducted which will help in making more policies and programs.

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