Extent of Implementation of and Level of Participation in the Project Carbon Neutral: The Case of De La Salle Lipa

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Abstract*—In response to the call for stewardship, De La Salle Philippines launched the Project Carbon Neutral in 2009. The implementation of this program is being spearheaded by the Lasallian Institute for the Environment (LIFE) and is participated in by all Lasallian schools in the Philippines. The main objective of Project Carbon Neutral or PCN is to benchmark and assess the status of the carbon footprint of De La Salle Philippines (DLSP), the network of Lasallian educational institutions, with the goal of achieving a "green" educational network that is carbon-neutral or better. Since its implementation in 2009, there has been no baseline study conducted along these areas. The extent of implementation and the level of participation of the Lasallian family were looked into in this study. The study surveyed a total of three hundred three (300) purposively sampled members of the De La Salle Lipa community. The mitigating measures of the PCN are perceived to be often implemented and priority is often shown by the Lasallian community. The Lasallian community is perceived to have moderate levels of participation as they often show priority and have fairly supported the activities of the PCN. Geared towards combating the identified problems, this action plan and monitoring and evaluation plan were drafted and put forward.*

***Keywords*— carbon neutrality, program implementation, program participation, De La Salle.**

I. INTRODUCTION

The worsening condition of the earth has raised concern among Filipino citizens to get involved in the different projects implemented to address various environmental issues. Taking into consideration the extent and the gravity of environmental problems, this situation has reached a very alarming level on the international agenda since the 20th century (Madruga & Batalhada, 2003).

Schools, both private and public, had always been a vehicle in making people to be informed through the authentic learning encounters. They also and play an essential role in the pursuit to address such environmental problems. Both formal and informal learning systems exert efforts to incorporate sustainable development and environment education in the Philippine school curriculum. Local policy-makers and officials are challenged to make this Decade of Education for Sustainable Development meaningful to all. Education stakeholders are expected to ensure that sustainable development is well incorporated in the lessons and values that are taught to children. Students have to learn early on that nature is finite and reviving the environment is a great deal.

Lasallian schools in the Philippines are one in taking up the challenge. One of the responses of De La Salle Philippines is the Green for Life: One Million Trees and Beyond (OMTB), a project initiated by Br. Armin Luistro, FSC and the Lasallian Institute for the Environment (LIFE) that aimed to plant one million trees around the Philippines by June 2011, in time for the centennial celebration of the Lasallian presence in the Philippines. Led by Br. Armin Luistro FSC, OMTB was officially launched in 2006 at the Mt. Palay-palay Protected Landscape in Ternate, Cavite. During the kick-off, about 400 volunteers from the different La Salle schools in Luzon participated as volunteers and planted about 1,000 seedlings. Two national planning workshops involved 17 Lasallian schools, the planting activities were conducted to uplands and mangroves nationwide. Aside from planting trees, the project aspires to raise the awareness of the public and the youth in particular on environmental issues that confront our country. It seeks to inculcate important values and promote the active participation of the youth in actual tree planting (Green for Life, 2009).

In 2009, De La Salle Philippines launched another environmental initiative dubbed as Project Carbon Neutral. The implementation of this program is being spearheaded by the Lasallian Institute for the Environment (LIFE). The main objective of Project Carbon Neutral (PCN) is to standardize and measure the status of the carbon footprint of De La Salle Philippines (DLSP). This project targets the goal of achieving a "green" network of Lasallian schools that are carbon-

neutral or better. Through this project, the schools will have a clear picture of how much carbon dioxide each emits from its activities and how much of the carbon dioxide generated are sequestered by other activities. Such data and information shall serve as inputs for decision making and policy making as regards addressing global issue on climate change. The project features activities that would ascertain the amount of carbon emission in the institution through thorough inventory of the school's activities generating carbon as against sequestration activities. It shall organize various environmental information and education campaigns that would intensify awareness and entice participation of the Lasallian community in lessening carbon emission activities that contribute to global warming (LIFE, 2012).

Although many benefits have been claimed for participation, disillusionment has grown among practitioners and stakeholders who have felt let down when these claims are not realized. The greatest contributing factor to the low success rate of environmental projects is the lack of good evaluation of participatory projects. Therefore, monitoring and evaluation is needed to ascertain the impact of past projects and go for future directives. Project monitoring and evaluation enable project leaders to communicate and share their best practices, successes, challenges, and failures.

Since its implementation in 2009, there has been no baseline study conducted along these areas. The extent of implementation and the level of participation of the Lasallian family will be looked into in this study. The findings of this study are deemed important inputs in ascertaining future directions of the project as Lasallian schools shall learn from each other and benchmark to sustain each other's progress.

II. THEORETICAL FRAMEWORK

This study is anchored on the frame of mind that is sustainability. The sense of nature, meaning of the environment, and the importance of sustainable development are fundamental to the human sense of existence and identity (Huckle, 2006). Bonnett (2004) argues that the root causes of destruction are existing values and social understandings. Modern thinking means that sustainability as a policy is generally so pervaded by instrumental logic that it does not recognize the above problems; rules out recognition of the diversity and complexity of meanings and values placed on nature, and; fails to challenge an attitude of mind that sanctions the continued utilization and cruelty of human and non-human nature.

Sustainability commits to the co-evolution of human and non-human nature and looks into interaction within and between bio-physical and social systems. Inherent to the framework is a sense of nature as bio-physical structures and functions independent but affected by anthropogenic activity. It gives premium to respect of human and non-human nature seeking its own realization through a process of co-evolution that human can promote with fitting technology.

According to Huckle (2009), further thought of sustainability as a frame of mind should engage learners in an investigation of environmental principles; the scope of sustainable development; and the role of democracy and democratic values in letting all people to understand their common awareness in sustainable development. Values and principles have to be actualized into policies, projects and programs. Students should participate in the study of the diverse meanings of sustainable development in the different areas. Such analysis will hone their political literacy, and together with the social and moral responsibility centered on sustainability as a frame of mind.

Education for Sustainable Development (ESD) in schools comes in three forms. The first form is ESD as environmental science and management. It may also be as values and behaviour change. The third from is ESD as socially critical education. According to Sterling (2001), sustainability cannot be promoted by education as it remains to be dominated by modern forms of knowledge and pedagogy. He suggests that there has to be a paradigm shift in education that would allow transformative learning and capitalize upon relational view of education.

Education for sustainable development endeavours to raise awareness on sustainable development issues, hone knowledge, mould values and attitudes, and foster responsive behaviour and learning that would propel them to participate and act positively to nature. As a crucial pivotal component of education, information dissemination and a continuous campaign for massive environmental awareness are deemed necessary.

In the Philippines, there is a national program that directs educational institutions to create sustainable and eco-friendly schools dubbed as the National Environmental Education Action Plan for Sustainable Development. Seen as an influential vehicle to bring about the needed change, the school system is a regarded to assume a vital part of our basic learning. The school population, comprising of the students, teaching and non-teaching personnel, make up a considerably large percentage of the total population of the country. With this, any environmental project or program geared towards an advocacy and other program of activities done within the school system especially relating to environmental

protection and conservation need to be documented, encouraged, and recognized.

III. LITERATURE REVIEW

Participation of a certain community is described as active involvement in at least some of the stages of designing implementing a project. Participation can occur in many levels of the projects that lead to better design, better aimed benefits and most cost-effective and prompt delivery of project outputs (Mansuri & Rau, 2004). Participation is regarded as successful if the community has actually been part of the process (Marias et.al, 2007). The quality of participation has been largely ignored in literature. In order to answer the question of quality, there is a need to look at the type of participation, under what circumstances, creates what results (Perlman as cited in Morrissey, 2000).

Raniga and Simpson (2002) outline that seven-point framework on participation originally designed by which ranges from passive participation to interactive participation. In passive participation, the community participates by being told by an outside agency. Another level of participation is in information giving wherein people answer questions posed by an external organization which may or may not take the answers into account in their planning efforts. Participation by consultation is another, in here, participants are consulted and an external organization may or nor may not modify their views in the light of what they hear. Another level is participation for material incentives as people participate by providing resources in return for material reward. Participation may also be functional by joining groups to implement projects. In interactive participation, on the other hand, people take part in joint needs assessment, planning and as well as in implementation together with external organization. They further identified four factors that may lead to poor participation in a project and these include lack of transparency, problems associated with leadership, conflict within community, lack of commitment and lack of administrative and management skills.

Community participation calls for clear commitment and involvement of all members of a community in various joint activities. The first step in a continuous process of awareness building and behavioural change is uniting the community to work on an issue that affects their everyday life, particularly in relation to the environment (UNEP, 2004). Along this light, the Philippines has a national program that encourages schools to establish sustainable and eco-friendly schools.

A school can be regarded as a Sustainable and Eco-Friendly School as it has integrated and actualized environmental projects and programs in its functions that include instruction, research, extension and/or administration. The program is considered a priority in the ASEAN Environment Year 2015. This is also manifested in the Road Map for the Implementation of Republic Act No. 9512 dubbed as the National Environmental Awareness and Education Act of 2008 under the National Environmental Education Action Plan for Sustainable Development (2009-2014).

The Department of Environment and Natural Resources, in collaboration with the Environmental Management Bureau, the Department of Education, Commission on Higher Education, and Smart Communications Inc launched in 2009 the National Search for Sustainable and Eco-Friendly Schools. The winners of the national search were the Peñablanca East Central School in Cagayan for Elementary; La Castellana National High School in Negros Occidental for High School category. Palawan State University in Palawan was declared as national champion for College category.

In the 2011 National Search for Sustainable and Eco-Friendly Schools, Iliranan Elementary School in Negros Occidental for Elementary; Camarines Sur National High School in Naga City for High School; and De La Salle University-Dasmariñas in Cavite for College emerged as winners: While in 2013 the following schools were declared as winners: for highschool category: Dubinan Elementary School in Santiago City, Isabela for Elementary; Ateneo De Davao University-High School in Davao. Visayas State University in Baybay City, Leyte was conferred with the award for the college category.

In view of the flagging global concerns and environment problems, the Department of Education (DepEd) recommends all public and private educational institutions to take the lead on creating environmental awareness by enhancing environmental education and by putting forward effective school-based activities aimed at preserving and protecting the environment pursuant to Republic Act (R.A.) No. 9512, entitled "An Act to Promote Environmental Education and for Other Purposes."

Along this light, educational institutions are expected to strengthen lessons as regards the environment on all science subjects. Environmental education shall also be employed as gears for classroom drills, discussions and teaching and learning activities The school's stakeholders including administrators, officials and teachers are likewise encouraged to use effective educational technology and reference materials to raise awareness and sensitivity among students as regards the environment. This is deemed necessary to increase the extent of students' participation in environmental activities and advocacies. Such efforts will also be instrumental in

instilling in the students' young minds minds the need for environmental preservation and protection. The teachers, as facilitators of learning are likewise encouraged to equip themselves with skills and capabilities by attending lecture-seminars, workshops, conferences and other forums relating to environmental education According to the DepEd Order No. 72, s. 2003, it is required that all public and private elementary (Grades IV-VI) and secondary schools have to establish the Youth for Environment in School Organizations (YES- O).

One concrete example of such initiative is the National Greening Program (NGP). This is pursuant to Section 5.2 of Executive Order (EO) No. 26, s. 2011 and DepEd Memorandum No. 58, s. 2011 entitled Creating the Task Force on National Greening Program. These guidelines integrate the "gulayan sa paaralan", ecological solid waste management and tree growing and caring as key components to attain the goals of DepEd on poverty reduction, food security, biodiversity conservation and climate change mitigation and adaptation. All other programs and projects related therein shall be integrated under NGP (National Greening Program, 2014).

The NGP shall be implemented in all public elementary and secondary schools nationwide by establishing vegetable gardens to serve as food basket/main source of commodities to sustain supplementary feeding, practice waste management principles such as minimization, segregation at source, reduction, recycling, re-use and composting, establish nurseries/seed banks for the propagation of vegetable seedlings, fruit-bearing trees and small trees or saplings, and support the tree planting activity in schools and in the communities.

The Lasallian community also takes up the challenge. De La Salle Philippines (DLSP), a network of Lasallians in the Sector of the Philippines, was established to forge collaboration in the Lasallian Mission and for the endorsement of the spirit of faith, zeal for service and communion in mission that together, inspired by its Founder, St. John Baptist de La Salle. It is dedicated to reinforce Lasallian schools' commitment to the youth, especially those who are poor, by giving them access to a human and Christian education that allows them to partake in the nation building and transformation(DLSP, 2013). Currently, there are 16 Lasallian Schools in the Philippines. In the CALABARZON area, there are three member institutions namely, De La Salle Lipa, De La Salle University-Dasmarinas, and De La Salle Health Science Institute.

Through the Synod Mission Action Plan, the Philippine Lasallian Family set up the Lasallian Institute for the Environment (LIFE) in response to the challenge for Lasallian communities to be better care-takers or stewards of His creation. The institute is geared not only towards superficial environmental clean-up projects, instead, it is dedicated towards attainment of a sustainable environmental development. This is deemed possible with education education and values formation as tools for Lasallian community and the entire community (LIFE, 2011).

LIFE is currently in an active stance in a number of important projects aimed tat improving the condition of the environment. These are the Brick-by-Brick Approach in the clean-up of Laguna Lake, planting One Million Trees and Beyond, and the Eco-camp programs. As part of the Lasallian Family, it is also imparts environmental education and awareness to the Lasallian community. This advocacy extends to non-Lasallian partner communities as well. Another program initiated by LIFE is watershed management and Ecological Solid Waste Management LIFE endeavours to have a systematic means of transporting, storing, transferring, processing, treating and disposing solid waste in different Lasallian schools.

The carbon neutrality has been the goal of educational institutions in the international scenario. Selth (2012) reported that South Fremantle Senior High School has regarded as the first officially certified Carbon Neutral School in Australia. The school community readily supported the project. A Carbon Neutral Working Group has been instrumental in the success of the prject. With the aid of the Carbon Neutral Project Officer who was employed to strategize the carbon sequestration initiatives and mitigating measures, The success of the project was seen after an 15 percent reduction in its level in 2007. Furthermore, in 2008, the school capitalized on renewable energy as they switched their electricity to Green power. In so doing, the emissions from traditional coal-fired power generation were completely shunned. The mitigating measure was augmented by the effort of the students to plant 30,000 trees in the wheat belt. These efforts made them get the certification of carbon neutrality In May 2012.

According to Smith (2013), the Pacific University's new sustainability czar is pushing the Forest Grove School to become the first carbon-neutral college west of the Mississippi and one of only two in the whole country. The school took a big step in November 2014, when President Lesley Hallicj signed the American College and University Presidents' Climate Commitment, joining 664 other schools pledging to take serious action to reduce carbon emissions. Pacific students may not be writing grant requests yet for solar panels or pressing the administration to stop burning fuel oil, as students are at other green colleges, but the school has achieved a number of environmental initiatives. Also, pacific last four new buildings won Leadership in Energy and

Environmental Design (LEED) gold ratings from the U.S. Green Building Council.

The university added a fourth environmental studies major this year, in environmental policy, with concentrations in ethics, politics and government, history and economics. Most of these initiatives were either enacted or suggested by the school's six-year-old Sustainability Committee, which also recommended the creation of Hayes' position. The commitment requires schools to tally the amount of greenhouse gases they are responsible for producing and figure out how to reduce or offset them. This is where Pacific lucks out. It requires less energy for heating and cooling than many other schools, due to the relatively mild climate. And as a customer of Forest Grove Light and Power, the school gets 80 percent of its electricity from hydropower.

De La Salle University implemented a No Impact Program that builds on the efforts initiated by the Lasallian Network in the realization of carbon-neutrality as part of the Project Carbon Neutral (PCN) of De La Salle Philippines. For the AY 2010-2011, the university, in its report to DLSP – LIFE, estimated its annual carbon footprint at more than 20M kg. Since then, it has yet to update its CO2estimates with the addition of new buildings and the STC campus as well as data on CO2footprint mitigation.

Black Out Green In is an environmental campaign in offsetting the university carbon foot print and mitigate the carbon emission to become a carbon neutral school. This initiative was proposed by the De La Salle University Dasmariñas in responding to the project carbon neutral. The study was conducted to identify the different campaigns and practices implemented by the university which helps mitigate the carbon foot print. The study was done as descriptive research with a qualitative approach. Descriptive because it employs to describe the result of the conducted study and qualitative it tends to capture the social experience which is relevant to the study. Participatory observation and documentation was conducted so as the researcher to be immersed and deeply familiarized in the mechanics of each activity under project during the 8 days of study (Ira, 2015).

Based on the study findings of the researcher, the Black Out Green In project of DLSU-D has a total of six campaigns which helps the reduction of the carbon emission by the University and these are the: One Million Trees and Beyond, Ecological Waste Management Program (OMTB), Ikot La Salle (E-Jeepney), Centralize Water Treatment Facility, Composting, Collection and Propagation of Plants and Native Trees. It was also revealed that there are four practices done under the Black Out Green In and these are the: Green Hour, Plastic Ban Entry, Trash Bind and Solar Energy.

The progress, effectiveness, or outcomes of a project can be assessed, understood, measured and explained using indicators. Dube (2009) covered broader areas of quantitative indicators which include economic indicators, participation in the project activities and development momentum. Likewise, broader areas of qualitative indicators range from organizational growth, group behaviour, and group self-reliance.

IV. OPERATIONAL FRAMEWORK

This study employed the IPO model in order to assess the level of implementation of and participation in the Project Carbon Neutral. The mitigation and sequestration activities of the project were regarded as the input of the study. The process included survey and secondary data triangulation.

INPUT		PROCESS		OUTPUT
Mitigating and Sequestration Activities	→	Survey, Interview and Secondary Data Triangulation	→	Proposed Plan of Action and Monitoring Plan and Evaluation

Fig.1: Operational Paradigm

The output of the study that is put forward to the concerned offices is the assessed extent of implementation and level of participation in the project which served as basis for proposed plan of action and Monitoring and Evaluation Plan relevant to project.

V. METHODS

This study utilized the descriptive method of research that made use of both quantitative and qualitative approaches. The study surveyed the respondents' perceptions as regards extent of implementation of the mitigating measures in line with the Project Carbon Neutral. Likewise, the extent of their participation in the project was surveyed. The perceived internal strengths and weaknesses and external threats and opportunities were also solicited and segmented through their responses on the open-ended questions.

The study was conducted at De La Salle Lipa, an institution that provides education from pre-school level to tertiary school level. Founded in 1962 by the Brothers of the Christian School, De La Salle Lipa was built on a 5.9- hectare lot along the National Highway, an institution located at Lipa City, Batangas. The tertiary school provides education in the college level offering degree programs like Biology, Accountancy, Business

Management, Computer Science, Education, Engineering, Psychology and Nursing.

Using purposive sampling technique, the respondents of the study included 35 teachers, 220 students, 25 administrators, and 20 non –teaching staff from De La Salle Lipa. All of the purposively sampled respondents have been in their respective institutions for at least three academic years so that more or less they are aware of the conduct of school as regards the Project Carbon Neutral.

In order to gather the data needed, the study used questionnaires as the main instruments. The survey made use of 5-point scale. The primary source of data came from the survey that made use of a validated researcher made questionnaire, prepared in English The first part of the questionnaire solicited the respondents' demographic profile. The second part surveyed the respondents' perceived extent of implementation of the project and the extent of participation in the project. The third part of the questionnaire solicited the perceived strengths, weaknesses, opportunities and threats of the project.

The survey was conducted from October to December of 2015. The questionnaires were personally handed to the participants for easy retrieval. The data gathered through the survey were tabulated, analyzed and interpreted accordingly.

All the respondents were made aware and gave their consent to be the respondents of this research. Own personal biases and opinions were shun to get in the way. All responses were treated and interpreted in appropriate context

Data were presented using the weighted means that show the respondents' perceived extent of implementation of and participation in the Project Carbon Neutral. Correlation analysis using Pearson r was used to determine significant relationship between the respondents' perceived extent of implementation and level of participation in PCN.

VI. RESULTS AND DISCUSSION

Extent of Implementation of the Mitigating Measures of Project Carbon Neutral

The perceived extent of implementation of the different mitigating measures pertaining to the Project Carbon Neutral as reflected on Table 1. The composite mean of 3.77 connotes that the project is perceived to be fairly implemented. This means that the respondents regard the project to be often implemented and priority is often shown by the community.

Table 1. Perceived Extent of Implementation of Different Mitigating Measures

Mitigating Measures	Mean	Verbal Interpretation	Rank
Waste Management	3.88	Fairly Implemented	2
Electricity Conservation	3.76	Fairly Implemented	3
Paper Conservation	3.63	Fairly Implemented	6
Water Conservation	3.64	Fairly Implemented	5
Pollution Prevention	3.62	Fairly Implemented	7
Greening Program	4.10	Well implemented	1
Other Environmental Programs	3.74	Fairly Implemented	4
Composite mean	**3.77**	**Fairly Implemented**	

The mitigating measure that was given the lowest rating of 3.62 is the pollution prevention. This reflects that the respondents perceive that this measure is not given much priority by the project as manifested in the minimal activities conducted along this area. However, banking on the claimed success of the One Million Trees and Beyond Project, aimed at pollution prevention (Green for Life, 2009), this finding is supported.

Level of Participation in the Project Carbon Neutral

Table 2.A below presents the perception of the respondents on the level of participation by different sectors across the mitigating measures of the project. The composite mean value of 3.73 indicates that the respondents perceived the participation of the Lasallian community to be at a moderate level.

The administrators got the highest mean value of 3.93 (rank 1), followed by the teaching staff and non- teaching staff having mean values of 3.86 and 3.73, respectively. This indicates that these sectors showed moderate levels of participation as they are regarded to often show priority and have fairly supported the activities of the PCN. On the other hand, the student sector got the lowest mean value of 3.39 that is verbally interpreted as minimal level of participation.

Table 2.A. Perceived Level of Participation of the Lasallian Community on PCN

Community Sector	Mean	Verbal Interpretation	Rank
Administrator	3.93	Moderate Level	1

Teaching Staff	3.86	Moderate Level	2
Non- teaching Staff	3.73	Moderate Level	3
Students	3.39	Minimal Level	4
Composite Mean	***3.73***	***Moderate Level***	

In order for DLSL to attain carbon neutrality, a variety of mitigating measures are being implemented. Table 2.B shows the perceived level of participation on each measure of PCN by the different sectors of the Lasallian community.

The Greening program is mitigating measure that is participated in to the highest level. All the four sectors were perceived to have participated on a moderate level. Participation of administrators and teaching staff were perceived to be with the highest level as they ranked 1 and 2 and having the highest mean values of 4.03 and 3.98, respectively. The sector which got the lowest mean value of 3.60 was the students.

The mitigating measure that pertains to waste management ranked 2 with the second highest composite mean of 3.76. All the community sectors were perceived to have participated on a moderate level except for the participation of the students.

Participation of administrators and teaching staff were perceived to be with the highest level as they ranked 1 and 2 and having the highest mean values of 4.00 and 3.89, respectively. The sector which got the lowest mean value of 3.37 was the students. This connotes that the students are perceived to be minimally participating in the project as they have not shown priority and seldom participated in the activities related to the waste management.

The paper conservation effort ranked 3 with the third highest composite mean of 3.73. All the community sectors are found to have participated on a moderate level in this mitigating measure except for the participation of the students. Participation of administrators and teaching staff were perceived to be with the highest level as they ranked 1 and 2 and having the highest mean values of 3.98 and 3.92, respectively.

The sector which got the lowest mean value of 3.47 was the students. This connotes that the students are perceived to be minimally participating in the project as they have not shown priority and seldom participated in the activities related to the paper conservation.

The mitigating measure that ranked first in terms of extent of implementation is on Greening Program which got the mean score of 4.10 that translates into well implemented. This mitigating measure is particularly regarded as always implemented and priority is always shown by the institution. This high level of perceived extent of implementation of the Greening project reflects the active participation of the three institutions in the One Million Trees and beyond Project of De La Salle Philippines. After 10 years of existence, having been launched in 2006 at the Mt. Palay-palay Protected Landscape in Ternate, Cavite, the project is considered to be successfully implemented as it has delivered its goal to plant one million trees (Green for Life, 2009). Related activities being conducted under this measure are tree planting and nurturing activities, conservation and inventory of plants and trees in the school, establishment and maintenance of botanical, organic and manicured gardens in the schools.

Other mitigating measures are perceived to be fairly implemented which means that they are often given priority and implemented by the members of the school community. Ranking number 2 is the program on waste management with a mean score of 3.88. The school has evident activities related to managing wastes like waste segregation, recycling, composting, presence of MRF/ System, sale of crafts, and composting. Along this measure, Clean As You Go (CLAYGO) Policy and No Styro Policy are the two policies that are strictly implemented as food containers and students' projects made out of it are not allowed inside the campus. Its use for decorations and props are likewise banned. Clean as you go (*CLAYGO*) policy has long been implemented by the school, but as part of the Project Carbon Neutral, this was intensified.

Electricity conservation measure got the third highest mean of 3.76. Observed activities conducted along this effort include replacement of incandescent lamp with compact fluorescent lamps, visible signage to remind the community to turn off of machine when not in use and use scheduled turning on and off of the air-conditioning units in the offices.

Table 2.B Perceived Level of Participation on PCN by Different Sectors

Mitigating Measures Sectors	**Mean**	**Verbal Interpretation**	**Rank**
Waste Management			
Administrators	4.00	Moderate level	1
Teaching Staff	3.89	Moderate level	2
Non-Teaching Staff	3.78	Moderate level	3
Students	3.37	Minimal level	4
Composite	***3.76***	***Moderate level***	***2***

Mean			
Electricity Conservation			
Administrators	3.89	Moderate level	1
Teaching Staff	3.88	Moderate level	2
Non-Teaching Staff	3.77	Moderate level	3
Students	3.26	Minimal level	4
Composite Mean	***3.70***	***Moderate level***	***5.5***
Paper Conservation			
Administrators	3.98	Moderate level	1
Teaching Staff	3.92	Moderate level	2
Non-Teaching Staff	3.75	Moderate level	3
Students	3.28	Minimal level	4
Composite Mean	***3.73***	***Moderate level***	***3***
Water Conservation			
Administrators	3.92	Moderate level	1
Teaching Staff	3.77	Moderate level	2
Non-Teaching Staff	3.70	Moderate level	3
Students	3.40	Minimal level	4
Composite Mean	***3.70***	***Moderate level***	***5.5***
Pollution Control			
Administrators	3.81	Moderate level	1
Teaching Staff	3.73	Moderate level	2
Non-Teaching Staff	3.65	Moderate level	3
Students	3.39	Minimal level	4
Composite Mean	***3.65***	***Moderate level***	***7***
Greening Program			
Administrators	4.03	Moderate level	1
Teaching Staff	3.98	Moderate level	2
Non-Teaching Staff	3.77	Moderate level	3
Students	3.60	Moderate level	4
Composite Mean	***3.81***	***Moderate level***	***1***
Other Environmental Programs			
Administrators	3.86	Moderate level	1
Teaching Staff	3.81	Moderate level	2
Non-Teaching Staff	3.70	Moderate level	3
Students	3.47	Moderate level	4
Composite Mean	***3.71***	***Moderate level***	***4***

The adherence the paper less communication policy of the schools is one of concrete measure under paper conservation. The institutionalization of the Transformative Learning Framework on most General Education courses resulted to replacement of written major examinations with Final Performance Tasks and Final Products which clearly cut down paper utilization.

Other environmental programs and natural resources management programs biodiversity conservation program, coastal resource management and other related advocacies got the fourth highest mean value of 3.71. Participation of administrators and teaching staff were perceived to be with the highest level as they ranked 1 and 2 and having the highest mean values of 3.86 and 3. 81, respectively. The sector which got the lowest mean value of 3.37 was the students. The relatively higher level of participation of administrators and teachers is attributable to their being professionals and experts in their respective field.

Sharing the rank (5.5) are conservation measures on electricity and water with a mean value of 3.70. Still, participation of administrators and teaching staff were perceived to be with the highest level as they ranked 1 and 2 the students got lowest mean value. The students got the lowest mean value as they were perceived to have participated to a minimal extent. This could be due to the common observation that there is a great deal for controlling pilferage and wastage on the end of the students

The mitigation measure that deals with pollution prevention got the lowest mean value of 3.65. Still, the administrators and teachers were found to have relatively higher level of participation (3.81 and 3.73) in this area compared to non-teaching staff and students (3.65 and 3.59).

According to UNEP (2004), community participation calls for clear commitment and involvement of all members of a community in various joint activities, and this holds true for the Project Carbon Neutral. The fact that the different sectors of the Lasallian family showed moderate levels of participation means that they often show priority and have fairly supported the activities of

the PCN. The students fairly show priority and are seen to seldom support the mitigating measures of the project. This means that the attainment of success of the project is still a challenge since according to Marias et.al (2007), participation is regarded as successful if the entire community has genuinely been part of the process.

With all the findings as regards the level of participation of the Lasallian community in the Project Carbon Neutral, the current study backs up the recommendation put forward by the National Environmental Education Action Plan for Sustainable Development, considering the school population that is comprised of the students, teaching and non-teaching personnel, constitute a sizeable percentage of the national population, therefore, any program focused on advocacy and other multi-faceted program of activities which are environmental in nature done within the school system, like Project Carbon Neutral, needs to be well documented, encouraged, and recognized.

The findings of the current study point to the identified factors that may lead to poor participation in a project by UNEP (2004) which include lack of transparency, problems associated with leadership, conflict within community, lack of commitment and lack of administrative and management skills since participation of the stakeholders in the Project Carbon Neutral calls for clear commitment and involvement of all members of a community in various mitigating measures and activities of the project.

Relationship between the Extent of Implementation and Level of Participation

Looking at the relationship that exists between the perceived extent of implementation and level of participation in the Project Carbon Neutral, Table 4 below shows that with the correlation coefficient of 0.49 and p value of 0.00, there is a significant and moderate positive relationship between the two variables. This denotes that as one variable increases the other variable increases as well.

Table 4. Relationship of Extent of Implementation and Level of Participation in PCN

Variables	Correlation coefficient	Verbal interpretation	p value	significance
Extent of Implementation and Level of Participation	0.49	Direct, moderate	0.00*	Significant

**Significant at 0.05 level of significance.*

Perceived Internal Strengths and Weaknesses

The respondents cited the following strengths of the project implementation. The evolution of the One Million Trees and Beyond, which started as a different project, as the mitigating arm of the project, is considered one of its strengths. This mitigating measure has established its set of teacher and student volunteers who were likewise mobilized in the project.

The support and directives coming from the top level administrators is also its strength. This top to bottom approach appears to be effective in bringing about the changes in policies concerning school's operations. A point person, called the PCN Champion, has been designated to oversee the implementation of the project. He represents the school in the PCN Council of the De La Salle Philippines. This ensures that the implementation of the project is at par with what is done by other Lasallian schools nationwide.

On the other hand, the respondents likewise noted that just like any other projects, the usual problem is on institutionalizing it. Efforts being done are yet to be concerted to bring about a greater impact. Minimal participation in the mitigating measures, especially among students was also cited. It was also noted that the different sectors of the institution are not well informed of the details of activities on PCN. It has not tapped the students' organizations, the alumni association, and the parents to be actively involved in the pursuits pertaining to the project.

A great deal also is on effecting change in attitude and culture and in forming values especially on the part of the students. It was also noted that teachers were not able to maximize opportunities to involve the students to the project because it has not been integrated in the curriculum.

Perceived External Opportunities and Threats

According to a number of respondents, the PCN is a good avenue for collaboration and linkage building among private, public, and governmental and non- governmental agencies and organization. The project is also regarded as an opportunity of Service Learning and other authentic learning experiences as it can be integrated in the curriculum both in the college and in the basic education.

The activities of the project can also serve as chances for family bonding and alternative celebration options. The project likewise can provide opportunities for research, community extension and production.

One of the cited threats to the project is on the physical environment as each of the school is but part of the fast changing city or town. All forms of development within the periphery of the school like construction of infrastructure, business expansions, road widening and the likes, pose a threat to the conduct of schools and to the

implementation of the project and in the participation of the community in the activities related to the project.

VII. CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing findings, the following conclusions were drawn: (1) The mitigating measures of the Project Carbon Neutral project are perceived to be often implemented and priority is often shown by the Lasallian community. (2) The Lasallian community is perceived to have moderate levels of participation as they often show priority and have fairly supported the activities of the PCN. (3) There is a significant positive relationship between the perceived extent of implementation and the level of participation in the PCN.

Geared towards combating the identified problems, this action plan and monitoring and evaluation plan are drafted with the following objectives: to effectively implement the program and gain greater support from the different sectors; to maximize participation by all sectors of the institution and other stakeholders with focus on students; to utilize all media to inform the different sectors of the activities pertaining to PCN; to institutionalize and harmonize efforts of different sectors; to effect change in culture and attitude among members of the institution.

VIII. ACKNOWLEDGEMENT

The researcher would like to acknowledge the Office of Research and Publications of De La Salle Lipa for the grant provided to this project. Likewise, the researcher is grateful to the administrators, teachers, non-teaching staff, and students who served as respondents of this research.

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