

Environmental Education through Reforestation: From the Experiences of the Adopters from the Island Municipality of Pilar, Camotes, Cebu

Guiraldo C. Fernandez, Jr.
Department of Liberal Arts and Behavioral Sciences
Visayas State University
Baybay City, Leyte
guiraldo211@gmail.com

Abstract

Reforestation (RF) is a technology designed as method to Philippine Government's thrust for massive reforestation using Philippine native tree species for the purpose of re-establishing basic ecological functions. Yet, for Reforestation to be successfully implemented, people have to be educated of the importance of the environment to their lives. Using the method of hermeneutic phenomenology, this study aims to determine how environmental education has contributed to the thrust of environmental conservation through Reforestation in Pilar, Camotes, inquire into the causes why a number of Pilaranons have adopted reforestation, and determine the aspects of Reforestation's' impacts to the lives of the adopters. This study concludes that environmental education enabled Pilaranons to adopt reforestation as a tool for nature conservation, reforestation adoption is driven by the motive to preserve of what are left of the natural environment, and lastly, reforestation has positively changed the lives of adopters in a variety ways.

Keywords: Environmental Education, Reforestation. Environment Conservation

Introduction

Forest covers in the Philippines have been dwindling through the years. This phenomenon has greatly changed the landscape of the archipelagic nation in terms of biodiversity composition. According to Haribon Foundation, biodiversity in the Philippines has been one of the richest in the world. It has been part of the 17 mega diverse countries which collectively claim two thirds of all global species. Yet, 70% of Philippine forests have vanished from the 1930s to 1988 (Haribon Foundation, 2016). There have been two major causes of Philippine forests loss. They refer to the conversion of primary forests to secondary forests by both legal and illegal logging as well as the removal of secondary forests cover by expansion of upland agriculture (Fernando, 2005). Because of this, massive reforestation has been initiated by the government. However, though the Philippine government has introduced programs to rehabilitate denuded lands, the efforts of both government and private sectors have not been enough to abate the rapid deforestation rate of the Philippine forests (Kalikasan People's

Network, 2011). Not only that, decades long reforestation efforts using fast growing exotic species has led to the alteration of Philippine rainforests into simply forests plantation which failed to bring back ecosystem functions (Haribon Foundation, 2005). After all, exotic trees cannot replace Philippine native trees because they are not suited to Philippine climate (Ranada, 2014).

In the Municipality of Pilar, Camotes Island, Cebu, deforestation has also taken its toll in the island municipality's forest covers. In addressing this problem, the Local Government Unit has embraced Rainforestation, a Visayas State University technology, designed to rehabilitate denuded lands by planting them with Philippine native trees (Milan and Ceniza, 2009). This technology found its way to Visayas State University since in 1990, the Philippine-German Applied Tropical Ecology Project started to look into possibilities of rehabilitating former forested areas to get back the ecological functions of the degraded areas needed for poverty alleviation through sustainable rural development. This program was directed for the promotion of biodiversity rehabilitation, conservation of remaining primary forests and natural resources, and the development of a closed canopy and high diversity forest farming system called Rainforestation. The directives of the program were formulated so that Rainforestation could replace the wide spread slash-and-burn practices and protect and enhance biodiversity by using indigenous trees only. In 1994 the hypothesis was formulated that a farming system in the humid tropics is increasingly more sustainable the closer it is in its species composition to the original local rainforest (Goltenboth and Tropentag, 2005). With this, the ecological functions of a given ecosystem would be re-established while subsistence farmers would be provided with a stable and long-term income.

To add to that, the technology had also increased biodiversity in Rainforestation sites since it helped restore soil productivity and protected the watersheds on degraded sites (Schneider, Ashton, Montagngini, & Milan, 2013). Yet, it is important to note that Rainforestation has come to be accepted by a number of the island municipality's stakeholders because of environmental education. For more than a decade now, the people of Pilar, Camotes, Cebu have continued to use Rainforestation as a tool for nature conservation. Hence, in order to fully understand the role of Rainforestation in educating a number of the residents of Pilar, Camotes to take good care of the natural environment, this study aims to understand how environmental education has contributed to the thrust of environmental conservation through Rainforestation in Pilar, Camotes, inquire into the causes why 3 of Pilaranon stakeholders have adopted rainforestation, and determine the aspects of Rainforestation's impacts to the lives of the adopters. This study is this researcher's contribution to the thrust of nature conservation in the Philippines.

Methodology

Research Design

In the thrust to understand clearly how Rainforestation has educated a number of stakeholders in Pilar, Camotes, Cebu to realize the importance of nature conservation to their lives as individuals and as citizen of an island municipality, this research makes use of the qualitative research method of hermeneutic phenomenology which is essentially characterized by Martin Heidegger's interpretative approach that focuses on researcher involvement through on going interpretation (Thompson, 2007). In this study, the researcher has conducted several sessions of key Informant Interviews (KII) to the Rainforestation adopters in Pilar, Camotes, Cebu in order to decipher how Rainforestation has served as an instrument for environmental education to take root in the consciousness and minds of the Pilar Rainforestation adopters.

With this, this study follows Heidegger's contention that it is impossible to bracket researchers' assumptions and reflections from their research. Instead, in the hermeneutic approach, it is possible to bridle researcher assumptions through scrutinizing by continually questioning and critically reflecting upon one's pre understanding and involvement in the Phenomenon (Dahlberg, 2006). After all, hermeneutic phenomenology also aims at producing rich textual descriptions of the experiencing of selected phenomena in the life world of individuals that are able to connect with the experiences of people collectively. From identification of the experience of phenomena, a deeper understanding of the meaning of that experience is sought (Smith & Vandenburg, 1997). Hence, in order to have a full understanding of what this study's respondents want to convey, the use of any language that the respondents are most comfortable with is utilized. After all, as Langdridge (2005) puts it: to understand the life world, people need to explore the stories that others tell of their experiences (Langdridge , 2005). Hence, it is in this sense that the above-mentioned method would challenge the researcher to reflect deeply on what it is that the texts of the field have to say. Nevertheless, this research method's goal is to invite its readers to enter the world that the texts would disclose and open up in front of themselves (Kafle, 2011). With this at hand, this study could come with a broader understanding of on the role of Rainforestation in smooth conduct of environmental education among the environment conservation stakeholders in the island municipality of Pilar, Camotes, Cebu.

Research Procedure

In the process of identifying the Rainforestation adopters from Pilar, Camotes, Cebu, this study makes use of available data from the Institute of Tropical Ecology and Environmental Management of Visayas State University in Baybay, Leyte, Philippines. In this study, purposive sampling is utilized to narrow down the respondents into three individual Rainforestation adopters. In the course this research, key informant interviews with open-ended questions relating to the lived experiences of the respondents are employed. In doing this, the researcher visited the three research respondents and set up an interview in a manner that the respondents find most comfortable. The interviews have been unstructured, casual, and conversational.

Conversational interviewing generates a first person description of the experience (Van Manen, 1990) since interviews elicit a variety of types of rich data that manifest how participants interpret and use language as well as how participants explain their decisions or actions or narrative data (Cohen, Kahn, and Steeves, 2000).

In this study, the researcher gained permission to digitally record the interviews. Digital recording allowed the researcher to focus on the interview, attend to the participants, record memos and accurately capture participants' tone, inflections, and pauses. The researcher then processed the data for interpretation. After the process of data interpretation, the researcher assessed the trustworthiness of the data analysis by presenting the study's interpretation to the respondents. As a qualitative method, this research embarked on several sessions of key informant interviews for clarification and validation of data. Hence, the final draft of this study has been presented to the respondents for their appraisal. Lastly, consent to publish the respondents' answers to the interview questions have already been given by the respondents themselves.

Results and Discussions

The Role of Rainforestation in Environmental Education

The introduction of Rainforestation to the island municipality of Pilar, Camotes, Cebu had paved the way for environmental education to seep into the consciousness of the environmental conservation stakeholders in the said municipality as early as the year 2008. Rainforestation adoption in Pilar, Camotes was triggered by a series of environmental awareness activities initiated by selected student environmentalists whose main message was to restore the natural terrestrial environment to its former pristine essence by planting denuded lands with Philippine native tree species through the technology referred to as Rainforestation. These series of activities caught the attention of Mayor Eufrazio Maratas who was still a Municipal councilor at that time who happened to chair the Committee of the Environment of Pilar's municipal council. According to Mayor Maratas:

I was interested in the series of environmental awareness activities initiated by a group of students from Visayas State University because I saw it as an opportunity to make a large number of the citizens of Pilar, Camotes aware of the importance of taking care of the environment most especially that we were living in an island municipality. The carrying capacity of the island in terms of the environment had to be taken priority since natural resources had been dwindling while the population had also increased. I realized that there was really a need to make the people aware of this important reality (Maratas, 2017).

With this, the then councilor Maratas supported the environmental awareness activities in his municipality until time came that he volunteered to be trained as a Rainforestation adopter himself through a Rainforestation Trainors Training conducted by Visayas State University

(VSU) and Yale University's Environment Leadership Training Initiative (ELTI). This training educated Mayor Maratas of the basics of environmental education which was a very important element for any environment conservation project to be successfully implemented. Yet, Mayor Maratas did not stop there and instead applied for a more advanced environmental training in Nepal. After having fully trained on the basics of nature education, the then councilor Maratas initiated a Leadership program where he invited two public school teachers from the locality, Mr. Romeo Gutang and Mr. William Cabonegro, to be part of a Rainforestation adopters training. For Mayor Maratas:

I can only do so much. The knowledge that I have with regards to nature conservation could be practically applied if I myself will also educate more people to advance this not so popular cause of saving the environment through planting native trees in the islands. If I could educate and inspire even a few but dedicated people with regards the importance of nature conservation, my quest to protect of what is left of our island's natural resources could already take off (Maratas, 2017).

Mayor Maratas' efforts to share his knowledge on the importance of environmental education through the Rainforestation adopters' training paid off since Mr. Gutang and Mr. Cabonegro had proved to be environmental champions themselves. For instance, Mr. Romeo Gutang of Dapdap Elementary School had succeeded in establishing a Rainforestation site composed mostly of native trees endemic to the island municipality of Pilar by educating his pupils' parents of the importance of planting trees in taking care of what is left of the natural environment. According to Mr. Gutang:

The success of my rainforestation farm was initially triggered by the sudden change of heart of many community members who had not previously supported my efforts. I first felt that I could succeed in my endeavours when I was able to convince my pupils' parents that we would plant trees together in a two hectare property near our school campus so that trees could support and sustain the island's water source and provide clean air in the Pilar Camotes area for many years to come. That was a sort of environmental education which I learned much from adopting Rainforestation myself (Gutang, 2017).

For his part, Mr. William Cabonegro strived to establish a small Rainforestation site inside the campus of Pilar National High School so that students could appreciate the beauty of grown native trees as well as enjoy the benefits that nature has given to human kind like the presence of birds in the area and the feel of fresh and cool breeze that the grown trees have provided. Mr. Cabonegro used his small rainforestation site to serve as a visual aid to students so that the message of the need to conserve the environment would be properly inculcated into their hearts and minds. According to Cabonegro:

There is no better way to educate our students of the importance of nature conservation than letting them see and experience the benefits that the small forest has given them like the presence of fresh and cool air in the area as well as the presence of birds in the vicinity of the Rainforestation site. For me, Rainforestation is a good instrument for environmental education since it gives flesh to what we say in classrooms and in fora since the presence of grown native trees in school rainforestation sites is the best visual aid there is to stress the importance of nature conservation to lives of people (Cabonegro, 2018).

Hence, from the significant stakeholders of environment conservation in the Municipality of Pilar, Camotes, it is discernible that Rainforestation adoption has served as significant instrument for environmental education. Mayor Maratas, Mr. Gutang, and Mr. Cabonegro are similar in their contention that to convince people of the necessity to take care of the natural environment, it is important to educate them first of the importance of nature to their individual lives. In their case, Rainforestation has greatly served as an instrument to advance the cause of environmental education in the island municipality of Pilar, Camotes, Cebu.

The Reasons that Caused the Three Pilaranon Stakeholders to Adopt Rainforestation

Mayor Eufrazio Maratas's reason for adopting Rainforestation was driven by his intention to maintain and sustain the carrying capacity of the watershed areas in his island municipality of Pilar, Camotes, Cebu. During his term as councilor of Pilar, Camotes, Mayor Maratas always made it a point to chair the council's Committee for the Environment. According to Mayor Maratas:

I have not lived in Pilar for many years until I came back to the island to serve as a member of the municipal council. When I was offered the post as chair of the Committee of the Environment, I did not hesitate to take the position because from the very start I always believed that the carrying capacity of the island in relation to the environment had always to be put in check since natural resources were dwindling and the population had continued to grow. One of the problems that challenged the island's residents was the issue of the sustainability of water to be available for the future generation. With this, I adopted the technology of Rainforestation from Visayas State University since I saw it as a means to protect of what is left of the water sheds of the municipality of Pilar (Maratas, 2017).

For Mayor Maratas, Rainforestation was a strategic direction for an integrated approach to Natural Resources Management of the Island. This paved the way for Mayor Maratas' involvement in environment conservation efforts until the present. Moreover, the reason behind Mr. Romeo Gutang's involvement in Rainforestation is simply his desire to do something to conserve the environment in his new-found home of Pilar, Camotes Island, Cebu According to Mr. Gutang:

When I started to work in Pilar, Camotes as a public school teacher, I decided to live in the island for good and raise my family in the said place. Yet, climate in the island is very much humid and hotter than the place where I come from. So, I decided to plant trees and establish a rainforestation site in a friend's denuded two hectare property so that I could later on benefit from the things that nature will give me like the feel of fresh air in the area as well as the privilege to listen to the chirping of the birds (Gutang, 2017).

However, Mr. Gutang's observation when he started to get himself involved in environment-related conservation efforts was that the average citizen of Pilar simply did not give priority or give due importance to the natural environment. As an elementary school teacher, his vision was simply to set an example to his young pupils so that he could give life to what he was preaching in the classroom in relation to the aspect of environment conservation. Hence, by starting to plant native tree species in a rocky and almost unproductive land planted with very old coconut trees, he was able to convince his pupils and his pupils' parents to join him in his efforts to make a forest out of Philippine native tree species.

Yet, for Mr. William Cabonegro, Rainforestation adoption has been a result of his desire to educate his students to value the importance of the natural environment. As a trained professional educator, he realized that there is no better way to make his students value the importance of Mother Nature than letting the students themselves experience the gifts that the natural environment has given to human kind. For Mr. Cabonegro, the only way to achieve this is to establish a small Rainforestation site inside the campus of Pilar National High school so that students could enjoy fresh and cool breeze in the rainforestation site and be able to see birds that live in the vicinity as enjoy the sound of the chirping of the birds. For Mr. Cabonegro:

The small rainforestation site inside the school campus has enabled my students to enjoy a glimpse of what nature is capable of giving to human kind. With the good things that my students are enjoying from the small forest, there is a great chance or possibility for them to take seriously the challenge of protecting the natural environment so that it could still sustain the needs of the future generations (Cabonegro, 2018).

Rainforestation's Impacts to the Lives of the Adopters

Rainforestation has great impact on the political career of Mayor Eufrazio Maratas. In terms of governance, the rainforestation project has become an instrument in mainstreaming water, soil, and biodiversity conservation that led to a bigger constituency among the citizens of his island municipality including youth and children. It has also paved the way to the island municipality's upstream and downstream collaboration in such a way that it teaches stakeholders --- fishermen who double as farmers ---- not to destroy what are left of the trees in their mountains during the times when the seas are unfavourable for fishing so that they could sustain the source of water in their locality. According to Mayor Maratas:

Rainforestation has, in a way, fulfilled my obligation to my constituents by making their lives better through the various nature conservation efforts by way of Rainforestation that I have initiated through the years. In my island municipality of Pilar, Camotes, natural resources are very scarce. They are not only scarce, they are also dwindling in quantity. An example of this is the fast disappearance of trees in the watershed areas because of upland agriculture. By making efforts of mainstreaming conservation initiatives that do not affect that livelihood of the common farmer, people would be aware that what I have been doing through the years have been aimed for the betterment of the lives of my constituents (Maratas, 2018).

Furthermore, Mayor Maratas sees rainforestation as “good politics”. For Mayor Maratas, it is but natural that when people see a government official work for the betterment and well-being of his constituents, they will give him their trust and support. This is evidenced in Mayor Maratas’ political journey. From a municipal councilor who chairs the Committee on the Environment in the year 2000, he became a Vice Mayor, and at present serves as the Mayor of the Municipality of Pilar, Camotes, Cebu.

For Mr. Romeo Gutang, the presence of his vibrant rainforestation farm has a great impact to his life in the sense that it has become a great personal stress reliever. It also improved biodiversity in the area since birds are already very discernible and the area has also become a bit colder as compared to the times when his rainforestation farm was not yet existing. The soil quality in his rainforestation farm has greatly improved since the leaf litters have served as natural fertilizers. For Mr. Gutang:

One of the greatest benefits that I have enjoyed from adopting rainforestation is that it drives away my stress caused by the problems that life cannot do without. The presence of my rainforestation farm has greatly make me feel that I have made a significant contribution to my community as a school teacher since I have established a forest full of the island’s endemic tree species which could drive one’s stress away just by enjoying the freshness of the air in the area as well the feeling of enjoyment by listening to the sounds of the birds who have started to live in the area as well as feeling of relaxation by merely enjoying the greenness of the sight of the mini forest (Gutang, 2017).

Moreover, in the course of establishing his Rainforestation site, Mr. Gutang has planted high value crops side by side with the native trees which have often times provided him free vegetables, banana fruits, and a little income from the sales of the surplus. Moreover, Mr. Gutang has also observed that his rainforestation project has a great potential for disaster mitigation since his young trees had survived the onslaught of Typhoon Haiyan in 2013 and the El Niño phenomenon in 2015. Lastly, Mr. Gutang has also realized that his rainforestation farm has a great potential for eco-tourism for local and foreign tourists have started to visit the beautiful island municipality of Pilar, Camotes, Cebu.

Last but not least, the impact that Rainforestation adoption has brought to the life of Mr. William Cabonegro refers to the sense of fulfilment that he felt in relation to the aspect where he is able to provide his students with an opportunity to enjoy nature's gift to human kind. In the process, Mr. Cabonegro is, in a way, convinced that his small rainforestation site inside the school campus has served as an inspiration to his students to seriously take into consideration the thrust of environmental protection most especially in their island municipality.

Conclusions

This study concludes that Rainforestation has served as an instrument for the true meaning of environmental education to enter into the hearts and minds of the respondents. In the process of Rainforestation adoption, the respondents have arrived at the realization that in the thrust to conserve of what is left of the natural environment in the island municipality of Pilar, Camotes, Cebu, people have to be educated of nature's significance to one's life. Hence, Rainforestation adoption has served as a good venue for environmental education.

Moreover, this study also concludes that the respondents have similar reasons on why the three of them have adopted rainforestation. The reason points to the area of environment conservation which specifically points out to the island's carrying capacity to support the needs of the island municipality's citizens in relation to basic ecological services.

Lastly, this study concludes that Rainforestation has a great impact on the political career of one of its respondents especially in the area of governance. Not only that, Rainforestation also has provided respondents with environmental, economic, and personal benefits which have been brought about by adopting the technology of Rainforestation.

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