



## Project “Tubig Para sa Lahat” (Water for All): Revisiting a Community Extension Project

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### ABSTRACT

This study seeks to evaluate the community water tank project started by the Community Extension Service Unit (CESU) of Gordon College in Olongapo City, Philippines. A group went to the area to inspect the water tank project during the month of March 2023. They gathered data by observing and documenting the water tank and its surroundings as well as interviewed the chieftain and locals. Based on the documentation, observation, and interviews, they did not give the water tank project priority in terms of proper management and maintenance. The lack of proper knowledge in water tank maintenance contributes to this finding in the community. Based on this premise, the researchers propose a manual for maintaining the water tank for future use.

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## **INTRODUCTION**

Amid water scarcity, "Project: Water for All" brings hope. In a previous paper by Ankon et al. (2022), they mentioned that community-based water supply projects rapid implementation can improve the rural water supply system. Water is a fundamental resource that supports ecosystems, communities, and individuals. Yet, millions of people around the globe still lack access to this essential necessity, leading to dire consequences for their health, education, and overall quality of life. Aberilla et al. (2020a) argued that access to clean water is one target of the UN Sustainable Development Goals (SDGs) yet millions are still without basic water service. In the previous paper of Tzanakakis et al. (2020), they highlighted the importance of general guidelines and solutions in order to address growing conflicts among water users. A local literature also pointed out that improving access to water in remote communities is an important step leading to sustainable development (Aberilla et al., 2020b). Recognizing the global crisis, "Project: Water for All" brings together visionaries, leaders, and organizations worldwide in a collaborative effort. Its mission is to revolutionize water management, implement sustainable solutions, and promote fair distribution to ensure that they left behind no one. In a local study by the group of Alfonso (2022), they mentioned that the poorest spent the largest share of income on water and they relate this water inequalities with the income disparities. The group of Raimi (2019) stipulated that there are multiple sources of water supply. However, in terms of sanitary conditions, different treatments and approaches are being implemented by the households.

At its core, "Project: Water for All" aims to address the multifaceted challenges of water scarcity by adopting a holistic approach. Through groundbreaking research, technological innovations, and community engagement, the project seeks to transform the way we perceive, use, and conserve water resources. Ermilio et al., (2021) argued that monitoring of water infrastructure in developing communities is essential to secure reliability of services and a requisite for sustainability. In addition, a previous study also endorsed that there should be allocation in responsibilities with widely cited normative and cultural-cognitive influences in the community (Cord et al., 2022). Kang (2019) pointed out that maintenance methods for water infrastructure became a top priority issue in an urban water system. "Project: Water for All" is not just an initiative; it represents a collective commitment to securing a sustainable and water-abundant future for all. Together, we can turn the tide on water scarcity, ensuring that every individual thrives and flourishes in a world where water is no longer a privilege but a basic human right. Okon et al., (2020) made study regarding the incessant collapse of water infrastructure in a state in Nigeria, and they found that one building material is better than the other. This result showed a preference over the other materials for ease of periodic maintenance. To strengthen such resolve, the study of Shields et al., (2021) suggested that implementers use collaborative planning processes and explicit engagement with intra-community diversity and inequalities to facilitate an opportunity for all communities.

This revisit is essential in order to establish a sustainable water source for the community. By doing so, maintenance and other vital mechanisms need to be done. There are difference factors that play a role and contribute to the challenges in maintaining such project in the community (Mokgobu et al., 2023). A recent study also shared that tank size, tank cleaning, and even type/ or material of tanks and tank connectors can affect water quality (Okeny, 2022). The researchers hope to address the issues and concerns of the community regarding the maintaining of the water tank project so that the future generation can still enjoy potable water supply. Also, this will serve as an opportunity for the Research Development and Community Extension Service office to produce a manual intended for the maintaining of the said project.

## **IMPLEMENTATION AND METHODS**

This paper is a revisit of the previous project where Gordon College-Community Extension Service Unit (CESU) promulgated a few years ago in collaboration with non-government organizations (NGO), RP Energy, JCI Olongapo, and SEAPINE Corporation. The primary aim of this paper is to evaluate and try to reassess again the situation and what has become of the water tank construction and water distribution to the small community in the mountainous area of Olongapo City, Philippines.

A group of individuals went to the site for an inspection and intending to evaluate what has become of the water tank project for the community has become. The said inspection visit happened on the month of March 2023, a few years after its establishment way back in 2018. They took pictures and other important observations in order to determine the current status of the project and, based on these photos, the researchers will provide essential recommendations in order to maintain the premises of the water tank project. During the visitation, they also interviewed the chieftain of the said community and other significant individuals regarding how they maintain the water tank for the past few years. Based on the documentation and the interviews of the group that went into that community, this study then analyzed them in order to present the outcome of the said community extension project.

## **RESULTS AND DISCUSSION**

Sitio Mampung is on the far side of Barangay Old Cabalan, Olongapo City which is inhabited by the Aeta community. As it is on the far and mountainous side of the city, potable water source is an unquestionable need by the community. With the cooperation of Gordon College, and other Non-Government Organizations (NGOs) the water tank projects came about in order to provide the community their sustainable water source throughout the year. The forthcoming of the summer and dry season gave rise to the concern of the community's new chieftain for the sustainable water source in their area. For the past years, the water tank had no form of maintenance or some sort. According to Nyaga (2020), there are different factors necessary to provide reliable maintenance service for water systems. In relation, Kang (2019) also noted that issues with maintenance methods are the top priority issues for water infrastructure in the community. The chieftain during the interview reported that

there is a need for the repair, upgrade, and maintenance to the water tank. With this concern, they checked the water tank for confirmation. They illustrate photographs below:



**Figure 1. Initial Inspection of the Water Tank with the Chieftain**  
(Photo credit to Mr. Kristoffer Paul C. Obispo)

From the above photo of the water tank, maintaining it is necessary. Seen from the background was the chieftain (in the yellow shirt) of the said community. During the ocular inspection, we observed that the surrounding area was unkempt, with mountain grass overgrowing all over the place and tree branches not being kept short around the water tank. The pruning and keeping the surrounding area free from shrubs and grass is an essential part of maintaining the surrounding area of the water tank. Also, as reported by the community's chieftain, there is a dire need for the repair, upgrade and maintenance of the water tank system which supplies their village with potable water. As stated by Shields and colleague (2021) regarding community management, it does not lead to community participation, but intentionality is essential for fostering participation.



**Figure 2. The Water Tank top with Missing Cover**  
(Photo credit to Mr. Kristoffer Paul C. Obispo)

Seen from the above photo (Figure 2) is the documentation for the top cover of the water tank. We can observe that the top cover of the tank is missing which makes the water tank exposed to leaf debris or litter fall. It can also contaminate the water, as the debris is mixed with the water inside the tank. Although the chieftain said that once in a while, they remove some leaves gathering on the top, but not regularly. The missing cover is also in questions, and no one knew its whereabouts. Thus, it is imperative to have a new water tank cover to address this minor problem. A previous study mentioned that tank cleaning can lead to contamination of water in the storage tank (Okeny, 2022). Therefore, care must be in mind and they should integrate this idea in creating a manual regarding maintaining the water tank.



**Figure 3. The Water Tank Inlet**

(Photo credit to Mr. Kristoffer Paul C. Obispo)

In Figure 3, one can see that there is already a problem in the water inlet system. They broke the pipe and destroyed the thread of the pipe. When the group asked the chieftain, the source of water supply for the tank goes into the open top cover (Figure 2). Therefore, this water tank inlet is no longer functioning.



**Figure 4. The Water Outlet**

(Photo credit to Mr. Kristoffer Paul C. Obispo)



As seen in Figure 4, there was also a problem in the water outlet from the tank. The previous tubes that used to be connected here were already not working and broken. As mentioned by the chieftain, the outlet broke because of inappropriate use and poor maintenance. As one can observe, the only remedy that the local folks did was to remove the distribution pipes and insert a hose that can only cater for one household. There is a need for the repair of both valves for water in and out. As suggested by the chieftain, there should also be a separate valve to empty the tank during the cleaning of the water tank. In a related paper by Ermillo et al., (2021) regarding supervising the piped water supply infrastructure, they revealed that good management improves both reliability and availability of water.



**Figure 5. The Water Outlet Distribution Valves**  
(Photo credit to Mr. Kristoffer Paul C. Obispo)

Figure 5 displays the broken distribution outlet line tubes for the household communities. It is pretty obvious in the photo taken that the former valves used during the early years of the project were already not functional and useless. The chieftain also remarked that no one knows how to maintain or repair such complicated mechanism in their community and, calling the attention of the local authority also posed a challenge because of their geographical location. In the paper of Mokgobu et al. (2023), they explained that maintenance challenges are more serious than installation challenges.



**Figure 6. The Water Outlet Alternative Fix**  
(Photo credit to Mr. Kristoffer Paul C. Obispo)

As seen in Figure 6, in order for the water tank to still serve some households, the alternative fix they did was to remove the distribution valves and use a hose into the outlet (as depicted in Figure 6). In this manner, the nearby households can still have a water source. The chieftain also claimed that only a few can have a direct source of water from the tank since the hose was only a few meters long and not enough to reach the far-out ones. Therefore, there is a need for repair on the water distribution valve and its connecting lines for the community to still use the water tank project. A related study by Emily and Muyengwa (2021) mentioned that water difficulties arise when a lack of maintenance and absence of water supply occurs in the community. This event may lead to poor standard of living in the community and other issues may also arise.



**Figure 7. The Water Outlet Alternative Fix**  
(Photo credit to Mr. Kristoffer Paul C. Obispo)

For the Figure 7, the photo depicted a broken hose line going to a household for water service. For the past few years, the community seemed to overlook this important feature of the project, the distribution hose or line to each household. It also needs to be cared for and maintained from time to time in order for the hose to be in shape for distribution and there is no loss of water for the community. Although the chieftain claimed that when a broken line was present, they tried to fix it either by taping it with rubber and plastic (as illustrated above) or cut the broken hose and rejoin then again using another method. A previous paper by Jambadu et al. (2022) depicted that place-based materiality and contextual knowledge in water supply influences repair and maintenance practices.

## **CONCLUSIONS AND RECOMMENDATIONS**

After five years, a group got time to evaluate the water tank project for the community of the Sitio Mampueng in the mountain region of Olongapo City, Philippines. The primary purpose of the said project (five years ago) was to provide safe and potable water for the community where every household has fresh and clean water, especially in the summer where water is difficult to get. Based on the documentation gathered and interview from the chieftain of the said community, we can generalize that there is a dire need to maintain and fixed the existing water tank project since the community itself was not knowledgeable enough to maintain the said project. Therefore, this study recommends the following essential suggestions for the maintaining of the water tank.

1. The cleaning and clearing of the water tank should be shouldered by the households near the water tank location since they are the one closest to it. They can have a weekly rotation for the schedule of cleaning and clearing the premises of the water tank.
2. The Community Extension Service Unit of Gordon College will try to outsource fund and other necessary materials for the repair of the broken pipelines and valves.
3. The Community Extension Service Unit of Gordon College will also try to create a water tank maintenance manual and train some individuals near the water tank on how to clean and maintain both the inside and outside of the tank.
4. Constant communication and monitoring by the Community Extension Service Unit of Gordon College and the local authority in the community is essential for the maintaining of the said project to make it sustainable and productive in the years to come.

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