Impact Assessment of Agos Project

Brgy. Suawan, Marilog District, Davao City

(September 13 to 17, 2016)

Submitted by:

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I. INTRODUCTION

A. Objective

The Agos Program of Coca-Cola Foundation has constructed, thru its partnership with AIDFI, more than 100 hydraulic ram pump community water systems for waterless and water-poor communities all over the country. Undoubtedly, the project has benefitted thousands of households and has impacted the lives of tens of thousands of beneficiaries. However, no verifiable study has been made to quantify these benefits.

What are the actual benefits derived by the beneficiaries from the project? To what extent do they enjoy these benefits? What is the impact of the project on the community and the environment? Are there other benefits from the project over and above its avowed aim of providing accessible household water and safe drinking water?

This assessment aims to provide measurable and verifiable answers to these questions.

B. Methodology

A questionnaire was designed to come up with a profile of the community, the households and the beneficiaries. It was translated into the local dialect for ease of comprehension on the side of the respondents.

The questionnaire also covers how the project impacted the socio-economic, health, institutional, community and environmental aspects of the beneficiaries' lives, as well as an assessment of the efficiency and sustainability of the project.

The data gathering was conducted on September 13-17, 2016.

C. Scope and Limitation

The study covers only benefits derived by the beneficiaries from the project. It does not cover other services, such as electricity, road network, infrastructure and government support services, which may also impact the quality of lives of the beneficiaries.

D. Significance

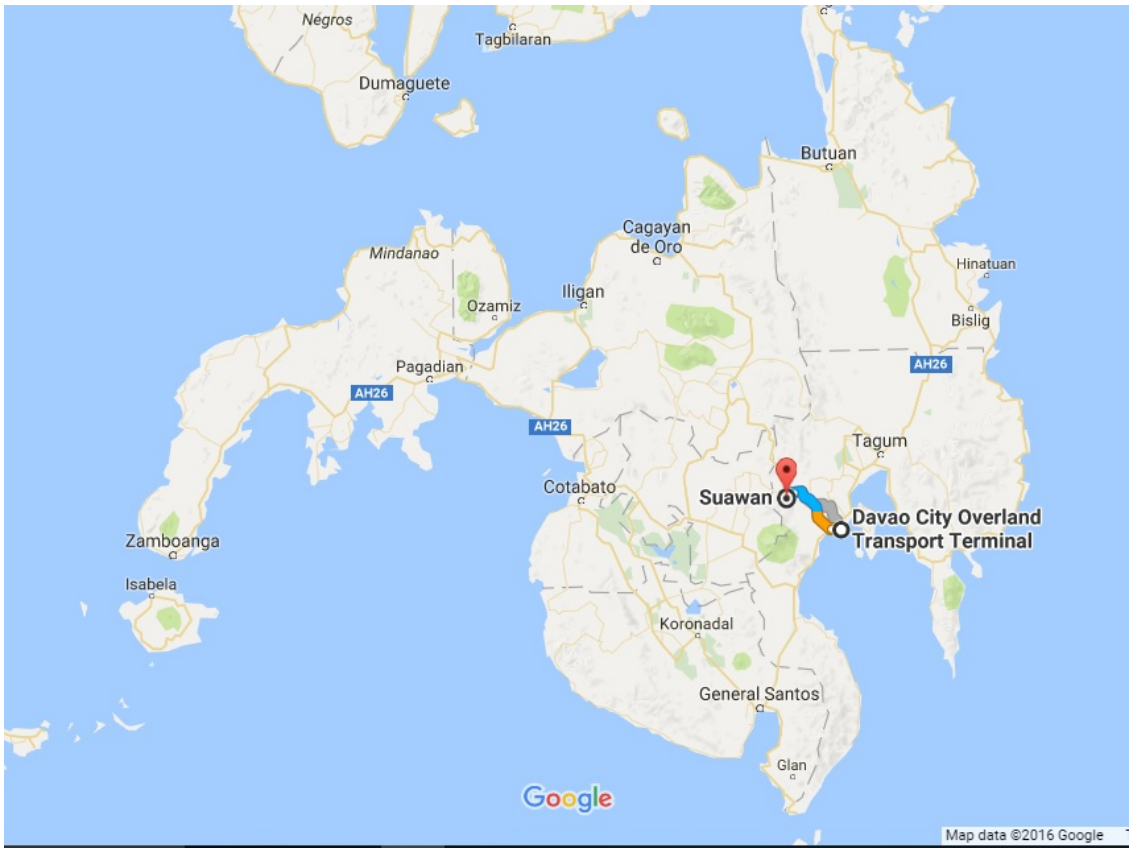
The study can provide measurable and verifiable answers to the actual benefits obtained by the beneficiaries from the project. Moreover, the findings can serve as guide on how future projects can be improved to maximize the benefits to the beneficiaries.

II. PROJECT BACKGROUND

Brgy. Suawan in Marilog District is one of the 182 barangays of Davao City, the economic hub of the island of Mindanao in southern Philippines. While highly urbanized, the city has an extensive mountainous area which is home to numerous indigenous tribes.

Suawan is about 55 kilometers from the city proper. From the national highway, Mamaon is 10 kilometers away along 7 kilometers of mostly rocky barangay road and 3 kilometers of mountain trail carved by carabao and horse-drawn carts without wheels.

The name of the association is Mamaon Awos to Weeg Association. “Awos to weeg” is the Bagobo phrase for “flow of water”. Though the association is named after Mamaon, one of the more than 40 sitios of Brgy. Suawan and the sitio where the water source is located, the project serves residents of three other sitios.



A. Off to a Shaky Start

Construction of the project started on October 2013 while turnover was on January 29, 2014. In August 2014, the ram pumps experienced a series of breakdowns. The bolts and hinges snapped and had to be replaced. The gaskets were torn and, as immediate stop-gap solution, they tried using plywood which expectedly did not serve the purpose.

The flange cracked and they had it welded in the neighboring administrative district of Calinan about 30 kilometers away. When they reinstalled it, the entire pump housing cracked. They brought the housing for welding at a repair shop in Calinan.

The housing trouble lingered up to the early months of 2015 until the pumps eventually stopped working. It was only on around April 2016 when the two ram pumps were replaced with new units.

Despite having two new fully-functioning ram pumps, service was initially at Mamaon only because there were busted pipes which need to be connected. The couplings needed for the repair were expensive but the association had no funds.

Benito Paňamogan, the association chairman, had to borrow funds from the school's Parents & Teachers Association and solicit contributions from officers and other beneficiaries to raise money to buy couplings.

The chairman is also the *datu* (chieftain) of the Bagobo, the indigenous tribe which inhabits the area.

To minimize damage to the water lines and to motivate residents to take care of the pipelines, the association adopted a policy placing full responsibility for the repair on the owner of the land where the damage to the pipeline occurred.

If the hose is damaged (melted or deformed by fire or cut due to plowing, hacking during farm clearing or any other cause), the owner of the land where the damage to the hose occurred will have to shoulder the cost of the coupling and rubber tape.

The interior tube of tires is used as rubber tapes to fasten the couplings to the pipes. In those months when the association had no funds (no collection due to erratic water supply), the association chairman used native chicken to barter for the interior tubes.

B. Water Supply in Beneficiary Sitios

Suawan is a water-poor community. The four sitios served by the ram pumps used to rely mostly on rain and springs for their water needs.

Sitios availing of water services from the ram pumps are Unapan (along the barangay road where the elementary school is located), Mamaon (about 3 kilometers to the mountains from Unapan), Mountainside (about 4 kilometers farther uphill from Mamaon) and Mansaliroc (valley a couple of kilometers from Mountainside).

Mamaon has several springs within the homestead farm of Chairman Paňamogan. Of these, the most abundant is the spring which was utilized as source for the ram pumps. There are also two or three other springs uphill but their flow is much weaker compared to the big spring.

Mansaliroc has a spring which was tapped to deliver water thru gravity to water catchments at Unapan. However, the supply is not consistent. In fact, there was no water when the assessment was conducted in September during the rainy season.

For their drinking and cooking water, Unapan residents rely on two springs, one of which is about 700 meters from the community while the other is about two kilometers away. The flow, particularly during summer, is not commensurate to the demand of the people who draw water from the springs. Residents are compelled to draw water from a spring in the bank of Moab River four kilometers away from Unapan.

They load the containers in animal carts or motorcycles all the way from Moab. If their animals are working in the mountain farms and/or if they do not have a motorcycle, they have to pay the motorcycle drivers P20.00 per 20-liter container to draw water from Moab.

These indigenous people rely on the produce of their homestead farms for their subsistence. They sell their corn, root crops, vegetables and fruits (durian, marang, lansones and rambutan) at woefully low prices to wholesalers who make the ascent to Unapan once a week.

For those marginal farmers who earn only a few hundreds of pesos a week, P20.00 is already a substantial amount but they have no choice. Worse, they have no assurance on the safety of the water, as there have been instances of moss and even tadpoles in the containers. Apparently, the persons whom they entrusted to fetch water did not draw from the Moab spring but perhaps from the river.

C. Water Delivery to the Beneficiaries

Mamaon has two tap stands which delivers water 24/7 for about 12 households in the community while Unapan has four tap stands equally located in the upper and lower portions of the sitio.

Most Mountainside and Mansaliroc residents have relocated to Unapan, in no small part because of the easy availability of water. However, they still go to their mountain farms to work almost every day. On their way home, they sometimes fetch water from Mamaon (if there is no water service in Unapan on that day) and haul them on the backs of carabaos or horses three kilometers to their homes in Unapan.

A priority beneficiary of the project is the Unapan Elementary School which has a population of 120 pupils and five teachers for the current school year. The school is exempt from payment of the monthly maintenance contribution.

The school has its own tap stand which gets water from the reservoir built on the school compound. That reservoir feeds water to Unapan. Once the school children had filled all the water containers in their classrooms, water is channeled to Unapan residents who avail of water services at least twice a week.

At the height of the El Niño phenomenon, all other springs in the vicinity dried up and the project became the sole source of drinking and cooking water for the beneficiaries. At that time, only one ram pump was utilized because the drought diminished the water volume at the source. But even with just one unit, the project still managed to deliver water once a week to Unapan.

D. Financial Operations

The project was turned over to the association on January 2014 but collection of the P20.00 monthly contribution for maintenance started only on May 2014. Eventually, they shifted from a fixed monthly to a “per-container (20 liters)” basis on May 2015.

From the onset, the ram pumps experienced a string of malfunctions which resulted to very low collection of monthly maintenance contribution. It was only on May 2016, after the pumps were replaced by brand-new units and were working smoothly, that collection improved.

On August 2016, the collection for 258 containers reached P1,292.00. Half of the collection goes to Chairman Paňamogan as technician’s honorarium while the other half goes to the association’s coffers for maintenance.

When the ram pumps were experiencing trouble, some beneficiaries complained paying P20.00 per month when they can avail of water services only once a week and they can fetch only a container or two. Chairman Paňamogan and other officers suggested that they pay only for whatever water they get at P5.00 per 20-liter container. They agreed, thereby ending up paying almost P100.00 per month on a container basis.

Some beneficiaries eventually complained about the P5.00 rate. Chairman Paňamogan reminded them that, when the ram pumps bogged down, they did not complain paying P20.00 per container for water from Moab which was not even safe.

He explained to them that they have no return from the P20.00 which they pay the Moab water fetchers but they still get a return, thru maintenance funds for the ram pumps, from the P5.00 which they pay the association.

III. FINDINGS AND ANALYSIS

A. Community Profile

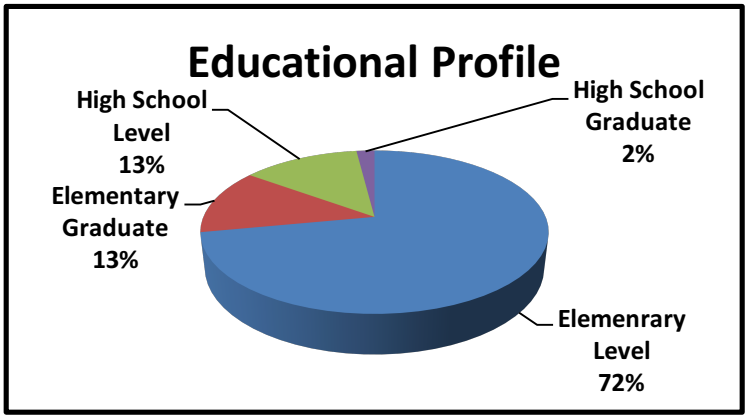
The association has about 100 members. Forty-seven (47) were interviewed for the data gathering.

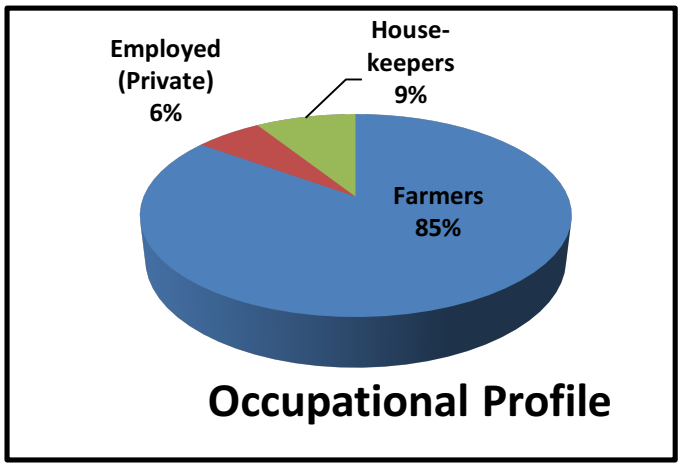
1. Members Profile

a. Eighty-nine percent (89%) of the respondents are males while females comprise 11%.

b. Average age of respondents is 44.5 years old.

c. Seventy-two percent (72%) have reached only elementary education while 13% have finished their elementary studies. Another 13% have reached secondary level but only 2% have finished high school. None of the respondents have gone to college or any technical-vocational studies.





d. Eighty-five percent (85%) of the respondents are farmers, 6% are employed in the private sector (mostly in construction work) while 9% are housekeepers.

2. Household Profile

a. The 47 households have 213 members, 53% of which are males and 47% are females.

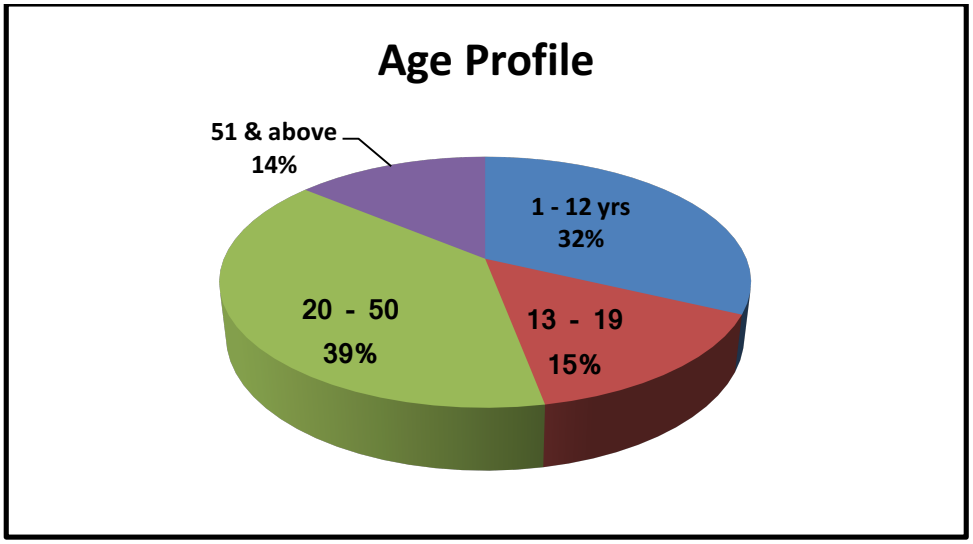
b. Average number of members per household is 4.5 persons.

c. More than half (52%) have four to six members.

d. Five households (11%) have seven members, three households have eight members and only one household has nine members.

Number of Members per Household			
# of Members	# of Households	Percentage	Total
1	2	4%	2
2	7	15%	14
3	5	11%	15
4	12	26%	48
5	6	13%	30
6	6	13%	36
7	5	11%	35
8	3	6%	24
9	1	2%	9
Total	47	100%	213
Average Number of Members per Household			4.5

e. Thirty-nine percent (39%) of the 213 beneficiaries are aged 20 to 50 years old while children account for 32%. Teens comprise 15% while beneficiaries aged more than 50 years old account for 14%.



3. Water Needs Profile

Average Daily Household Water Needs	64 liters
Average Daily Drinking Water Needs	6 liters
Average Total Daily Water Needs	70 liters
Total Daily Water Needs for 47 Households	3,297 liters

The average daily water needs of the 47 households is 70 liters.

To the city-dwellers who are accustomed to having 24 / 7 access to unlimited water at their fingertips, this volume appears ridiculously miniscule. However, for people in the mountains where water is scarce and far away, this volume is reasonable. People who have to undergo extreme difficulties securing their water supply tend to conserve whatever volume of water they get, resulting to very conservative use of the resource.

Water Source Before Project Completion:

Household Water			**Drinking Water**		
River	Spring	Well	River	Spring	Well
0%	100%	0%	0%	100%	0%

All of the residents rely on springs for their water needs. As mentioned earlier, there are several springs in the area, varying on the volume of flow and the distance from the community. In Mamaon, the springs are just a couple of hundred meters away but in Unapan, the springs are 700 meters and about two kilometers away from the community.

The river is four kilometers away while wells are very shallow affairs dug into the earth to gather the meager flow of water from the springs.

B. Socio-Economic and Health Impact

Persons who fetch water (age group and gender)

Persons Who Fetch Water				
Age Group	**Male**	**Female**	**Number**	**Percent**
1 - 12 yrs	3	1	4	4%
13 – 19	9	3	12	13%
20 – 50	31	17	48	54%
51 & up	15	10	25	28%
Total	**58**	**31**	**89**	100%

All of the 47 households fetch water for their needs. Eighty-nine (89) of the 213 members of respondent households fetch water, with males comprising 65% and females consisting of 35%.

Adults (20 to 50 years old) make up the bulk (54%) of people who engage in this laborious chore, followed by the elderly (51 years old and above) who make up 28%. Teens make up 13% of the water fetchers while children account for 4%.

Distance from Water Source and Time Spent in Fetching Water

Average	Before	After	Difference
Distance from Water Source (meters)	171	15	157
Time Spent in Fetching Water (minutes)	45	18	27

Before the project was installed, residents have to travel an average of 170 meters to the water source. Now the tap stands are only about 15 meters on average from their homes.

While the beneficiaries used to spend an average of 45 minutes to fetch water before the introduction of the ram pumps, they now spend an average of 18 minutes to get water. The beneficiaries gain almost half an hour extra time every day for play (4%), studies (13%), household chores (57%) and work in the farm (91%).

The distance from the water source and the time spent in fetching water are misleading because they are based on the residents' nearest (or "preferred") source which might not always have sufficient water supply. If the "preferred" source runs dry, residents have to travel two to four kilometers farther to get water.

Based on the average daily water needs of 70 liters or almost four 20-liter containers, each family would have spent P80.00 every day if they pay P20.00 per container to get water from Moab spring four kilometers away.

With the ram pumps, they pay only P5.00 per container or P20.00 every day for four containers. This translates to hypothetical savings of P60.00 per day (equivalent to the cost of one and a half kilos of rice, one day's food for a family of four) or P1,800.00 per month.

They spend the hypothetical savings on food (17%), education (4%) and shelter (4%).

Health Impact

Eight families (17% of respondents) reported having suffered from water-borne diseases, mostly diarrhea, during the period prior to project completion when the beneficiaries sourced their drinking water from unsecured springs.

After project completion, no occurrence of any water-borne disease was reported.

		Yes	Maybe	No
8.	The project addressed our household water needs.	100%	0%	0%
9.	The project addressed our drinking water needs.	100%	0%	0%
10.	The project helped improve the health of our family.	100%	0%	0%
11.	The project is not important for the education of our children.	0%	0%	98%
12.	The project has not improved our financial / economic situation.	0%	0%	98%
13.	The family is worried that it cannot pay the monthly water maintenance.	0%	2%	98%

All of the respondents are satisfied that the project has addressed all their household and drinking water needs.

All respondents believe that the project helped improve the health of their families while 98% said that the project is very important for the education of their children, that it has improved their financial situation and that they are not worried about their capacity to pay the maintenance contribution.

C. Impact on Community

		Yes	Maybe	No
14.	The community has not benefitted from the project.	0%	0%	96%
15.	The community does not want other communities to benefit from the same project.	0%	0%	91%
16.	The involvement of the community is very important in the successful implementation of the project.	96%	0%	0%
17.	Our family participated in the planning and implementation of the project.	100%	0%	0%
18.	The water association helped strengthen the unity and cooperation in the community.	83%	0%	0%
19.	The association helped address other needs (other projects and activities) of the community.	21%	0%	51%

Ninety-six percent (96%) of the respondents believe that their community benefitted from the project and 91% wish that other communities can also benefit from the same water services.

Ninety-six percent (96%) said that the involvement of the community's involvement is very important in the successful implementation of the project. All of them participated in the planning and implementation of the project.

Eighty-three percent (83%) believe that their water consumers association helped strengthen the unity and cooperation in the community. About half think that the association helped address other needs of the community while 21% do not think so.

D. Institutional Impact

		Yes	Maybe	No
20.	The association is operating smoothly and efficiently.	100%	0%	0%
21.	Our family participates actively in the affairs (meetings, monthly contribution, etc.) of the association.	98%	0%	0%
22.	The leadership training did not help improve the operation of the association.	N/A	N/A	N/A
23.	The livelihood trainings did not help my family earn additional income.	0%	0%	81%

All respondents profess that the association is now operating smoothly and efficiently while 98% said that their families participate actively in the association's affairs.

The officers could not recall having undergone a leadership training from the project.

Eighty-one percent (81%) stated that the livelihood training helped their families earn additional income but they failed to provide details on how it did.

E. Environmental Impact

		Yes	**Maybe**	**No**
24.	The project damaged / disturbed our natural environment.	0%	0%	98%
25.	Our family contributes to the protection of the watershed area.	100%	0%	0%
26.	The community works together to protect the watershed area.	100%	0%	0%
27.	We practice solid waste management.	100%	0%	0%
28.	We practice organic farming.	91%	2%	6%
29.	We produce and use organic fertilizer.	89%	0%	11%

Ninety-eight percent (98%) of the respondents believe that the project did not damage the environment. All of them aver that their families contribute to the protection of the watershed area and that their community works together to protect the water shed area.

All respondents declare that they practice solid waste management. Ninety-one percent said that they practice organic farming while 89% said they are producing and using organic fertilizer.

F. Efficiency and Sustainability

		Yes	Maybe	No
30.	The whole installation is working properly and the pipes are neatly lined up.	100%	0%	0%
31.	The installation can survive earthquakes and floods.	100%	0%	0%
32.	The installation can function normally for more than five years.	100%	0%	0%
33.	Our technicians are well-trained and well-equipped to solve the operation and maintenance problems of the project.	100%	0%	0%
34.	The community is willing to help protect and sustain the installation.	100%	0%	0%

All of the respondent believe that the installation is working properly and that the water lines are neatly lined up, that the entire structure can survive earthquakes and floods, that it can function normally for more than five years, that their technician (Chairman Paňamogan) is well-trained and well-equipped to solve the operation and maintenance problems of the project, and that the community is willing to help protect and sustain the installation.

G. Problems Encountered by Association and How They were Resolved

The only major problem encountered by the association was the frequent breakdowns in 2014 to 2015. Chairman Paňamogan exerted all efforts to address whatever trouble the ram pumps and the entire system experienced but the pumps eventually stopped working in late 2015 until the first quarter of 2016.

With the frequent breakdowns and deterioration of water service, naturally the collection suffered, thereby diminishing the association's financial capability to remedy the problems. The officers still persisted to make the entire system work despite this handicap.

Since the start of the project, the association had problems with the collection which was hardly enough to spend for the repairs, much less for the honorarium of the ram pump technician. Still, Chairman Paňamogan continued to discharge his duties as technician even without receiving a single centavo as honorarium all that time.

When the ram pumps were replaced and the entire system was rehabilitated, water supply normalized and the beneficiaries became more cooperative in paying the maintenance contribution and in safeguarding the water lines.

A common problem among water associations is the propensity of some beneficiaries to hog the water supply. They want to fill their eight containers before allowing other people to draw water from the tap stands. This was also the case with the association.

Chairman Paňamogan emphasized the need for equal opportunity to avail of water services among all beneficiaries and he personally oversees the water deliveries at Unapan to ensure that every household has had their fill of at least two containers before other households can get extra water.

H. Potential Problems and How to Address Them

The association is now operating smoothly and they are building up their funds to address potential breakdowns of the ram pumps. It can be said that the association is now in a better position to face whatever operational problems which might come their way. This capability was bolstered when, during the conduct of the data-gathering, the association received the shipment of steel couplings from AIDFI.

Chairman Paňamogan is very grateful for the couplings but he pointed out that they need another adjustable wrench to act as counter-force when they tighten the couplings. He said that it is very difficult to do this with only one wrench turning one coupling and only bare hands holding the other coupling.

He is requesting the Agos project to send them another adjustable wrench.

I. Memorable Experiences / Impressions on the Project

Interview with Chairman Benito Pañamogan:

“In the 1980s when plastic containers were not yet available, we used a “sag-ub” (in the Bisaya dialect or “sikado” in the Bagobo dialect) to fetch water. It is a long, hollow bamboo receptacle, like the one used for gathering tuba (coconut wine) but almost twice as long and larger in diameter.

The path from the spring to the sitio includes an almost vertical climb over 5 meters of slippery rocks where one has to secure precarious footholds and handholds to move up. (Benito Paňamogan showed the actual route and demonstrated the climb but he slipped and fell on the rocky riverbed. Fortunately, he was not hurt.)

An alternative route means a detour of about 300 meters but still involves a rocky climb, albeit less dangerous. We prefer the shorter route, as we have to carry the very heavy,

water-filled sag-ub. When we fetch water, we go at least by pair so that one can climb ahead while the other will hand over the sag-ub to the one who is already on top.

If we slip, the water would spill and we have to go back to the spring and fetch water again. Worse is when the bamboo receptacle cracks or breaks, as it is very difficult to look for a suitable bamboo material and very painstaking to make another sag-ub.

Prior to the installation of the ram pumps, some Mountainside residents fetch water from our spring at night because the supply is exhausted by residents living nearby who draw water during the day. They leave Mountainside in a group of four to six persons after dinner (around 7:00 PM) and walk 3 kilometers to the spring in our farm.

To withstand the cold mountain winds, they build a bonfire; to fend off the mosquitoes, they cover themselves with sacks while they get some sleep and wait for their turns to fill their containers. When all their containers are filled, they trek back to their homes at around 2:00 AM or 3:00 AM, grab some rest and work on their farms at daybreak."

Interview with Redempto Pacot, Teacher, Unapan Elementary School:

"I was assigned here in 2007. The school's only source of water was rain and whatever we could gather when it does. If there's no rain, we pray for rain. We pray very hard. When the rain comes, classes are automatically suspended so that the students can gather water.

Owing to the distance from our residences, the five teachers assigned here are compelled to live here from Monday to Friday. You can just imagine the hardships we have to go through because of lack of water.

For us male teachers, we can manage without a bath for two or three days but that is unimaginable for our female counterparts.

Later, the Mansaliroc spring was developed to deliver water to Unapan. The water is not safe for drinking, as we once found a tadpole in the water.

In 2010, the Segovia Foundation donated a rain catchment system. We use that only for washing. Dirt from the roof, rat and bird poop, dead insects and leaves contaminate the water, making it unsafe for drinking. Dirty as it is, the children still suck water from the catchment's faucets when they get very thirsty. Watching our pupils resort to that is heartbreaking.

The nearest water source to the school is a spring almost half a kilometer downhill. If that spring runs dry, the other spring is still about a kilometer away.

Thus, we are very grateful that we now have water supply from the ram pumps."

Selected statements from beneficiaries:

"When there was still no ram pumps, it was very difficult to fetch water. Once I almost fainted from exhaustion due to the heavy load and the very far distance we had to travel in fetching water. Now the source is much nearer and, moreover, the water is safe."

Maribel Agkit, 40 year old mother of two children

"Before there was this project, my husband and I have to wake up as early as 4:00 AM so that we will be the first to fetch water at the spring. If you come later, the water supply might already be depleted or there might be a long line of people waiting to fetch water. Now it is more convenient because the tap stand is very near us."

Melfa Ahao, 51 year old mother of seven children and Joylyn Aloy, 45 year old mother of five children whose husband and three children help her fetch water

"It was very difficult back then because the source was very far. We can hardly handle the effort because we are already old. Now it's easier for us elderly folks."

Tony Ahao, 54 year old farmer who fetches water for his wife and 13 year old daughter

"In the past, we had access to water but we had to travel very far. We would go for days without taking a bath because we have to conserve water, as the source is very far. Now we no longer have to travel far to get water and we are also assured of clean drinking water."

Jessica Angga, 19 year old housewife with one year old son

"Once when my husband and I fetched water, I slipped on the slippery slope. I reached out to my husband to recover my balance but he also lost his balance and both of us tumbled down. The water we fetched spilled out of our containers and we had to go back to the spring and get water again."

Elsa Armero, 58 year old housewife (Note: Seven other beneficiaries cited a similar experience of stumbling and falling on the slippery slope. One even had her container broken because it hit a sharp rock when it fell.)

“When there was still no ram pump, we had to travel very far to get water. We bring our carabao to haul the water containers and it takes us three hours to get water.”

Cristomo Awing, 64 year old married farmer with six children

“Since the water supply at the spring was limited, we fetched water at 2:00 AM. We used kerosene lamps to find our way in the dark. Now we no longer have to wake up at unholy hours to fetch water because the tap stand is near us.”

Michael Awing, 36 year old married farmer with four children

“I can’t forget once during the height of the drought when our father woke up at midnight to fetch water. We became worried when he failed to return after several hours so we went to the spring to look for him. We found him asleep beside the spring as he waited for the meager flow of the spring to fill the shallow well where he will draw water.”

Benancio Damali, 54 year old farmer with six children

“Back then it was very difficult to fetch water because we had to travel far over slopy terrain. Now that we have the ram pumps, we are assured of drinking water even during the height of the drought brought by El Niño.”

Nelly Joy Emilio, 41 year old housewife

“During the drought when water supply from the spring was severely limited, we ran out of drinking water. We climbed a coconut tree, gathered young coconuts and drank the coco water to quench our thirst.”

Maria Lauda, 58 year old housewife with two children

“Once when the water at the springs ran dry, we drew water from the muddy pool which the carabaos used for bathing.”

Bonifacio Limasa, 81 year old farmer who lives with his 78 year old wife (given a separate water line by the association in consideration of their frail disposition)

“I once fetched water and loaded the containers on my horse. Due to the distance, my horse got tired and can barely lift its feet. I had to rest the horse on a shade and carry the water home, container by container, all by myself.”

Daniel Limasa, 37 year old married farmer with three children

“We used to travel far to get water. Because I am already old and suffer from poor eye sight, I often stumble and fall. Now that there is this project, life is much easier for me.”

Jolita Mansig, 66 year old widow who lives by herself (given a separate water line)

“We have children who go to school. We need to wake up very early to fetch water so that we can prepare their food early and they will not be late for school. Now we don’t have to wake up very early to get water because the source is very near.”

Nina Navarro, 39 year old mother with four children

“One night when I fetched water from the spring, I came across a ‘bitin’ (reticulated phyton). I was so scared that I ran away without fetching water. I came back to the spring only in the morning when it was no longer dark.”

Maricar Ongan, 24 year old mother of two children

“When there was still no ram pump, our entire family wake up very early in the morning to be the first at the spring because, if you come later, the water supply might already be depleted. We will then bathe our kids in preparation for school. Now we no longer have to wake our children very early and compel them to travel to the far spring just to take a bath because the source is now near our house.”

Lorena Ongan, 28 year old mother of four children (7 to 12 years old) who are all studying

“Once I fetched water very early in the morning. I almost stepped on a ‘bitin’ (reticulated phyton) because it was very dark. With the ram pump, we no longer have to expose ourselves to such danger just to fetch water.

Marcelino Pala, 51 year old married farmer with six children

"Before the project, we used to sleep at the spring to wait for the water to fill the shallow well. We had to do this because we need to provide drinking water not only for our family but also for the pigs which we were raising. Now it's more convenient because we can get water anytime at the tap stands here in Mamaon."

Josefina Ahao, 51 year old mother of two children

"My husband fetched water one day from the nearby spring (700m away). He left in the morning but he still has not returned by noon. It turned out that he had to go to a farther spring (2kms away) because the nearby spring already ran dry."

Rosela Sauyan, 37 year old mother of four children (2 to 10 years old)

III. SUMMARY AND CONCLUSION

A. Summary

a. Eighty-nine percent (89%) of the respondents are males while females comprise 11%. Average age of respondents is 44.5 years old.

b. Seventy-two percent (72%) have reached only elementary education while 13% have finished their elementary studies. Another 13% have reached secondary level but only 2% have finished high school.

c. Eighty-five percent (85%) are farmers, 6% are employed in the private sector while 9% are housekeepers.

d. The 47 households have 213 members, 53% of which are males and 47% are females. Each household has an average of 4.5 members.

e. Thirty-nine percent (39%) of the 213 beneficiaries are aged 20 to 50 years old, children account for 32%, teens comprise 15% while beneficiaries aged more than 50 years old account for 14%.

f. Average daily water needs per household is 70 liters while total daily water needs for the 47 households is about 3,297 liters. Average distance to the water source is 171 meters (excluding distance of alternate source if preferred source runs dry) while average distance to the tap stands is only 15 meters.

g. All of the 47 households fetch water for their needs. Eighty-nine (89) of the 213 members of respondent households fetch water (65% males and 35% females).

h. Adults (20 to 50 years old) make up 54% of people who engage in this laborious chore, the elderly make up 28%, teens 13% and children account for 4%.

i. Beneficiaries used to spend about 45 minutes to fetch water; they now spend an average of 18 minutes. They gain almost half an hour extra time every day for play (4%), studies (13%), household chores (57%) and farm work (91%).

j. Based on average daily water needs of 70 liters or almost four 20-liter containers, each family would have spent P80.00 every day if they pay P20.00 per container to get water from Moab spring. Now they pay only P5.00 per container (P20.00 daily for four containers, translating to hypothetical savings of P60.00 per day or P1,800.00 per month which they spend on food (17%), education (4%) and shelter (4%).

k. Eight families (17% of respondents) reported having suffered from water-borne diseases, mostly diarrhea, prior to project completion. After project completion, no occurrence of any water-borne disease was reported.

l. All of the respondents are satisfied that the project addressed all their water needs. All respondents believe that the project helped improve the health of their families while 98% said that the project is very important for the education of their children, that it has improved their financial situation and that they are not worried about their capacity to pay the maintenance contribution.

m. Ninety-six percent (96%) believe that their community benefitted from the project and 91% wish that other communities can also benefit from the project. Ninety-six percent (96%) said that the community's involvement is very important in the successful implementation of the project. All of them participated in the planning and implementation of the project.

n. Eighty-three percent (83%) believe that their water consumers association helped strengthen the unity and cooperation in the community. About half think that the association helped address other needs of the community while 21% do not think so.

o. All respondents profess that the association is now operating smoothly and efficiently while 98% said that their families participates actively in the association's affairs.

p. Eighty-one percent (81%) stated that the livelihood training helped their families earn additional income but they failed to provide details on how it did.

q. Ninety-eight percent (98%) of the respondents believe that the project did not damage the environment. All of them aver that their families contribute to the protection of the watershed area and that their community works together to protect the water shed area.

r. All respondents declare that they practice solid waste management. Ninety-one percent said that they practice organic farming while 89% said they are producing and using organic fertilizer.

s. All respondents believe that the installation is working properly and the water lines are neatly lined up, the entire structure can survive earthquakes and floods and can function normally for more than five years, the technician is well-trained / well-equipped and the community is willing to help protect and sustain the installation.

t. Breakdowns are the problem most often faced by the association. Thru sheer determination by the chairman and with the cooperation and support of the beneficiaries, the association was able to remedy most of the problems until the pumps' housing cracked.

u. Now that the pumps were replaced and the entire system was rehabilitated, the association is confident it can handle whatever problems that may arose. Giving them confidence are the maintenance fund which is slowly growing and the assurance of help from AIDFI, as manifested by the shipment of steel couplings. However, the association requests for another adjustable wrench.

v. The beneficiaries laud the project for providing them with easy access to household water and ensuring safe potable water without their having to travel a couple of kilometers over treacherous terrain or spending hard-earned money.

w. During the height of the dry spell brought by El Niño, the ram pump (even if it is working at half capacity due to diminished water volume from the source) served as the sole source of drinking water for the community. This is etched in the hearts and minds of the beneficiaries and is among the first things they will mention if somebody asks them about the project.

B. Conclusion

Based on the foregoing, several conclusions can be drawn:

1. The project has tremendously helped the beneficiaries by providing them with readily accessible and clean source of water, particularly for drinking.

2. The proximity of the water source gave more time for housewives to perform household chores, for children to study and play and for husbands to work on their farms.

3. Residents generate hypothetical savings of about P1,800.00/month which they spend on food, education and shelter of their families.

4. The project has eradicated instances of water-borne diseases.

5. The beneficiaries are confident about the quality, durability and sustainability of the installation and they are willing to help ensure its continued operation.

The project has made a huge impact on the socio-economic, health, educational, environmental, communal and institutional aspects of the lives of all the beneficiaries.

It has improved the lives of the more vulnerable sectors of society, particularly the women, the elderly, the teens and the children. It has given family heads more time to tend to their farms and thus improve their incomes somehow.

Mamaon's water association proves how people are willing to cooperate to solve their common problem. It's resilience in the face of a very shaky start is living testament to the selfless service, integrity and dedication of Chairman Benito Pañamogan to make the project work so that it can benefit his community.

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