**BIOGAS ASSESSMENT PROJECT**

**Site ID: 49**

**Date: October 1, 2022**

**Interviewer**: Where did the digester originate from?

**Interviewee**: We don’t know exactly where come from. We just saw [name redacted] [Then Area Development Chair] coming with certain people.

**Interviewer**: Who designed it?

**Interviewee**: It must be the same people.

**Interviewer**: Who funded it?

**Interviewee**: We didn’t ask who provided the money (laughs). We just saw that our grandparent had received a digester, and we just accepted it. So, we don’t know whether the money came from the government or from a private institution.

**Interviewer**: Who built it?

**Interviewee**: It was the people who came with [name redacted].

**Interviewer**: How many were they?

**Interviewee**: They were at two, but I remember very well the lady called [name redacted]. She was more active than the other.

**Interviewer**: When was it built?

**Interviewee**: I have forgotten.

**Interviewer**: I can imagine that you also help the two installers in building the digester, for example, digging of the hole…

**Interviewee**: Yes, and we hired some people to dig it according to the advise they gave us.

**Interviewer**: What was the advice?

**Interviewee**: They gave us dimensions of the hole. I can`t remember the dimension though. But, they told us to make the hole round kind of.

**Interviewer**: How many people did you hire and how much did you pay them?

**Interviewee**: We hired four people, and we paid them for K4500 in total.

**Interviewer**: How long did it take them to dig?

**Interviewee**: It took them two days.

**Interviewer**: How long did it take them to come and install the bag after you dug the hole?

**Interviewee**: It took a little bit of time, because even the hole started to be covered with soil again. So, when they came we had to dig it up again.

**Interviewer**: How long was that?

**Interviewee**: I think they came back after 3 or 4 weeks.

**Interviewer**: What was your role?

**Interviewee**: We were responsible for digging the hole, and also for sourcing cow manure for feeding it.

**Interviewer**: Where did you get the cow manure?

**Interviewee**: We got it from our cow house.

**Interviewer**: How many cows did you have that time?

**Interviewee**: We had 15 cows.

**Interviewer**: So you are saying all the cow manure you used to start it up came from you cow house?

**Interviewee**: Yes, we got all the manure from our cow house.

**Interviewer**: How much cow manure did you start it up with?

**Interviewee**: I have forgotten how much it was, but I remember that we sourced the quantity of cow manure we were asked.

**Interviewer**: Most people use 3, 4 or even 10 bags of cow manure, could you remember how much it was?

**Interviewee**: It must be around that because I recall when we didn’t get enough manure from my Grandma’s cow house, we got some from my cow house.

**Interviewer**: How many bags did you get from your cow house? And, how many cows did you have?

**Interviewee**: I don’t remember how much I got from my cow house. I only remember that we reach the quantity we were told to find.

**Interviewer**: Okay, how many cows did you have?

**Interviewee**: I had 12 cows.

**Interviewer**: Where did you get the water?

**Interviewee**: We got it from the borehole.

**Interviewer**: Where is it?

**Interviewee**: It’s just right there (less than 100 meters).

**Interviewer**: And you house is less than 100 meters as well. Nice. Okay right. In this community, we have a lot of people and many households, how were you chosen as a beneficiary?

**Interviewee**: They chose us because they wanted an elderly person who had cows, so that the person wouldn’t need to go to the mountains to search firewood for cooking. Thus, my grandmother met you those requirements.

**Interviewer**: So, what was the selection process? Is it like there was a meeting or something? What was the selection process?

**Interviewee**: I think the Village Development Committee (VDC) identified and chose us because [name redacted] was there when the two installers came. I mean, the first time they came here they were three including [name redacted]. I said two in the first place because I took [name redacted] as one of us.

**Interviewer**: So, the first time they came what did they say? I mean when I came here I introduced myself as a researcher from Poly, and that I’m doing a research on biogas. What did they say the first time you met them?

**Interviewee**: The first time they came, they said that they had come after liaising with the village development committee to give the digester to an elderly person who had cows in order to help that particular person in terms of cooking. So, they continued to say that they had come because the village development had chosen our grandmother as a beneficiary, and they would come back to install that. But, before that, they asked if we were interested to get the digester. We told them that we had accepted it, and we would manage to take care of it.

**Interviewer**: Well explained. So, you had a chance to say, no. I mean, it wasn’t mandatory, why did you accept it to build it here?

**Interviewee**: We accepted it because our grandmother is very old and we expected it to help her in terms of cooking. As you can, she’s old so go around searching for firewood. So, basically, we accepted it because of that, and we were very happy about it.

**Interviewer**: Did you know anything about biogas?

**Interviewee**: We didn’t know anything about biogas.

**Interviewer**: So you became aware of biogas when the two installers came with [name redacted]?

**Interviewee**: Yeah, they told us that it produce biogas out of cow manure. They advised us how to make cow manure and we made it, but it just didn’t work when we commissioned it. Then, we called them and they were simply saying that they would come, up to now they haven’t come. After some time, the cows started trampling over it – So, we didn’t see anything good about it (laughs).

**Interviewer**: What were your expectations?

**Interviewee**: We expected our grandmother to use it and to make life easier for her. We expected her to use it for warming water, cooking nsima, - so we expected it to help her, and we really thought that it was a good thing.

**Interviewer**: I can imagine that you were told that you would be using it for cooking, apart from that, what else did the installers tell you to expect?

**Interviewee**: No, they didn’t tell us anything.

**Interviewer**: Did they tell you that you could use it as a source of fertilizer?

**Interviewee**: Yeah, they said that.

**Interviewer**: What did they say?

**Interviewee**: I just remember that they said something like that, but I can’t really recall because we never used it. I can’t really say if they said that after the manure is used in the reactor, it comes out of the outlet as fertilizer.

**Interviewer**: Okay, I get you. Did they tell you anything about using it for lighting?

**Interviewee**: No. Did they tell you about light? [Asks the grandmother and 2 little children around] – No, they didn’t.

**Interviewer**: Mom, they just told you about using it for cooking?

**Interviewee2**: They just told me about cooking – They didn’t mention anything about lighting at all.

**Interviewer**: Okay, what kind of training did you receive?

**Interviewee**: They didn’t give us any type of training – zero! They were just instructing us to do this and that –And, it never worked! (Laughs)

**Interviewer**: Mom, did you go for training?

**Interviewee2**: No.

**Interviewer**: Then, how were you supposed to operate it?

**Interviewee**: They just showed us the button for switching it on and off (laughs).

**Interviewer**: (laughs) what else?

**Interviewee**: Nothing – there was no training (laughs)

**Interviewer**: I can also imagine that they told you how to prepare feedstock, right?

**Interviewee**: I think they did.

**Interviewer**: You are saying you didn’t receive training, but they just told you one or two things. How prepared to run or operate the reactor did you feel you were?

**Interviewee**: The installers came here with the digester, so it wasn’t for us to ask them what kind of training we wanted. But, personally, I felt like the training wasn’t enough, and that we needed proper training. It’s a shame they did things in haste and left. And, when we called them they were just saying that would come but they didn’t come even up to now.

**Interviewer**: Why do you say there was need for a proper training?

**Interviewee**: It was very necessary for us to know how it works, how to operate and maintain it. They should have let us know how it works out to use it for lighting and as a source of fertilizer. They should have told us all these things so that we would have became conversant with it, and even make it more appealing. What happened here is like they had a project somewhere else, which had phased out, but still had some digesters left in their stores. So, they just decided to dump the digesters here to clean up there storeroom and finish everything (laughs).

**Interviewer**: (laughs) so, they brought it here as a dumping place. How did you meet your energy needs before the intervention?

**Interviewee**: The mountains you are seeing are our source of energy for cooking (laughs)

**Interviewer**: You used firewood?

**Interviewee**: Yes. We buy it at market. People from Mozambique bring the firewood here.

**Interviewer**: In a month, how much firewood do you use or buy?

**Interviewee**: We buy firewood everyday at K300. So, multiplying that by 30 days, that’s like we spend K9000 on firewood.

**Interviewer**: So, it’s a must to buy firewood everyday for you to eat?

**Interviewee**: Exactly!

**Interviewer**: I’m seeing mountains close by, I’m also seeing trees around, and you have young girls around. Why don`t they fetch firewood?

**Interviewee**: We are trying to protect our trees – that’s why we buy the firewood from Mozambique (laughs)

**Interviewer**: You want to destroy the environment in Mozambique?

**Interviewee**: They are bringing firewood here, so in trying to protect the environment here, we buy them.

**Interviewer**: Do we have forest officials in the mountains?

**Interviewee**:Yes! (Yes!) [Young girl voice in the background agreeing too]

**Interviewer**: Is it true to say that you don't go to the mountains because we have forest officials there?

**Interviewee**: Not necessarily. We realize that it’s not good to destroy the environment.

**Interviewer**: But then the earth is one, the environment is one – so, why do you want to destroy the environment in Mozambique?

**Interviewee**: Maybe they don’t have forest officials there to look after the trees in the mountains, so they just cut it anyhow, and we only buy from them for us to cook.

**Interviewer**: You have said you had cows that time and you still have the cows. How did you manage your feedstock i.e. cow manure before the intervention?

**Interviewee**: We were doing what we are doing now. We gather manure from the cow house, and then apply it our fields.

**Interviewer**: Some people are saying is not a goods fertilizer? What’s your take? And, how do you use your manure?

**Interviewee**: It helps. And, this is how we make our manure as fertilizer; first, we dig a hole not more than 1 meter deep, then we put maize stalks, cow manure, ash, and then add water in the pit. Then, we start another layer by starting with maize stalk, then place cow manure and ash; afterwards we add water again, so on until we fill the pit. So, after three months, we find the feedstock completely broken down, and that’s when it can be used as fertilizer.

**Interviewer**: Let’s talk how it worked at the commission. You have told me that at first, you were told to feed it up with cow manure, and you did. How long did it take to start it up?

**Interviewee**: Like I said, it didn’t produce fire. After we fed it with feedstock, it didn’t produce fire.

**Interviewer**: (laughs) Ah, that’s not true

**Interviewee**: That’s what happened. We called them to come and see that it wasn’t producing fire after we did everything. Then, we reported to [name redacted], and he was like he would consult them. But, up to now, they haven’t come and it’s just there. And, we didn’t even use it for a day.

**Interviewer**: How long did it take you to feed it the very first time and then try to start it up?

**Interviewee**: I don’t know how long it was. But, we waited the same number of days as we were told. They gave us a specific day to commission it, and we tried to commission it on that particular day.

**Interviewer**: I know it’s been long, so to freshen up your memory was it after 3 days, a week or a month?

**Interviewee**: I will give you wrong information, but what I know is that we tried to commission it on the day we were told.

**Interviewer**: So you did what you were told and it didn't produce fire?

**Interviewee**: Yeah. We called them and they were like they would come, but didn’t.

**Interviewer**: You didn’t see even the smallest of fire on the burners?

**Interviewee**: We don't know how biogas fire looks like (laughs). We were just surprised that Mr. Msothi told us that his digester was working that time.

**Interviewer**: What were the maintenance requirements?

**Interviewee**: It’s been a long time, but I can only remember that the bag was supposed to be fed with cow manure and water.

**Interviewer**: How did you prepare the feedstock? Or, how was the feedstock supposed to be made?

**Interviewee**: I recall that they told us, but like I have said, it’s been quite a long time. Plus, when we saw that it wasn’t working, we only fed it for a very short time, so that makes it even harder to remember. And, it’s sad that they acted like they simply wanted to abandon it here. After installation, they should have called to follow up, and even when we called them, they should have at least called back. They were just not serious, so we just abandoned.

**Interviewer**: How did you make the first feedstock?

**Interviewee**: We placed cow manure in a bucket, add water, and then stirred it with a stick, I believe. After we made the slurry, we fed the bag.

**Interviewer**: When you talk of feeding digester, you feed it the first time with huge amount of feedstock, and then you feed it with less amount of feedstock, but regularly. So, after feeding it the first thing, how much were you supposed to feed the digester, and how often?

**Interviewee**: Mm-hmm I have forgotten, but I recall that we were told to feed it with huge amount of feedstock at first, and then less afterwards. I have forgotten if it was 2 or 3 buckets of cow manure.

**Interviewer**: How long did you fed it after it failed to work?

**Interviewee**: I’m not quite sure, but I think it was 2 months. After we saw that fire was not coming, then we just stopped.

**Interviewer**: Were you feeding it daily?

**Interviewee**: It wasn’t like we were feeding it daily. They gave us specify days to feed in a week, and we were doing that. So, we don’t know if the digester was wrongly installed - We just don’t know.

**Interviewer**: Who was responsible for feeding it?

**Interviewee**: I was responsible.

**Interviewer**: How would you describe the task of feeding a digester?

**Interviewee**: It was okay – there were no real issues. It was okay, and it wasn’t like it was a tough job.

**Interviewer**: People say it’s a gross to handle manure; some don’t like the smell, what’s your take?

**Interviewee**: (laughs) those people who complain about that don’t have cow houses, and they don’t use cow manure as fertilizer in their fields.

**Interviewer**: Oh, more like you get used to it. What were the maintenance requirements?

**Interviewee**: They told us that they would be coming for any problem.

**Interviewer**: And, they didn’t even come?

**Interviewee**: Not once.

**Interviewer**: After you tried to commission it and failed, how long did it take you to reach out to them? And, who did you reach out to?

**Interviewee**: At first, I called [name redacted] and he told me that he would inform the installers. Then, luck enough, Faith gave me her number as well. So, I called her and she was like [name redacted] had informed her too, and then she was like they would come. Then, I was calling her to follow up and she was always like they would come at some point. After two months, I called her again and she was they were going to come. Then, I just stopped calling to bother her about the digester. After some time our cows fought around the digester, and damages it.

**Interviewer**: When was that?

**Interviewee**: It was after some months, close to year after it was installed.

**Interviewer**: Did you ever try to fix it yourself?

**Interviewee**: (laughs) No. I mean, we knew nothing about it. So, we could have made the problem worse, if we had tried to fix it.

**Interviewer**: (laughs) what were the challenges?

**Interviewee**: Most of the challenges, I have already mentioned. The first is that it did not working after doing all the hard work. We did everything we were told, but it just didn’t work. The other thing is that we wasted money in hiring people to dig it. We were spending all that money because we thought we were going to get help, but we didn’t get any help. So, those were the two challenges.

**Interviewer**: Have you seen something like this [table of intervention]?

**Interviewee**: No.

**Interviewer**: What do you think about this kind of information and do you think it would have helped you?

**Interviewee**: It would have help because we could have been using it to understand what was wrong about the digester.

**Interviewer**: Then what?

**Interviewee**: Then, we could have been acting according to the information given, thereby solving the issues.

**Interviewer**: If Faith calls you today to find out about the digester, what would you say to her? I mean, what is the current state of your digester?

**Interviewee**: I would tell her what I told her that time the digester was not working. Then, l would tell her that at some point cows fought on it and damaged it. But, we still have some of the equipment and we don’t know if it call be fixed or not. So, it’s basically not working as we told you that time.

**Interviewer**: In your opinion, what cause it to reach this stage?

**Interviewee**: The problem is that it did not work from the start. So, everything went astray after that. But, I don’t know if the problem was the reactor, the stove or what. I can’t know.

**Interviewer**: In your opinion, why didn’t they come back?

**Interviewee**: That I don’t know, but I personally think the project was phasing out somewhere, so they wanted to dispose of the digesters. I believe, if the project wasn’t phasing out, they would have come when we called them or even by themselves. So, they just wanted to sign off everything that they had used all the resources that were given to them (laughs)

**Interviewer**: (laughs) It’s like you were calling them on 2nd October or in November, when the project had phased out on 1st October, would they come? For what? (Laughs). Now, when you want to cook is what what I’ve seen, you buy firewood from Mozambique?

**Interviewee**: Yeah, and sometimes they bring charcoal and they place their charcoals at the corner there as you are entering the market place.

**Interviewer**: You’re not from Mozambique, right?

**Interviewee**: It’s very close. Mozambique is behind that mountain.

**Interviewer**: Oh, it’s very close. That’s like 400 meters away.

**Interviewee**: [no response]

**Interviewer**: Let’s talk about the cow manure, how do you manage it now? Do you still use it as fertilizer?

**Interviewee**: Yeah, we still use it fertilizer. As you can see, we have taken it out to make manure. Instead of using it for biogas, it’s just staying there for nothing.

**Interviewer**: Sad! We are going to towards the end of the interview. How much did reactor cost?

**Interviewee**: I don’t know, they didn’t inform us.

**Interviewer**: Did you contribute anything in kind?

**Interviewee**: No, we only spent money on people who dug the hole. And, we also gave them lunch that day.

**Interviewer**: Oh, you gave them lunch. So, [name redacted] ate chicken that day?

**Interviewee**: (laughs heavily) yeah, we gave them a good meal. I don’t know if it was fish or something. But, it was a good meal.

**Interviewer**: and after giving them a good meal, nothing good came out of it…

**Interviewee**: Yeah, but we are not bitter about that because it wasn’t mandatory to give them food. We just did that out of good faith. It only hurts me that I spent my money to pay the hired laborers to dig the hole.

**Interviewer**: Oh, I see. Was it there any masonry work involved? Or, did you line the hole?

**Interviewee**: No.

**Interviewer**: Did they tell you that it needs lining?

**Interviewee**: We just dug the hole. And they didn’t tell us anything about lining the hole.

**Interviewer**: Was there any other work you did apart from sourcing manure, preparing feedstock and digging the whole?

**Interviewee**: No, that was all.

**Interviewer**: What special items have to be imported from another country?

**Interviewee**: I think it’s from Malawi. I don’t see anything special about it (laughs). But, I don’t know.

**Interviewer**: Let’s suppose it was working okay, do you think it would have helped you to save money?

**Interviewee**: The way they explained it to us, yes, it would have helped us a lot.

**Interviewer**: What did they say?

**Interviewee**: They said after installation we would not go around searching for firewood or charcoal. So, when we heard that we were like this is it, and that’s when we committed ourselves to sourcing and preparing feedstock because we expected to benefit from it.

**Interviewer**: Okay, what is your opinion of biogas?

**Interviewee**: Personally, I would like the project implementers to come again and fix the digester even though we have lost some of the equipment, likes the green and white bottles. So, if it comes again, I believe it would give us an opportunity to stop using firewood and charcoal. I mean, the way they explained it, I don’t think when you have it you can’t go around looking for firewood and charcoal. The other thing is that they told us that once you have it you could not go buy fertilizer because it produces digestate that can be used as fertilizer. So, I would like them come again and give us a digester.

**Interviewer**: Do you think [name redacted] would ever come back?

**Interviewee**: (Laughs) I don’t know, but I doubt. However, we are not only limited to [name redacted], so if there are other organizations who do the same they are most welcome.

**Interviewer**: Why do you doubt that [name redacted] would come back?

**Interviewee**: Ah, they can’t come back. I called them plenty of times, but they didn’t come.

**Interviewer**: Like how many times did you call them?

**Interviewee**: Even if you can ask her, she would tell you that we called plenty of times, and we then gave up. And even the last time I called her, I told her that that was my last time to call her (laughs)

**Interviewer**: (laughs) And, what did she say?

**Interviewee**: She said that I shouldn’t lose hope, and that they would come some day… But, what they did was not right, and we feel bitter about them. And, if you know they are still around or if you ever come across them, tell them we feel very bitter about them and that we didn’t see any thing good about biogas - tell them they just abused us for nothing.

**Interviewer**: It’s a lot of people who feel that way too.

**Interviewee**: Oh really? I thought it was only me.

**Interviewer**: Do you think biogas has the future in Malawi? Do you think it can work?

**Interviewee**: Yes!

**Interviewer**: How?

**Interviewee**: First, they need to make the things work, and I think if the digesters could work, then they would help us a lot because we would stop buying firewood and eventually we can conserve the environment. I believe if we could stop buying them firewood, then they would be forced to stop cutting trees, and then we could save the environment.

**Interviewer**: If you could have designed your own energy or waste intervention, what would you have chosen instead?

**Interviewee**: The problem is that we don’t have electricity in this community, if we had I would have loved to have an electric stove – We want that and it can help us a lot too.

**Interviewer**: What else?

**Interviewee**: Some people use coal, I don’t know if it’s coal, but we hear on the radio that it’s helpful.

**Interviewer**: Yeah, there are a lot of alternatives. We have things like solar panels

**Interviewee**: Yeah, that’s the one. Some people in Namonde Village have been given solar panels, which they are using for cooking and lighting. I was there yesterday, and when I saw that, I was really impressed. So, I would like to see people cooking using solar panels here. And, I think solar technology is better than biogas because you also get lighting from it, and it’s not involving too.

**Interviewer**: Yeah, even with biogas you can use it as a source of light too, if it’s properly done.

**Interviewee**: Oh, nice. It’s really nice to see them using the solar panels to use it for lighting. They gave them small torches but very powerful. You can light the torch here and use the light at the market (50 – 100 meters).

**Interviewer**: Oh, impressive. Before wrapping up do you have any last words?

**Interviewee**: Thanks for coming. I’m if get achance to meet the project implementers, please thank them for us for the digester, and inform them that the digesters didn’twork. And, if possible ask them to bring solar panels next time, and not digesters, then in that way we can benefit.

**Interviewer**: So you don’t want biogas?

**Interviewee**: We didn’t see any benefit of biogas! (Laughs) please share the message that we would like to see solar technology here – and that we have admired our friends from Namonde Village.

**Interviewer**: Thanks, the message will be shared.

**Interviewee**: Thank you!