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Between Structure and Agency

Structural Injustice in the Capability Approach, its Applications, and in Genetically-modified Corn Farming in Bukidnon, Philippines

MARIANO CAPISTRANO, Pamela Joy

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Annex A

Interview 1: Former corn financier, currently (big for locality) farmer and financier (bell peppers and tomatoes)

29 January 2020

Purok 9, Brgy. St. Peter, Malaybalay

Around 2pm

I introduced myself as a researcher who wants to do research into the corn industry in Bukidnon and the different techniques/ways here, as most studies are focused on Isabela province (the top ranked province in terms of corn production). I observed that there doesn't seem to be much research on Bukidnon.

She then pointed out that, unlike what I said, there are in fact many research activities related to corn—specifically, research conducted by the corn companies themselves. The demo farms are research studies that seed companies conduct to determine which seed is more suitable for the area. (*She proceeds to describe a process of controlled study.*) People from Isabela and from other countries like Korea have come to her farm to conduct research. They will provide the seeds for free, ask her to plant particular seeds in particular areas of her plot, come regularly to observe the growth of the plants, observe the harvest, and assess the quality of the yield of the different seeds. The farmer provides all the input and labor, but gets to sell all the harvest after they have finished their study.

It's the companies that come to her, not the other way around. She and her husband suspect that the seed company technicians go around the barangays and ask around to see who has big farms/who have lots of land, and they go to those people to make their offer.

The demo/research farms are usually less than one hectare. Two different sets of people visit regularly to check on the farm—the [agricultural] technicians and the researchers (*"tig-research"/scientists*). After the harvest, they check the yield of different seeds in many ways, including counting the number of kernels in each row, to determine which seeds to promote in the area. Companies that have done their research with her are Pioneer, Evogene, among others. (*this research by the companies is likely proprietary*)

When did you start your financing business? What kind of corn did you finance? Why did you stop financing?

She financed corn from 1998-2002. At the time, it was already branded corn but not yet GM/glyphosate resistant. She would loan the seeds and input (fertilizer, pesticides, etc), but no cash. People actually came to her to ask if she could give them loans. (*"Muduol ang mga tawo, dili ko naghunahuna na mag finance."*) She started with just two [debtors], and went up to 10 before stopping. At the time, the seeds were still the labor intensive kind of seeds so it was rare for people to plant more than a hectare at a time. The farmers who borrowed from her would just borrow the seeds and fertilizer, and would shoulder the cost of labor themselves. She says she didn't want to loan cash because *"ma-OD gyud"* [local term for overdraft].

She stopped financing because people had difficulty paying their debts and it would just grow, and she had difficulty collecting. At the time, she says, the farmers would be the one to sell their own harvest, and then after selling their harvest they would always tell her *"na-failure man"* (they had a failure of harvest). Some people had paid their debts partially, while others just stopped farming and went away. She just threw away her notebook (*"ako nang gilabay ang notebook"*) listing the debts.

She says it was very different from the current system among private financiers.

What is your current livelihood now? Do people still ask you for loans (for corn or for other crops)?

She farms corn [GM] and *kalabasa*. Some people have approached her to ask for loans to plant GM corn but she has declined them all and has no interest of resuming loans for corn (“*wala na ko*”).

However, she does finance other crops, currently bell peppers and tomatoes (*atsal og kamatis*), which she only started recently. It was the farmers themselves who approached her with the idea of financing them, because they were the ones interested in farming the crop. They also suggested the terms of the loan—she will buy the seeds and the inputs, they will plant and harvest the vegetables, and after the harvest, they will go together to the buyer. After they have sold the harvest, she takes the cost of the inputs and seeds, and she and the farmer split the profits between them (“*tunga sa ginansya*”). She prefers this arrangement because at least this way, accounts are clear and settled (“*klaro ang bahin*”).

What other crops are planted in the purok?

Many people still plant corn, some have shifted to sige-sige while others have been planting the seeds given by the government. She is the only one who plants GM corn continuously, while others shift.

How long have you been doing the demo farms? Are you the only farmer in the area with demo farms? What is the relationship between the demo farms and the chemical companies?

She is the only one in St. Peter who has been doing the demo farms. These had started around 2008 or 2009, with Pioneer. The companies do the demo farms often, sometimes twice a year in the case of NK and EvoGene. Chemical companies sometimes come by to look at the demo farms, and sometimes give free products, but this is separate from the seed companies.

Is this the system for all crops (demo farms, seed and chemical companies coming to visit the farmers and promote their products) or just for corn?

Only corn is like this. For rice, the seeds come from DA (*Department of Agriculture*). For the vegetables like bell peppers, it was the farmers themselves who sought out the crop, observed and learned it from other places before coming here to farm (“*naningkamot makabalo*”). The bell peppers are also a very labor-intensive crop, requiring daily monitoring to apply insecticide during the first sign of possible pest infestation (“*atimanon jud*”).

Also, when the seed companies come they do a soil test, a detailed process.

What motivates you to keep going in your everyday life?

What motivates her to keep farming—particularly farming corn—is the income that gives her the ability to ensure livelihood for her family (“*panginabuhin sa anak*”). She also enjoys watching over her farms and paying attention to the growth of the crops (“*maenjoy pud ko sa pagbantay sa uma*”).

Among the crops that you farm, which one is the most profitable?

It's still corn, she says. The prices of kalabasa go up and down more (“*timing-timing*”).

But what about the times when the price of corn really falls, like last year?

Oh that time we had [crop?] failure. Everyone had [crop] failure when the price dropped to 8 or 9 pesos per kilo. This was one of the reasons why I thought of stopping financing for corn years ago—when the farmer’s crop fails, I [the financier] fails too. And because of the low prices, even self-funded farmers had crop failure.

She also says that she ended up storing her harvest and waiting until the price went back up to around 13 pesos/kilo before she started selling. Any price below 15/kilo, she says, increases the risk of failure. (*“Ubos sa 15, failure na.”*)

Where do you sell your harvest? Aglayan?

I sell my corn in Cagayan, in Puntod, to a middleman. There is a price difference of 1 peso/kilo between Aglayan and Cagayan. Even factoring in the higher cost of trucking, she says, she still has a bigger profit if she sells in Cagayan.

Since you have planted GM corn for a while now, have there been times that you observed your harvest/yield go down?

Sometimes this happens, but she thinks it’s related more to the weather than to the farming methods. They just use the same amount of abono. If she notices that the crop isn’t growing at the pace that it’s supposed to, she adds lime and *iti* (chicken waste/manure) to help restore the quality of the soil (*“aron mabawi ang tambok sa yuta”*) She says that unlike others, she is not “stingy” with her use of fertilizers.

(*Kelvin notes that this is easy for her to do because she has her own small truck to haul the iti, which cannot be transported by motorbike without the motorbike driver being covered in chicken manure.*)

Do you think your children have more opportunities now than you had? What’s the difference between their life now and yours?

They are a lot more comfortable than we were (*“mas hayahay”*). She recounts that in her youth, they really had to struggle to live, while her kids didn’t have to struggle. She also notices that her (grown) children still approach her sometimes for (financial) help, though only when they know that she has extra or when she has had a good harvest.

How did you come to live here in Purok 9?

My husband came here with his brother (*his brother the husband of a former ESSC staff member*) in the 1970s with just 500 pesos, in the hopes of a better future. Cleared the land themselves and took a chance. (*“Naglampas sila’g lati”*) (*“nanimpalad lang moanhi,” “nakipagsapalaran lang”*)

They first planted coffee, then later, rubber. But when they had nothing to harvest/sell, they would go to Pangantucan to work as labor in the sugarcane fields, and would often have so little money that they would not have shoes or slippers, just go barefoot.

On the other hand, she grew up in Iba. Like her husband, they were really poor, too. Her mother had a small carinderia. She and her siblings would go work as labor during harvest to earn more money (*“mananggi ang mga bata”*). Eventually when she was around 17 years old, she went to Valencia where she worked as a *tindera* (saleslady) at a textile store.

She went to elementary school in the school that you can see along the highway in Iba. In high school, they had to transfer to Cabanglasan. For all of her school years, she would just walk to school, so she had to wake up really early, to do housework and to make sure she had enough time before she left for school. Her children, she notices, never had to do this ("*kami baklay ra, karon dili na*").

When do you usually plant and harvest?

Two plantings each year, July/August and November/December, with two harvests, September/October and March/April. The November/December planting is the second, lower-yield harvest.

Annex B

Interview 2: Small-holder GM corn farming family, of migrant origin

30 January 2020

Sitio Tingkaan, Brgy. Poblacion, Cabanglasan

Around 9AM

Tingkian is the biggest corn producing community in the whole municipality of Cabanglasan.

I introduced myself to them as wanting to add to the information available on the corn industry in Bukidnon. Kelvin added that this is a follow-up to the earlier visit made with many guests (the LUCID PWG workshop/visit).

Tatay¹ quickly began narrating his story and the story of corn farming in Tingkian, which he describes as difficult due to their lack of capital for planting GM corn. He says that the experience of big farmers and small farmers is very different (because the big farmers have capital that they do not have).

They currently borrow their capital from a bank (First Valley), which offers lower interest (compared to private financiers), at 2.5%. They have 3 hectares of land, but they usually don't plant all 3 hectares because they don't have enough capital for farming inputs (*abono*). They can loan a maximum of 30,000 pesos/hectare from First Valley, without collateral, which allows them to buy seeds and input to plant and use on less than three hectares (*see estimate of costs from Kelvin's document*).

If they can't pay off their loan, they are not threatened by legal action, just need to give promissory note that they will continue to pay their loan (lifetime interest).

"Kung moabot og korte, moandang sa interes." (settle the debt, promissory notes, terms of debt repayment, etc)

He says that their current crop is pretty risky because it's during a hot season. Nonetheless, they are the top producer in the whole of Cabanglasan, to the point that their harvests can no longer be accommodated by their current solar dryer (*"di maigo sa dryer ang tanan nga harvest"*). They have been requesting a new solar dryer from the local government for a while now. His newest initiative as sitio chairman has been to create a resolution requesting the congressman for funds to build a warehouse so that the sitio can store their harvest without it being spoiled, while people take turns drying their corn on the solar dryer.

Depending on the season, their yields can go as high as 6,000 kg/hectare, as in the previous harvest season, but during the hot season (now), they will be lucky to get 2,000kg/hectare when they harvest.

Because they get bank financing, they can sell their corn anywhere, and just pay to the bank afterwards. Usually though they sell their corn to buyers who come to the community from outside to buy and haul the corn; they earn more from this rather than when they take their corn outside to sell it because they have to shoulder the transportation costs.

Can you tell me the story of how your family came to live here in Tingkaan?

"Buhi man taod pero daot." ("We survived but badly.")

¹ Filipino for "father."

I was one of the first Bisaya in this area. This was in the 1970s. This place was all forest still. We came here when I was 4 years old. Prior to that, we lived in Zamboanga, but we had to move after their house and belongings were destroyed in a major flood. Sold their carabao for 150 pesos and left.

It took them two days to get to Tingkaan, they had cousins/relatives there. Their neighbors were mostly natives (lumad) who were nomadic. They planted corn for their consumption. When they needed cash, his father would work felling trees with a two-person saw as a day laborer with the logging companies (“*naglatay sa mga batang o troso*”). There were no roads into the community, and if you needed to go to Malaybalay you were never sure if you could ride the bus that day because it would always be full by the time it passed by. All the stores were far away, and you had to walk far to buy anything you needed. They had to buy salt at the summit. Because the grinder was so far away, they would just grind their corn at home using a stone grinder.

At the time Cabanglasan was not yet a separate municipality, it was still part of Malaybalay.

Movement was also difficult because during the rainy season the mud could reach up to people’s waists, and there were leeches everywhere. They were all afraid of the leeches because they were so small, they could enter your eyes and ears if you weren’t careful.

Life was really hard for them, he recounts. When he started going to college in Musuan, he only had enough money to pay for his travel fare. So he would work and go fishing in the lake to have food.

Nanay²: “I was originally from Misamis Oriental, where I grew up in the care of my grandmother. My parents left me in her care when they went to Bukidnon to find land of their own to farm. But when my grandmother died, I had to go live with my parents, and they had settled in Cabanglasan poblacion.”

She recounts that it was a difficult adjustment for her because Misamis Oriental was a very busy, lively place, while Cabanglasan at the time was very quiet, rather isolated, and did not yet have electricity. There was very little amusement that she could find, but she eventually found a group of friends (“*barkada*”) in Cabanglasan. Her *barkada* would invite her to go to “*baylehan*” village dances with them, and it was at the Tingkaan *baylehan* that she met her eventual husband. At the time, she says, the area of Tingkaan was quite thickly forested still.

“Because I lived here for so long, I really made an effort to learn Binukid, especially after one of my lumad neighbors made the observation that I still couldn’t speak Binukid despite having lived here since I was four years old.”

He was actually given a tribal title, Datu Miglitanod (“who watches over”), not because of his financial standing, but because of the leadership and service he had given to his community.

Is farming your only source of income? Do you farm anything else aside from corn?

Farming has been their only source of income ever since they got married. At first, they planted the traditional corn variety (*tinigib*). Aside from farming, their only other activity has been their community work. Tatay recounts that he and his wife often had to leave their (10) children at home (with enough food for all of them) when they did their community work, coordinating with the barangay and the local government unit. They would often be asked why they didn’t bring their

² Filipino for “mother.”

children along with them, and he would answer that the children knew that they might get in the way of the work.

He adds that he's often asked why he can speak English pretty well, which many people get surprised by. He recalls that when he was a child, he studied elementary school at a La Salle school here in Bukidnon and he learned English there. He also attended CMU (though he did not finish his bachelor's degree). He rarely gets to practice his English, though—in recent years he has only used it to converse with various foreigners (e.g. a foreign Jesuit priest who would come to say mass, Ludovic of the LUCID Project).

When did you first start using branded seeds? What has changed since you started farming the branded seeds?

Nanay says 1987, but Tatay says 1984—he says he's pretty confident about that date because he remembers he and his siblings had stolen a few cobs from another farmer's plot because they were desperately hungry at the time.

The GM corn/glyphosate resistant varieties first came in the 2000s. This was a big improvement in yield compared to previous varieties, because the previous corn varieties required manual weeding. You had to weed your plot every day, or else you would not get an optimal harvest. Because it was so labor intensive, they didn't plant a lot of corn. But the spray varieties require less labor and yield a bigger harvest.

Tatay says that if there was no spray (i.e. glyphosate resistant varieties), he would not be here, that he would have long gone looking for another livelihood because there would have been no way for his 10 children to survive with him farming corn using manual weeding (*"Dili ko makabuhi sa akong mga anak."*) He thinks his body would have given out a long time ago if not for the spray.

Can you tell me about your thoughts about your way of life/livelihood? Have your feelings about your livelihood changed over the years? What do you think has made this change?

Tatay says he thinks his life has been fair. He says that what's important is that he continues to sustain his family and that he has maintained his health. Health is important because he wouldn't be able to do his work without a healthy body. (*"Makalutay sa panginabuhi, maayong panglawas."*) On the other hand though, being a farmer is still difficult—that hasn't changed. He says that if you were poor when you started farming, you stay poor. But if you're rich when you start farming, you grow richer.

How has your life and your family life changed through the years?

Of their 10 children, two have decided to stay in the community in their adulthood, three are working in Cagayan de Oro, and two are working in Bukidnon as police officers. They still have three remaining children at home, one in Grade 10, one in Grade 8, and the youngest in Grade 5.

They married young, he was 22 and she was 18. At the start of their marriage, they recount, they would get into fights often because Tatay would leave Nanay at home with their little children for one or two weeks at a time to attend fiestas in other sitios, go to village dances, and generally act as if he was a bachelor without responsibilities (*"feeling ulitawo;" "iresponsable man ko sa una"*). Nanay was left not only to care for their children, but also to tend to their farm while he would be away. When he turned 27 years old, though, Tatay came to the realization that he and his family could not

continue in this way, and he decided to commit to be responsible for them. It was after this, he says, that he also began to take leadership roles in the community.

Do you think that there is a value to your work as a farmer?

Tatay:

It's important not just for my family but for humanity (*katawhan*). I don't think we should leave farming. Even if my children have jobs, I continue to encourage them to continue farming. If they can't come to care for it, I tell them I can take care of it for them.

Tatay Cardo mentions that last year even his son who works as a police officer was farming corn, he just decided to take a break from it this season.

Kelvin mentions that in some communities, like in Nalumosan, many farmers there prefer their children to work abroad, so that they can earn more, and they plan to use the money that their children send back to them as additional capital for farming.

Both Tatay and Nanay don't want their children to work abroad, especially because of the reports of OFWs being abused by their employers overseas, and even dying. They would prefer staying [income] poor, as long as their family is safe and complete (*"Bahala'g pobre ta basta kumpleto ta."*)

Tatay says that he wants his life to improve but through his own effort, not through the effort of his children (*"Gusto ko mulambo pero sa akong paningkamot, dili sa paningkamot sa akong mga bata."*) He tells his children not to give him money or contribute to their daily needs for as long as he can still work and tells them that they will need their help once the time comes that he and their mother can no longer work.

There are times, though, that they do accept gifts from their children. For example, one of their sons worked on a rice harvest nearby (*"nakalabor"*), and he was paid in ten sacks of grain, and he gave them a portion of that.

Have your feelings about your livelihood changed over the years? What do you think has made this change?

Tatay says that there has been a change. He says he feels that his livelihood has gotten a bit easier, not too easy, just right (*"sayon," "katamtaman"*). Especially with the use of the spray—when you care for your corn, you don't have to be bent over all the time, when you harvest you stay standing straight. It's painful on the body anymore (*"dili na kayo kasakit"*). Even though they're still [income] poor, life has become less difficult (*"kapobrehan padayon, pero sa kalisod, arang-arang"*). They no longer go hungry like he did as a child.

Nanay says that there have been small improvements, and says that for as long as they can work and do things, they can survive. That they have successfully sent their children to school, and have had their children finish college, is proof of this. In their youth, they were lucky to be able to bring rice (for lunch) along with them to school in good days; now her children go to school not just with a packed lunch but also with an allowance as well. Her two children in high school have an allowance of 50 pesos/day, because they have to buy many materials for school projects, while her child in elementary has a 10 peso allowance daily. This comes to about 550 pesos/week.

Tatay adds that he often takes them to school and picks them up [the public high school is in the town center], so the expenses for schooling are a bit big. But he doesn't feel bad about the expense, they

are happy to see that their children are responsible, they help out with housework and on the farm, do well in school, and have initiative. They don't spend their time just hanging out with friends ("*dili gyud sila 190agan*").

Do you think your children have more opportunities now than you had?

Naa ang uban, pero ang naa pa diri, naa pa sa amoa ang oportunidad. Pasagdan sa ginikanan. (They have more opportunities now, particularly the ones that are grown up. Of course the youngest who still live with us still depend on us.)

Among those of their children who are married, they still sometimes help them out with day to day needs (like food, rice).

What do you think has been the cause of the changes in your livelihood/way of life?

Tatay attributes many changes to the new technology. People have to move with technology as the times change ("*mouban ang tawo sa teknolohiya*").

Nanay agrees, and says that her few desires are for technology that will help her do her work easier—like a washing machine—and also maybe a Cignal (satellite TV disk), because she likes watching the news especially news from other countries. And the clearest example of technology that made their work easier is the spray (glyphosate).

Tatay observes that the old farming technologies do have one advantage, because of its effect on nature. But he also doesn't want to go back to that because the work will be too difficult on his body.

He recounts that when he was a child, there were times that they would eat *balinghoy/binggala* (cassava) in the dry season, because they were so hungry and so poor. His father would work as a day laborer for logging companies just to earn cash. His children did not have to experience going without food and having to eat *balinghoy*.

Annex C

Interview 3: Small holder GM corn farmer, of migrant origin

30 January 2020

Sitio Tingkaan, Brgy. Poblacion, Cabanglasan

Around 1030AM

Tingkian is the biggest corn producing community in the whole municipality of Cabanglasan.

Can you tell me about your history here in Tingkaan? How did your family come here?

She arrived here in 1973 when she was 20 years old with her husband to be farmers. From 1990 to 2015 (from age 35 to 60), she was a Barangay Health Worker, while her husband also worked as a Bantay Bayan. After retirement (the compulsory retirement age for Barangay Health Workers is 60), she and her husband returned to farming.

When did you start planting GM corn? Why did you stop planting GM corn? What other crops have you farmed/are currently farming?

When she first came, they farmed corn, but the traditional kind (*guna*). It was very labor intensive, there were no chemicals, and they needed no financing.

After returning to farming in their retirement, they tried farming GM corn. They sought financing, but they encountered several failures because of worms, rats, and other pests that damaged their harvest. So they slowly moved back to "*bisaya*" varieties which were a little more labor-intensive, because they would rather have a little more work to do without debt, rather than go into debt then have a failure of harvest.

But because they are older, they realized the spray would make their work easier for them, so they went back to farming GM corn. Now they engage in financing, but are able to pay of their debts, or at least break even. They also grow chickens and pigs to sell, and use the profit to pay off their debts or buy additional input (fertilizer) to decrease the amount that they borrow. But in terms of crops, corn is the only crop they have farmed.

They also tried to grow *falcata*, but the seedlings were destroyed by animals ("*tigwayan sa mga hayop*") They also tried to grow bananas, but the ones they grow aren't edible for humans and seem diseased ("*dili makaon, bunsalo, gahi, itom sa ilalom*" "inedible, hard, and black at the bottom").

Her financing for corn is currently through a private individual from Cabanglasan Poblacion. The agreement is for her to borrow in product, not in cash—she usually gets 3 bags of seeds, 10 sacks of fertilizer, and 3 gallons of chemical spray (glyphosate). She is not charged any interest, but after harvest, she has to pay back the cost of each input + an additional 300 pesos for each sack/item.

She sells her harvest outside the community, usually in Cabanglasan as well, although sometimes if there are "*striker*" (corn traders that come to the communities to buy from them directly) she will sell to them. She says that these "strikers" usually come from Aglayan and Zamboanguita [from a large corn farmer and trader there].

Can you describe how your life has changed since you started farming GM corn?

She and her husband were originally from El Salvador, Misamis Oriental. Soon after they got married, they were encouraged by their parents to move here because there would be more livelihood in Bukidnon ("*naa diri ang panginabuhi*"), because in Misamis Oriental the only work her husband could do would be climbing up coconut trees to harvest the coconuts.

In 1975, they applied for a CADASTRA, which gave 8 families (theirs included) 30 hectares of land to share with them in the area. Their neighbors were lumad who were still semi-nomadic, moving from place to place ("*balhin-balhin pa sa una*"). In the 1980s, someone claimed to own the land that they were given through the CADASTRA. "*Gibuhisan nila sa Silae. Giprenda, gibuhis. Duha ka hectare ra ang nabilin.*"

At first, life here was very hard, very lonely/isolated. She was the first to arrive here. Soon after, Cardo's family arrived. They were on good terms with their lumad neighbors, but they were afraid of other lumad for fear that they were *busawan* (supernatural creatures that would eat livestock and prey on children).

The area was still heavily forested, and they had to walk very far if they needed to buy anything. Everything had to be carried on their backs or their heads. There were still *salarong* (deer) and *kalaw* (hornbill). It was so isolated that she would think of going back to Misamis Oriental ("*Mubalik kog Misamis Oriental, di ko mabuhì diri*"). After all, her siblings were still there and had gotten jobs at the nearby San Miguel processing plant.

She and her husband just took their chances and sought their fortune here ("*Nanimpalad man mi diri*"). They married young (she was just 16 years old), but it was here that they grew up and grew old ("*diri na ko nigulang*").

Can you tell us a little more about your current livelihood?

They first applied to get a loan from First Valley (lower interest than private financing) but didn't meet the qualifications. So, she approached a friend of hers in Cabanglasan, who she had helped out when her son was running for *kagawad* (councilor). She didn't want to go to private financing (she mentioned the name [redacted], who seems to be the financier for other people she knows in their sitio).

She notes that she is the only one whom her friend finances. Her friend is also a farmer herself, and the loan is in the form of items (e.g. a sack of fertilizer). She is not charged any interest; instead she just has to pay an additional 300 pesos per item that she got on loan—for example, if a bag of fertilizer is 1,000 pesos, she has to pay back 1,300 pesos after selling her harvest. This is very different she notes from other financiers, who charge interest monthly.

She gets all of her farming input from her friend, so that the only thing that they need to borrow/purchase on loan from outsiders are the seeds. They now get SD brand seeds because it produces big cobs with many kernels. They used to get EvoGene, but once season there was no stock of that brand so they tried SD seeds, and found that it was easier to harvest ("*gahi kayo sanggion ang EvoGene*" "EvoGene was hard to harvest") and now they're sticking to that brand.

She had a hard time answering the question about opportunity and if she thinks that farming still has value to the community, so Kelvin altered the question a little, to ask more generally about how her children are, what they are doing now? What do you feel about your current life/livelihood as a farmer?

Of her children, she says three have stayed in Tingkaan after marriage, and have families here. Her youngest son, unmarried, still lives with them. Her children who have settled in Tingkaan are also farmers. She also has one daughter who lives in Butuan (got married to someone from there). She says that she and her husband still sometimes help their children who have settled in Tingkaan by sometimes helping pay off their farming debts.

So she and her husband are doing okay right now, and if they get any help they will receive it, but if there is none, that's okay as well (*"ok ra, sa pagkakaran, kung naa ra muayuda, atong dawaton, kung wala ok ra gihapon"*).

Do you want your children and grandchildren to continue farming? Or do you want them to work outside, or work abroad? Do you think they have more opportunities than you had?

She then talks about her daughter in Butuan, who is also a farmer there. She farms 6/7 hectares there (it's their own land), and she was able to put all her children through school, and her husband is a *kagawad*. They have planted falkata there and one of their children is already grown and works as a seaman.

Some of her children had once wanted to work abroad, but after seeing the news about Filipino workers being abused overseas, they changed their mind. They are now content to stay here—she points out that even her child who finished college came back Tingkaan and is content to live here. But she also has some children that she continues to help by putting her grandchildren to school. She currently is sending one grandchild to college in Tagoloan (Misamis Oriental) and has two more grandchildren in high school that they support, their mother is working abroad.

Her grandchildren have often told her and her husband that, if they were not there to care for them, they do not know what would have happened with their lives. So, she and her husband continue to strive for their grandchildren, like taking small side jobs. Her husband often takes hauling jobs as a sideline, and what he earns from these jobs he uses for his grandchildren's needs. He feels like putting his children through school will be an accomplishment/source of fulfillment on their part (*"garbo sa iya nga iyang mga apo makahuman og eskwela"*).

Opportunity lies in her grandchildren's hands, she says; it's in their hands if they have dreams, if they really want it, and if they can achieve these dreams. She only dreams for them are that they finish school and that they don't work abroad.

Given the choice, would she prefer her current way of life to their way of life in the past?

She would prefer their current way of farming (using the spray) over the traditional corn farming practices. *"Kay ang yuta dili na tambok"* ("because the soil is no longer as fertile as it used to be").

Annex D

Interview 4: Small-holder farmer, of lumad (indigenous) origin; currently farming sige-sige and atsal

31 January 2020

Brgy. Upper Mapulo, Malaybalay City

Around 9AM

What has been your experience with farming branded (GM) corn?

He says he was able to try out the branded corn when it first came to Mapulo (in the early 2000s). While it did have high yields, he says it was also expensive, and if the harvest fails it's difficult to recover (*"dako gabuhat, dako gasto, kung failure lisod makabangon"*). He says it's expensive because it's branded.

Currently he plants sige-sige, which is not like the traditional corn, because like the branded seeds it can be sprayed.

Kelvin asks where did they first get the sige-sige seeds, how did it first come to Upper Mapulo?

He says they first got it from neighbors, who had bought a variety of seed in an unmarked bag (*"binag"*) and after harvest, they saved some to use as seeds and it grew, unlike the typical GM varieties that cannot be used for seeds for a future planting.

He also says that there are still a few lumad who still farm GM corn, but not a lot, because of the amount of capital it requires. Some people also tried farming the seeds that were given by the governor [Asian Hybrid brand seeds] but the yield was not very good (*"medyo na-piki"*).

Why did you decide to stick to sige-sige corn?

Because they don't need to buy seeds anymore. They only need to buy 14, urea [different fertilizers], and spray, and they don't need to use as much input as they would need for the GM corn.

What other crops do you farm? How did you learn how to farm them?

He has farmed *atsal* (bell peppers) and *luy-a* (ginger). He only briefly tried farming *luy-a* because he got sick at the time (*"naabtan og sakit"*), but he notes that it was easy to farm.

He just learned how to farm *atsal* from his (migrant) neighbors, who in turn learned from the salespeople/marketers of chemicals/insecticide. They usually buy the seeds in Malaybalay or use seeds they saved from previous harvests. For *luy-a*, because it's so easy to farm, they can use even the *luy-a* available in the community for cooking/home use.

But he has also experienced failure in farming *atsal*, because a lot depends on the price at the time of your harvest. Sometimes the buying price can go up as high as 130 pesos/kilo, but can go as low as 20 pesos/kilo. So people who farm *atsal* have tried to learn when the prices go down and when they go up; it's a bit difficult to do this though because they recently learned that one newer cause of prices to go down are typhoons in Luzon and Visayas—because of the typhoons, the buyers cannot ship the products to the markets in Cebu and Manila, so they lower their prices. The prices are highest usually in March and April.

He adds that people who farm *atsal* or *luy-a* still farm corn despite the greater earnings. He says there's less uncertainty with corn ("*dili ka mu piki sa mais*") and you don't really need a large amount of land to plant *atsal*. People usually just plant $\frac{1}{4}$ or $\frac{1}{2}$ hectare. People also obtain financing for planting *atsal*, but the expense is pretty low.

It takes *atsal* four months to begin growing fruit, and the expense is pretty low. He estimates the inputs cost 20,000 pesos per cropping, at most (for fertilizer, pesticide). It takes *luy-a* seven to eight months, but the expense is even lower, because you only need fertilizer, no sprays, so he estimates the costs to be at 10,000 pesos per cropping.

With *atsal*, even if the price goes as low as 30 to 40 pesos/kilo, you will be able to recover your costs and have a profit, for as long as your plants are growing well ("*pwede ka makaginansyag dako, basta modagan ang imong tanom*"). One set of plants can yield three to seven harvests in a year.

At present, he alternates between corn and *atsal*, usually planting corn, then *atsal*, then corn again, then he lets the soil rest. It's not good to keep planting on the same land ("*pahulayon ang yuta, dili pwede balik-balikon*"). He also occasionally farms them at the same time, planting one bag of corn seeds and one bag of *atsal* seeds, but not mixed together in the same plot because the *atsal* might die from the spray (glyphosate).

How do you sell the *atsal* harvest?

Usually, a buyer comes here to buy the harvest. And some farmers already have the [mobile phone] number of the buyer in Bulua (Cagayan de Oro), so they call first to ask what the current price is, and the buyers ask how the crops are going, before harvest.

Why do you still grow corn and not just focus exclusively on *atsal*? Or just farm corn exclusively?

He says that if you just plant one, it's riskier. But if you plant both, even if your *atsal* crop fails, you still have the corn, which you can sell and use for personal consumption ("*bisan ma failure ang atsal, ang mais pwede makonsumo*").

He also shares that, this current season, he is only farming corn, because he has had to move areas. His previous plot was destroyed in a landslide. He also notes that another advantage of *atsal* is that you can plant it on a slope ("*pwede sa pakilid*").

The current sige-sige crop that he's growing, he says, he plans to sell some, and keep some for consumption at home. He will sell the crop to Balore, the local financier, who is also the biggest corn buyer in Mapulo. He notes though that she doesn't finance the cost of seeds, only inputs.

What are the terms of financing with Balore?

He borrows the input he uses on the sige-sige from her, on a high interest rate of 10% per month. This is why he often harvests his corn a bit earlier—after 2.5 months—so that his debt doesn't grow too much. He estimates that he usually uses around 8,800 pesos worth of urea (costing 1,000 pesos/sack) and 14/"complete" (costing 1,100/sack). At the rate of 10% interest per month, in 2.5 months he would need to pay 11,000 pesos. This is still excluding the costs of buying Roundup, which he also buys from Balore.

He adds that Balore is selective when it comes to financing, she will only finance those who sell directly back to her. If you borrow from her, she will know that you sold your crop to another buyer

(because she keeps track of the number of sacks of corn you harvest), and she won't lend to you again in the future.

Kelvin asks how her prices are as a buyer.

He says her prices are one peso/kilo lower than the buyers in Cabanglasan. If the price in Cabanglasan is 15/kilo, she buys at 14/kilo.

Has there been a change in your livelihood/way of life compared to the past?

He says there has been a change, that things have gotten a bit better, because farming corn has become easier because of the spray [glyphosate]. Earnings/profit have grown a bit. He says that even if he has a failure of harvest with the *sige-sige*, it's not difficult to recover. By failure, he means getting a small harvest or small profit; he has never had no harvest at all (what they call "*zero balance*"). The smallest profit he has ever made has been between 2,000-3,000 pesos, which gets spent very quickly if you have children in school like he does. In cases like these, he takes on extra labor jobs with other farmers in the area ("*inadlaw*") to earn extra cash.

Another way he sees an improvement is how they no longer have to depend on eating *balanghoy* (cassava, the traditional emergency food source among *lumad*) during the lean season.

He says that he does have neighbors who have had zero profits from their harvest ("*naa man ma-zero*") but recover through working as labor for other neighbors. There is always opportunity to work, he says, there's no reason not to recover unless you're lazy ("*tinapulan jud ra ang dili maka recover*"). Some neighboring farmers, he says, offer daily work up to 3x/week, at a rate of 200-250 pesos/day, with a free lunch. So it's hard to really be "zero."

Can you tell me about your thoughts and feelings about your way of life/livelihood? Do you think that there is a value to your work as a farmer?

Now, me and my wife are content, we don't dream of having other work or livelihood. We have four children and we are able to send them to school. And as a farmer, I am able to help others.

Can you tell us a bit more about your children?

My oldest is in Grade 8, next in Grade 5, then Grade 2, and the youngest is in Day Care. Each of them, except the youngest, has a daily allowance from us. The one in high school has 30 pesos/day, while those in elementary school have 10/day each.

Do you want your children to be farmers, too? What are your dreams for your children?

He says that if his children can do it, he would like them to be professionals, it's okay if they don't continue farming. It's okay too if they become farmers, so that someone can continue farming ("*ok ra pud nga mahimog mag-uuma gihapon, ok ra nga walay makapuli*"). He hopes though that even if they do become professionals, that they do not forget farming—that they can be teachers who are also farmers, for example—because the farm is what gave them a livelihood and put them through school ("*mas mayo nga naay mopuli, kay diha man sila nabuhi sa uma*").

If they want to go abroad, that's fine with him too, as long as they don't forget the farm and their family. As long as the farm is going, they will have something to eat; and hopefully when they are old and are not strong enough to farm anymore, they will still have something to eat.

Have your feelings about your livelihood changed over the years?

He says that his feelings have greatly changed. When he was younger, he wasn't very interested in farming, but when he realized farming would be able to keep his family alive and be able to put his children through school, he became very motivated to farm. Seeing also that his children were interested in going to school added to his motivation (*"kay masige ang mga bata mag iskwela, nadasig gyud ko"*).

Do you think your children have more opportunities now compared to when you were young?

He thinks they have more opportunities than he had as a young man. If they work hard, they can achieve many more things compared to himself. He recounts that he arrived in Mapulo in 2005, because his wife is from here. He grew up in Kan-ayan, where he spent much of his youth just going around other sitios and barangays with his *barkada*. That's how he met his wife, he says, from one of their visits to Mapulo.

Annex E

Interview 5: Small-to-medium-sized farmer, of lumad origin; currently farming GM corn

31 January 2020

Brgy. Upper Mapulo, Malaybalay City

Around 10AM

I had previously spent a week at his house, last May/June 2017, during the barangay elections. Hewas previously a barangay official in Mapulo, but didn't win in that re-election campaign. During the time that I visited, he was farming mainly rice, with some corn; now he has shifted entirely to corn.

When did you start farming GM corn? Why did you and your family decide to farm GM corn?

He tells us that for this current cropping, he has planted 3 bags (more or less 3 hectares) of EvoGene seeds. He is self-financing, and *"nakalikat kog yuta"* (was able to expand his farm plot size).

He decided to shift to GM corn from rice after 13 croppings of rice because he would just break even with his rice harvests. He also noticed that there are times that it's good to sell corn, from around March to May.

Have you tried other crops aside from corn and rice?

He has tried planting *atsal* (bell pepper) and *luy-a* (ginger) in the past. He said that the earnings from *atsal* were pretty good but the chemicals used to farm would have bad effects on the body (*"dili mayo sa lawas"*). On the other hand, planting *luy-a* was a bit land-intensive—you couldn't plant in the same plot for multiple croppings. After harvesting *luy-a*, the soil needed to be left fallow for two years before being used to farm again, *"kay halang ang yuta"* (the land would become 'spicy'). You would also need to plant bell peppers in another plot for the next cropping, but you could still plant something else in its place after harvest.

The advantage though of planting ginger is that you could earn enough for future capital (*"makapuhunan man ka paghuman sa luy-a"*). The prices are relatively high, and ginger is not prone to pests, unlike corn.

What was the profit from farming ginger that you experienced?

He says he planted ½ hectare of ginger and earned 200,000 pesos (gross). But he says it's not possible to plant and harvest more than ½ hectare of ginger without financing. On the other hand, he says it's very hard, almost impossible, to fail with ginger. Since ginger grows for 6-8 months, you can wait until the prices are favorable. For example, if after 6 months you harvest your ginger, but the market price is low, you can just put the ginger back in the ground and wait. You can keep it in the ground even until 10 months, maximum.

What about for *atsal*?

He says that if you take care of the crop well, put enough input, and the crops grow well (*"dili modaot sa dagan"*), you can earn at least 200,000 pesos gross from a ¼ hectare plot. He recounts that his cousin was able to experience harvesting 9 sacks of *atsal* in one cropping, and was able to get a big profit, but notes that his cousin also had good timing, as the market price at the time was pretty good.

What about the experiences of other members of the community with farming *atsal* and *luy-a* (and/or other crops)?

Some people in the community, he says, plant in the same plot immediately after harvesting ginger—they just till it (“*darohon*”) and put fertilizer and/or *iti* (chicken manure), then plant corn. While for *atsal*, most people plant *kalabasa* squash or corn in the same plot after the *atsal* cropping is done.

He adds that quite a number of people in Mapulo have started planting *kalabasa* squash recently, because it requires smaller capital (thus less financing), and if prices are good you can earn up to 100,000 pesos for your ½ hectare or 1 hectare harvest, all from more or less one *lata* (can) of seeds.

What kind of financing/capital is required for these alternative crops?

For *atsal*, he says you need more or less 5,000 pesos to fund ¼ hectare—this cost includes both seeds and inputs already. One plant costs more or less 1 peso. Even if prices are low, he says you can still earn back your capital (“*makabawi pud ka*”).

For *luy-a*, he says it can cost up to 40,000 pesos of capital to plant ½ hectare because the seeds are expensive. He shares that he has three batchmates [from *Hulas*, the ESSC youth program] who tried to share the costs of planting one hectare of ginger, but they couldn’t raise enough funds to do so (“*di makaya ang one hectare*”).

For *kalabasa* squash, one *lata* of seeds costs 2,500 pesos, and two sacks of abono costs 1,800 pesos (900 pesos/sack), so you spend 4,300 pesos for a cropping. It’s also quite easy to plant, that you can plant it all by yourself. You can earn up to 100,000 pesos gross if the prices are good.

Who taught people how to farm *atsal*, *luy-a*, *kalabasa*? How did people come to learn about these crops?

He is not sure how these crops came to be planted by the farmers of Mapulo—he remembers that even when he was still a teenager, some people had already started planting *atsal*, but it’s only now that larger numbers of people are planting these crops. He figures these most probably had been brought in by migrants who had experienced planting these crops elsewhere before coming to Mapulo, but he really didn’t take note of the details (“*wala na ko kabantay*”).

He says people don’t just depend on one crop anymore (“*daghan na ang gisaligan*”), they don’t depend on just corn. For example, his cousin had a big crop last harvest season, but this was also the time that the market price for corn had gone down to 10 pesos/kilo, so he just broke even, despite having a really big yield. So, people here realized they can’t depend on corn exclusively if they want to have a steady income. Many have started planting half corn, half *kalabasa*; most people in Mapulo plant corn and some other crop as well—corn and *atsal*, or corn and *luy-a*.

He says that the benefit for planting both corn and another crop is that there’s always another crop to depend on if the other crop fails—for example, if your *atsal* fails, at least you still have corn that you can sell and also consume for food at home.

Because of this, harvesting and selling is also very different. It is no longer just confined to harvest season; everyday someone is harvesting or selling their harvest. Osias says that he might be the only one in Upper Mapulo at the moment who is farming corn exclusively. He shares that just yesterday, he dried and sold 600 sacks of corn to Balore [a major local corn buyer and financier, and former barangay captain].

How has your life and your family's life/livelihood changed?

Anyone who has funds/capital is into farming now. This also means there are more jobs—there are no more jobless youth hanging out with nothing to do (“*wa nay batan-on nga tambay ra; menos ang tambay kay mga tao busy kaayo*”). People are a lot less worried about their livelihood nowadays.

Things are going better, except for the seeds that were given by the governor (“*samot na jud sa paghatag ni gov*”). [The governor had given all corn farmers in the province corn seeds from a seed company Asian Hybrid.] The Asian Hybrid seeds did not grow well, and that the yield was worse than that of sige-sige.

He also shares that he is no longer dependent on financing to farm. He was able to raise more capital through his hauling/trucking (he has a small truck called a “Bongo”), as well as through raising and selling pigs. He buys piglets, fattens them up, then sells them at profit; he prefers this to having a sow who births the piglets, because the animal husbandry is time-consuming (“*wala koy anay, tapulan ko pagpaanak*”).

Now that he has the capital, he's focusing exclusively on corn, because the profit he can get from corn farming is bigger than the profit from raising pigs.

Why are you focusing on corn exclusively?

He points to the example of Balore, saying that they would not have gotten so wealthy without corn. He shares that when he planted EvoGene in his previous cropping, he was able to earn a profit of 50,000 pesos—net of all his costs. This is a very good result. He figures that if he can manage his planting to be able to harvest every month, he can earn up to 50,000 pesos net every month—that's even better than the monthly salary of a soldier (“*lupig nimong sundalo di ka regular*”).

He has also observed that big farmers like Balore often receive free seeds and free input from the seeds and fertilizer companies for demo farms, and this is his goal. He's hoping that this June-September cropping season (*panuig*, the main cropping season of the year), he'll be able to execute his plan. He's optimistic about its success, because this *pangulilang* (the second cropping of the year, generally lower-yielding) he was still able to harvest 600 sacks.

Even though the prices went down last *panuig*, he was able to recoup his capital (“*igo-igo ra jud*”). So many people had big harvests, people would race to be next in line for the dryers and the sealers. It took him almost a month after harvest to sell his corn.

Where do you sell your corn?

Previously, he would sell his harvest himself in Malaybalay. But now he says the whole Upper Pulangi's corn is being bought by Balore. He says that recently, just last year, Balore already has an account with a major corn buyer in Cagayan de Oro (“*na-PO na sa Cagayan*”). He has also noticed that he and other farmers can sell a little corn every day and still earn something.

Have your feelings about your livelihood changed over the years? What do you think has made this change?

There has been a lot of change. He still remembers corn farming before the use of the spray (glyphosate) and how difficult and time-consuming it was. It was so time-consuming that they could

only plant one hectare at most of the old varieties of corn. And they no longer have to depend on our neighbors to survive.

He has also observed that it's also a lot easier to find jobs now, especially for the young, unmarried men. He recalls that when he came back home after finishing the *Hulas* program in Bendum, it was very difficult for him to find a job in Mapulo. In contrast, now the young men have a lot of job opportunities working in the farms, but also in other things like the DENR National Greening Program (NGP) or the road/highway construction.

He also shares that he has been elected the Mandatory Indigenous People's Representative (MR or "mandatory") for Barangay Mapulo. He's the youngest MR in the area.

Despite this appointment, he personally thinks he should make sure that he pursues his farming and does well, unlike the time that he was a *kagawad* (councilor) in the barangay. He would be very busy with barangay work but he would not be able to plant in his farm. He realized it would be very hard to do his job as a councilor and just depend on his salary—he needed to still farm to support his family.

This is another reason why he wants to focus on farming—he says for as long as you don't surrender, you will succeed ("*basta di ka mosurrender makagawas ka*").

Now that he will have work again in the barangay council as the MR, he wants to be able to balance better his livelihood and his political work. He wants keep separate his livelihood from his political work, because he says, if the two mix, that's where corruption happens ("*diha na matukod ang corrupt*").

Do you think your children have more opportunities now than you had?

He says they have so much more opportunities, very different from his own childhood. He observes that when he was a child, he had many ideas but he never got to test them, try them out in real life. His son, in contrast, has that opportunity. He's also noticed that his son has a lot of ideas that he is not afraid to share and talk about. Another big difference is the familiarity and ease with using technology like the computer and cellphones. When he was a child, he remembers that the local datu would send him on an errand to the highway to check things; nowadays, all they have to do is send a text.

But he also says that along with these opportunities come fears. He has more fears for his child's future, especially with all the new things that seem to constantly come up.

Is your son still interested in your [indigenous] culture?

Not very, but I want him to learn our culture ("*dili ko ganahan sa in-ana*"). He says he has started to encourage his son to learn more about their culture and teach him about their traditions, their ancestors. His son already knows how to talk back to him though and has a lot of stories to tell about his own experiences, such as his experiences at day care.

What is your dream for your son?

His dream is that his son will finish school (i.e. get an undergraduate degree), to grow up to be disciplined, and to feel that he's supported in whatever his plans may be. Though he does wish that his son will become a professional, he would also want his son to still farm the land, because even if jobs are uncertain, there's certainty in the land ("*bahalag makalampus, basta naay uma*").

He recounts a story of another family in Mapulo whose son is an engineer, but who recently gave up his job in the city to return to farming because he realized his income is better and more stable as a farmer than as an engineer. He says that this is also the case with the Balore's oldest child, who has returned home to help with their family farming business.

Annex F

Interview 6: Village elder, of lumad origin

31 January 2020

Brgy. Upper Mapulo, Malaybalay City

Around 1130AM

Inay³ is one of the few remaining elders in Upper Mapulo. She is a ba-i, the female equivalent of a datu. She was well-known because of her healing abilities.

We introduce ourselves as doing research into corn farming in Mapulo, and would like to interview her regarding her observations and thoughts.

She tells us that continues to farm traditionally, following the way she was taught by her parents. She is still farming traditional upland rice, and her farm is quite far, near the forest. There is a corn farm nearby that gets sprayed (with glyphosate).

The traditional rice doesn't die because of the spray?

She says that the spray doesn't affect the rice.

What changes have you observed, particularly when it comes to farming, in the course of the years?

The use of spray on the corn really changed the way people farm, she says. From what she can see, it seems to be good because the harvest is quite big (*"madagway tag-ahaen kay madakel sa ika harvest"*).

Have you tried farming it yourself?

She and her family tried three varieties of the seeds, it seemed to go well. But she also experienced a failure of harvest, and this is the reason why she stopped farming the GM corn.

What else do you farm? When is your regular cropping?

She says she doesn't farm anything else anymore aside from upland rice. Planting season for upland rice is during March-April.

Do you have children and grandchildren?

She has five children and many grandchildren.

Have you observed any changes in your family? In your community? (In relation to change in farming practices?)

Yes. Unlike her children, who would listen and be obedient (*"sabuwa da sa ikagi"*) her grandchildren don't really follow her. She's afraid that they will not be disciplined (*"tagsibaldung sila"*).

³ Binukid word for mother. Binukid is the local indigenous language spoken by the lumad.

When all of the new kinds of farming started and more migrants came, she was not comfortable with the changes. But she says her siblings were different, they all adapted to the new practices that came and the ways of the migrants. She was the only one who continued the traditional farming.

She is planning to rest from farming this year, though, because she is getting old and is finding it difficult to find help during harvest time. When in the past community members would help her harvest, now they don't help if they don't receive a salary ("*hadi sidan tagbulig ha huda tag sweldo*").

Is there anyone following in your footsteps as a *ba-i*?

She says she has a couple of nieces who know the *batbatenen* (oral tradition/oral history?), but no one yet to continue the traditional rice and the traditional healing practices.

Do you think your children and grandchildren have more opportunities now than you had?

She thinks not—because in her view, opportunities today are dependent on how much money you have. This is very different from when she was young. What moves the world now is money; if you have no money, you have no opportunity. She doesn't think it is good that money rules ("*hadi gayed maayad ha salapi ha tighari*").

What are your dreams ("*panganduy*") for your children and grandchildren?

I hope my children will be good people, not cause problems, and not have too many worries in life. I want to see them happy and well ("*kabayaan ku ha maaha ko sidan ha maayad*").

I had hoped that they would all finish their school, but they all stopped their schooling.

She has mixed feelings about them continuing to farm. If they don't want to continue to farm, she understands, because they grew up seeing how difficult it was for their parents. But on the other hand, she wants them to continue farming if they want to continue and continue to see value in it.

Annex G

Interview 7: Lumad tribal leaders, small farming family

1 February 2020

Sitio Bendum, Brgy. Busdi

Around 1PM

The family I interviewed are one of the seven families that first settled in Bindum (now Bendum), and their community holds a Certificate of Ancestral Domain Title (CADT) over the land area of their sitio. I had taught in their community school as a volunteer for a year back in 2004, and both Datu⁴ and Nay⁵. remember me from that time.

What changes have you noticed with regards to corn farming practices in the years that have passed?

Datu says that there have been many changes in the corn farming practices. The one that is easiest to see is how nowadays people continuously plant corn throughout the year, when traditionally they would plant corn only once a year.

Another noticeable change, he shares, is with the corn varieties that are farmed. In the past they had several varieties of corn, both white and yellow, while now people farm only yellow corn. He adds that the old varieties would have a consistently high yield, while the current varieties' yields are inconsistent (*"usahay ang abot, gamay"*). The new varieties also require fertilizer, which was never needed for the old varieties.

He adds that from the years 1955 to 1962, one corn harvest and one rice harvest per year produced enough food to sustain their family for the whole year. He notes though that this was also due to how few people there were in Bendum then—in 1955 they were just four in their family, and that number had increased to seven by 1960.

The traditional corn varieties that they used to farm were called *dumulog*, *tinigib* (both white corn varieties) and *señorita* (yellow corn variety).

He asks if I want the names of the traditional rice varieties, and I say that I will ask for them next time—for now, I would like to focus on corn.

Datu adds that another difference is how in the past, they would plant corn in a different place every year; but in the present, everyone plants the same land over and over again.

After harvesting the corn, traditionally they would not shell it all at once, just shell what they need and hang the remaining unshelled cobs to dry inside their house, and shell and grind the corn as needed.

⁴ Honorific title; in their culture, it refers to a community leader respected for his wisdom and knowledge of their community history and culture, who sits on the tribal council; they are also often spiritualists/practitioners of traditional beliefs and rituals.

⁵ "Nay" is an honorific title derived from "inay" (mother). In their culture, it is common for a woman to receive a new name after having her first child, which consists of Nay + the name of their first child—for instance, if I were from their community I could be called "Nay Likha."

Nowadays, he and his family no longer plant rice. They plant the new corn varieties, but also *kamote* (sweet potato), *balanghoy* (cassava), *gabi* (taro), which have been traditionally important. He shares that he tried planting the seeds given by the governor (Asian Hybrid), but these didn't grow well, the cobs were smaller than normal ("*menos sa pusô, gagmay*"), and they tried to eat it, but it didn't taste good. He noted that the harvest with these free seeds would be good only if you used the right amount of fertilizer. In contrast, the traditional varieties grow well and have a good harvest even if you don't use fertilizer ("*magbunga bisan walay abono, gwapo gihapon ang pamugas*").

Nay adds that there's another important change to take note off—in the past, they farmed for consumption, while now people plant to sell, to earn money. If there were people who did sell their corn in the past, it would be in small amounts, and they would have to travel far to sell their harvest. Now, with the roads, it's so easy to harvest and sell immediately ("*human sanggi, baligya dayon*").

Can you tell me about your thoughts about your way of life/livelihood and the changes you've experienced?

In the past, Datu says, they would plant in a different location every year. They could choose areas that would have good soil suited for planting corn. But now that there are a lot more people in Bendum, and everyone wants their individual areas to farm, people just plant the same plot of land every cropping. Because of this, the land cannot rest, and loses its fertility. This is the reason why harvests get smaller and smaller. He says he prefers the past situation and the old ways of farming.

He shares that current farming practices have both advantages and disadvantages. The main advantage he has observed, he says is that if you have enough capital in the first place, you can purchase enough chemicals and fertilizers, which have made farming so much easier than in the past—it's easy to prepare the land for planting and the harvest is good, though often the second cropping doesn't go as well as the first.

One major disadvantage though is because there are so many varieties of seeds and brands offered by seed companies, it's very difficult to figure out which seed will grow best in your farm. Sometimes a variety has a good harvest, sometimes the same variety has a bad harvest. It's also not easy to try a wide variety of seeds because these are expensive, and how do you know if it will grow well in your land, he wonders.

In contrast, with the traditional varieties, you could be sure that they were suitable to plant in your land. Another thing he observes with the new varieties of corn is that the soil dries up and gets hard quickly from the spray (glyphosate), unlike with *pagbasuk* (traditional corn weeding) which also gets rid of the weeds, it's just so labor-intensive. If he were only younger and stronger, he says, he would go back to traditional farming.

Do you think that there is still importance/value to your work as a farmer? What do you feel about your work?

Datu thinks there is still importance to his work, but if things continue on their current track, his work might no longer have value ("*arang arang baka dili na*"). He observes that nowadays, those who have a lot of capital are the ones who have a livelihood ("*karon naa na sa mga tag-iya ang kinabuhi*"), unlike in the past, everyone could live. If they saw people struggling with nothing to eat in the community, people would come together to share their resources so that other people could eat ("*maniguro ang pulihan, manabang, makakaon*").

In terms of how he feels about farming, he shares that he has worries now that he is old and weaker and can no longer work like he used to. He thinks about what he can do in order to ensure that they continue to eat, to be able to buy rice—such as weaving baskets (*“unsay mahimo aron makakaon ko, makabayad sa bugas— bukag”*). Especially now that they cannot harvest as much anymore, they have to think of what crafts they can do so that they can eat. They do still have *kamote, gabi*, but rice has become important to their diet as well. They also eat more now because in the past, lumads did not traditionally eat lunch, so the traditional harvest yields are not enough anymore (*“sa una hadi tag paniudto ang mga tawo, di na mo igo ang abot karon”*).

Have your feelings about your livelihood/way of life changed over the years? What do you think has made this change?

Nay notes that people rarely eat corn now, and rice has become people’s staple food. Datu adds that the population has really grown—there are more mouths to feed but the soil is used over and over again and has lost its fertility. They both agree that there have been many changes.

One major change they have both observed are the changes among the youth. They noticed that the young people in their community no longer help out much at home, and in some cases even are burdens to their families (*“di na kayo motabang, magpa sagad pa”*).

Datu thinks that this change has to do with the growth of the local population and different ways of thinking/lifestyles, the increase of access to media, and increased distractions (*“daghan ang tawo, daghan ang katan-awan, daghan kalingawon”*). Because they have so many distractions, he says, it’s easier for young people to not think about their future and their way of life (*“malangan na lang, dili na maghuna-huna para sa kinabuhì, kapoy paminawon”*). They can get away with this while they’re still young and strong, but he says, that will happen when they get old and can no longer work? They’ll just go hungry.

Another related change he has observed is how more and more people will only work if they get paid (*“kinahanglan suhulan para mag trabaho”*), which he describes as a “Bisaya practice” or a practice from the lowlands (*“binisaya nga paagi”*). But if you also examine why they want the money, Datu says, they only use it to buy their wants, not necessarily their needs.

This is a big contrast from when he was a young boy, when people would work together and help each other out. A lot of youth nowadays, he says, are only concerned with their amusements, their distractions, hanging out with their friends (*“didto ra sa ilang gusto nga kalingawan, mga barkada”*), with no goal in life (*“walay hinungdan”*).

Another cause of the change has been related to education and jobs, Datu says. Among those who finished their studies, many could not find jobs, while others found jobs, but either way lost their connection/relationship to the land. It’s good to learn and know more, but not to lose their connection to the land and instead spend their time focused on romantic relationships, gambling, and entertainments (*“maayo makahibalo, pero dili na mogunit sa yuta...maminyo, mag sugal, mapalingaw”*).

Datu adds that this has been a fairly recent change—he noticed these changes among young people only since 2010. From the 1960s to 2009, he says the changes among the youth were not very drastic. Since 2010, something changed that worries him greatly—the times are different, the people have changed. Part of this is probably changing with the times, he says—it makes sense that people’s way of life and ways of acting would change (*“lahi ang panginabuhì og lahi ang paglihok”*)—but the

negative change has been that they no longer trust and believe in their elders anymore, nor try to understand what their elders mean (“*di na sila motuo*”).

On his part, he doesn’t blame education in itself—education has a lot of advantages and helps people improve their lives, and we live in a world where people need to know how to read and write (“*wala mahimong pagpadayon kung walay sulat og walay basa*”). The issue is more specifically with how young people relate to education and what they do with what they learned. There are young people who don’t finish their education, who seem to have no plan or purpose in life—and he says if you have no plan or purpose in life, if you’re not clear about what your values are, you will take in nothing from your lessons in school into your life.

Datu then says he has his own questions that he would like to ask/share.

He says that his most pressing questions now concern what happens to the elderly in the community, and what can be done for the young people.

Now, they know the way they have used the land for corn has made it infertile, and it’s better to go back to the traditional farming. But what about the livelihood of the elderly who can no longer work the land and are no longer strong enough physically (“*unsa man ang moinsakto nga panginabuhian para sa mga tiguwang na, unsa ang padayunan*”)? They don’t earn much, but there are more needs as they age (“*pila ra ang pangita, daghan panginahanglanan*”).

When it comes to the youth, what can be done to help them go beyond being dependent on their parents for help even when they start their own families, to cultivate a sense of responsibility to the community, to go beyond thinking of progress just for themselves or their families (“*dili ra mosandig sa ginikanan o sa pamilya ra ang kausaban...makatabang sa komunidad*”)?

I tell Datu that I have similar questions that bother me, especially with how do people become more aware of their responsibility beyond themselves, and I have no answers to them.

Datu ventures an answer to his second question though. He thinks that it’s important to keep acting and working together, to keep creating situations in which young people can act (“*Kinahanglan ta molihok, dili ta mohunong!*”). In these situations of acting together, he says more young people can see that people need to plan, to think and reflect on of different ways, to have a vision for the future (“*plano, pamaagi, pamalandong*”). It’s this way, he thinks, that they might be able to gain a greater sense of responsibility “*tulungdanon*” and sense of purpose.

He hopes their community endures through time, even through their struggles. (“*Panahon ha malahutayon;*” malahutayon=enduring, surviving)

It’s important for youth to learn to reflect on themselves and their situation, and to train them in order for them to become more aware about the world. It’s hard, but it has to be done and to be continued. (*Kinahanglan bansayon (look into their situation) og hulason (train) ang mga batan-on aron maka-mata sila. Lisod, pero kini lang, padayon.*)

We cannot depend on what is simply given to us. (*Dili mosalig sa “mohatag na lang ko didto.”*)

Annex H

Interview 8: Farmer with medium-sized corn farm, and provides private financing on the side

2 February 2020

around 3:45 PM

Lower Mapulo, Malaybalay

Ate⁶ and her husband are residents of Lower Mapulo who farm about 20 hectares. She is a trained agriculturist who took her undergraduate degree at Central Mindanao University, and her husband is a public school teacher in the nearby national (public) high school in Silae. They also recently began financing a few local farmers. As such, the questions and our conversation covered both the questionnaire for financiers and farmers. We were introduced through the local parish priest, Fr. Weng Bava.

Can you please tell me about yourself/your family and how long you have been living here in Mapulo? How did you get started in your livelihood here?

Ate shares that it's really her husband who grew up in Mapulo. His family's history in the area dates back to the 1980s. He was in Grade 3 when their family first arrived in the Upper Pulangi area from Medina, Misamis Oriental. Originally from Bohol, his parents had moved to Medina during the start of the *copra* (dried coconut pieces used to extract vegetable oil) boom there, where they ran a dry goods and copra trading store. But in the early 1980s, the Philippine coconut industry collapsed, and their dry goods store burned down in an accident, so they decided to move to Bukidnon to start a new life, because they had relatives in Upper Pulangi.

The area they now live in, where their house and a corn mill and solar dryer are located, were originally owned by her husband's cousin. When their cousins decided to move to Cabanglasan, they asked her father-in-law to watch over their business. Her father-in-law eventually bought the business from his relatives.

Her husband was part of the first batch of graduates from St. Isidore High School [*the Jesuit-run parochial school in the Zamboanguita parish*]. He then went to college and finished a degree in secondary education and wanted to work for the Department of Education (DepEd) as a public-school teacher. Back then, it was still difficult to get a position as a public-school teacher, so while waiting for a post, he decided to start farming instead of being idle at home. He started with farming ½ hectare of hybrid (but still non-GM) corn.

When he got a JO from DepEd [*“Job Order,” a local term for a temporary/contractual post*], he still continued to farm in his free time, and put whatever he saved up from his salary into capital for the farm. He eventually saved enough capital to buy a *kalabaw* [*water buffalo, the local beast of burden*] and *kalabasa* squash seeds. He got lucky with his *kalabasa* (*“nakajackpot”*) because when he harvested the prices were really high, and he was able to use the profits from that to buy another plot of land and a motorbike.

When he eventually got a permanent post with DepEd, he decided to take over three hectares of land that one of his in-laws had stopped farming. His brother-in-law decided to stop farming because they had a failure of harvest. Her husband then used this land as collateral for a bank loan, and he has continued farming and slowly expanding their farm until today. They are currently self-financing their

⁶ Filipino for “big sister.”

farm and they continue to farm corn and *kalabasa*. She is able to put her agriculture degree to good use, she says.

The financing aspect of their livelihood is very recent, she says—they've only financed for two croppings. The way they do it is different from conventional financing schemes, she says. She has an existing relationship with Mrs. P, one of the two big corn traders/farming suppliers in Cabanglasan, and she gets farming input from Mrs. P in her name, but these go directly to the other farmers. These other farmers are usually their neighbors, who asked her help because the local private financier, Mrs. B, charged very high interest rates. Effectively she acts like their guarantor with Mrs. P.

The farmers first came to her after they received the donated seeds from the provincial governor. They just needed the additional inputs (fertilizer, herbicide). Mrs. P applied her usual interest rate, and told Ate that it was up to her to apply her own rate on top of that. She clarifies that the Asian Hybrid brand seeds donated by the province came only with four bags of 14-14 fertilizer per hectare, which is not enough for the seeds to grow well.

Have you let a farmer borrow seeds through this arrangement as well?

Only one as of now, she says.

Have people been repaying so far?

So far, she says, people have been able to repay her in full. She tells us though that in Lower Mapulo, many farmers had previously failed to pay back their loans from BCB [Bukidnon Countryside Bank], which was at 25,000 pesos/hectare, and from other private financiers, which is why she's very careful about whom she finances.

She also explained that this is one of the reasons why she only finances in kind, not in cash. Another reason is because some farmers are not careful with how they use the cash, especially in the kinds of hybrid seeds they buy. She explains that one of the reasons that led to the default on the BCB loans was that many local farmers bought seeds were labeled "Pioneer," but were actually "*inagdawan*" [waste seeds generated through mechanical harvesting] from F1 hybrid plants in the Pioneer company's laboratory farms in Davao, which died after the first application of glyphosate.

Another additional reason, Ate notes, is that every cropping there's a difference in the quality of harvest of the hybrid seeds, so one needs to do their research—for example, she cites how last year, the EvoGene seeds had a good yield, but this year the results aren't as good. She keeps tabs on the crops and works closely with the farmers throughout the cropping.

She also doesn't offer to finance a farmer—in all cases so far, it has been the farmers who come to her to ask for her help ("*sila'y moduol, dili ako ang nag offer*").

Have you ever turned someone down?

She has only turned one down, she says, because they live too far away for her to keep tabs on the crops.

Can the farmers sell their harvest freely?

Ate says generally they can sell wherever they want, but the ones with bigger loans she suggests that they use their family's sheller and sell the corn directly to Mrs. P, just to be sure they sell at a good price and pay her back directly.

Were you affected by the drop in corn prices last year?

She says that their own farm was affected by the drop in corn prices, and that even Mrs. B was affected. Ate adds that it's just easier for someone like Mrs. B, who has a lot of land and capital, to recover, especially since that's the type of farmer that the seed and chemical companies give free products too as part of their promotions.

What's the effect on you as a financier?

Definitely there will be a negative effect because the farmers won't be able to pay me back. This is also the reason why I don't finance 100% [*i.e. the complete cost of farming, including seeds, labor, and hauling*]. She adds that even BCB now sends bank staff to regularly monitor the progress of the farmers who took a loan from them, to ensure that they don't experience a failure and don't default on their bank loan.

What other changes/effects have you observed?

Ate notes that now, almost everyone in Mapulo sells their corn harvest to *kapitana* [*referring to Mrs. B, who was formerly the barangay captain for 10 years*]. It's easier for them, she says, because they don't need to go to Cabanglasan or Aglayan to sell their corn, at a competitive price. People don't have to spend on trucking to Aglayan anymore.

She adds that the prices are low now because there are a lot of imports of corn and wheat that have come in. She also shares that the imported corn is also in higher demand because more products can be made from it, unlike the locally-produced corn that is for animal feeds exclusively.

Kelvin shares that someone from the national office of the Department of Agriculture [who came to Upper Pulangi during the working group visits] said that the imports are necessary because local production still doesn't meet local demand.

She finds this a little weird, because it's only in recent years that the volume of corn production has gone up in the area, that even if the harvest yields are very large, there is still not enough corn to supply the demand of the industry. It's only in those years that prices have gone down dramatically during harvest season, such that even if your yield is high, the prices are so low that farmers still don't break even (*"bisag daghan ang abot, kulang gihapon"*).

Ate adds that the price of seeds has gone up this year. It's just lucky for farmers that the price of the other inputs went down, like urea is just about 900 pesos, that it won't have such a big impact on farmers' costs. They were also lucky that they were able to plant and harvest early for the current cropping, they were able to sell their corn at 13 pesos/kilo.

Kelvin asks, how low can the price go before you don't break even/before you have a failure?

She says they can go as low as 12 pesos/kilo, but at 10 pesos/kilo they lose. She attributes this to how they have lower costs because she gets to use her father-in-law's dryer and because they don't have

to spend on trucking their corn to Aglayan anymore; the corn traders are the ones who come to them to buy the corn.

Another thing she observes that's a source of difficulty for small farmers is inadequate drying facilities. This has a big impact because if your corn is spotted [*a sign that it was not dried well*], you can only sell it at a reduced price. For example, in Aglayan traders there will buy your spotted corn at 10 to 20% less off the market price.

Who else do you know finances farmers here aside from Mrs B?

I know that Mrs. P and Mrs. S (the other big trader/financier in Cabanglasan) have a few farmers they finance here, but very few (*"Pa-isa-isa ra"*).

Do you get to store your harvest when the prices are low, and wait for prices to go up?

Because they don't have a proper warehouse [*they just have a big shed*], they check the quality of the corn to see if it can keep for long, and if not they don't keep it.

Do seed companies approach you? Could you please describe your relationship with the seed companies?

Yes, there have been some seed companies that have approached me, as well as chemical companies. They come also to invite us to their caravans and farmers meetings to demonstrate their products. There have been increasing numbers of chemical brands—in the past it was just Roundup, now you have more and better choices. It's important for her to go to these farmers meetings and caravans so she can compare what's available out there, especially between different seeds—for example, Pioneer has a high yield potential, but if it's hot weather that year, they don't grow well and you're probably better off with another brand.

Have you tried selling just tipuso [unshelled corn]?

They have tried in the past, she says, but a lot of times they would prefer selling shelled corn because it costs less in the bigger picture. It depends a lot on the variety you plant, she says. For example, she says that NK and EvoGene brands are better to sell as *tipuso* because the cobs are bigger (*"mas dako ang tipuso"*). On the other hand, trucking costs more because it's bulkier than shelled corn. It also helps that they get to use her father-in-law's sheller and dryer for free, so that's another reason why it costs less for them to sell shelled corn.

Kelvin observes aloud that it looks like her being an agriculturist is an advantage.

She agrees and observes that her knowledge as an agriculturist really helps make sure that they keep their farm afloat. For example, she cites her knowledge of why many farmers in the area prefer Pioneer (because you get 65-70% after shelling), or how to improve the yields until 7,000 kilos/hectare—by mixing organic materials like lime or *iti* when preparing the soil. It's even better if you have a tractor and plow the field twice to make sure the organic materials are incorporated well and softens the land.

Another advantage that comes from her being an agriculturist, she shares, is how she's very strict about the spacing [distance] when planting the seeds. Having enough space between each plant is really important because if it's too small, she says it limits the spread of the plant's leaves, and if the plants don't get enough sun, the cobs will be small, which means harvest yield will be lower than

expected, which is again s problem (*“kung mas dikit, mag gamay ang puso, kansi gihapon”*). She sees a lot of fields like this and suggests that this problem with spacing may also be an effect of *“pakyaw”* labor [referring to the practice of paying labor by the amount of work done, for example, paying someone to plant seeds by the number of bags of seeds planted]. She thinks the laborers are probably trying to rush to plant as many seeds as possible because they get paid by the number of seeds they plant. In their farm, she pays by day, because keeping correct spacing is more important for her, it doesn't matter if you're not fast at planting, as long as the spacing is right (*“bahalag di mo nahuman sa area basta sakto ang spacing”*).

It's really important for her to do things right in their farm because they depend on the farm for the majority of their income (*“kami nagsalig sa farm.”*) The financing is not their main source of business. This is in contrast with Mrs B, who she is says is focused more on her trading and financing businesses, especially now that they recently invested in new trucks. The B family still have a farm, she says, but it seems secondary for now—for instance in the previous cropping, they harvested late. She recounts that Mrs B started with financing from the very beginning and started farming only after they had gotten land through *prenda* (land acquired in compensation for defaulted loans). Mrs B had started as an affiliate of Moraya Agricultural Supply in Malaybalay (who were also financing her), but now she's affiliated with Good Farms, affiliated with the Garay family.

Where did you study agriculture?

She shares that she graduated from CMU (Central Mindanao University) in 2002 and was originally from Maramag.

What keeps you going every day? What motivates you in your day-to-day life, at work, at home?

Aside from farming being their major source of income, another thing that motivates her is that there are other families relying on them (*“naay mga pamilya na nabuhi sa amoa”*), families that are close to them that they share good and bad times with, that come to them when they have problems, and she would like to able to help them in whatever way she can. They only have one child, and her father-in-law has a pension, but they have neighbors paying off debts and sending children to school, and she would like to help them. She feels bad if she has to send away people when they come to her for help, so she figures if their farm is profitable, she can continue helping her neighbors. If her neighbors come to her to borrow money, it's also in her best interest to help their harvests improve too, so that they pay her back while also earning for themselves.

How is financing as a business?

Ate says that it's alright, she doesn't want to make it her main source of income. She charges a total of 8 or 9% interest on the inputs that people borrow through her. Of that, 7% is the interest rate charged by Mrs. P, so her own profit is 1-2% interest. She also pegs the price of the input (fertilizers, chemicals) at the standard market price that she receives from Mrs. P, unlike the common practice among most financiers in the area who have a higher price if you get items on credit versus if you get the same items in cash.

Kelvin asks, what/who gave her the idea to come up with this interest rate/agreement?

Ate says that it was Mrs. P who first suggested the base rate of 7% and to just add a percentage on top of that. So she decided to not add more than 2% interest because anything above that would be too difficult on the farmers' part.

Do you plant other crops aside from corn?

She shares that they sometimes plant other crops, and this changes depending on the season. Last cropping they had *kalabasa* squash, they had to listen to the news about the weather in Manila to check the best time to sell. They can earn a lot from *kalabasa* if they have good timing, but the downside to the crop is that it's expensive to transport because of the weight.

Kelvin asks, have you ever experienced a failure?

She says yes. Her most recent failure was from last year, during the El Niño. They had planted six bags of corn seeds (six hectares), they only got enough to earn back the money they spent on inputs, they didn't earn enough to cover labor, much less make a profit. And they were only able to do this because they had some extra savings which her husband used to buy a power sprayer which they used for watering, to salvage some of their corn that hadn't dried out yet. She recalls that during that time, even big landowners were not spared the failure—the Inocandos [a big farming family in Cabanglasan] had to just sell their stunted harvest to a cattle ranch at very low price.

Returning to the topic of other crops, she shares that they have also had good luck with farming cassava. They like it because it's not labor intensive and low in input requirements, so the costs are low; it just takes 10 months to grow. They got lucky with the price when they harvested, they got a big profit. She adds that recently, BMEG [a big animal feed producer] has gone around the area looking for farmers interested in contract-growing cassava with them, so she and her husband are interested in that.

Annex I

Interview 9: Farmer/trader/financier

2 February 2020

around 5 PM

Lower Mapulo, Malaybalay

During my interviews, her name has come up a few times in relation to financing and corn in the area, so I was happy that I was able to get an interview with Mrs. B through the parish priest in Zamboanguita. We met with her in her warehouse/solar dryer/truck depot, her place of business.

Can you please tell me about yourself, how long you have been living here in Mapulo, and your history in the area? How did you get into your business?

Mrs. B recounts that she grew up in Zamboanguita, while her husband grew up in Silae (two neighboring barangays to Mapulo). After their marriage, she and her husband decided to settle in Mapulo. For the first 10 years of their marriage, they were farming while her husband was a truck driver for their godmother through marriage, and she ran a *sari-sari* store (small dry-goods store) from their house.

Because her husband is Ilonggo (people from the province of Iloilo, in the Visayas), she says it was part of his cultural upbringing to stay busy and to keep farming even if you had a stable job. They started their first corn farm with 11 kilos of seeds, using her parents' land in Zamboanguita, through capital that was loaned by their godmother; at the time this was still the traditional corn variety that required manual weeding (*guna*). She recalls how she and her husband would leave their eldest child in the care of their neighbors and go to their farm to weed, and how her husband would go weeding every day before heading off to work as a truck driver.

At the start of their marriage, she says, it was not in her priorities at all to become a corn trader and financier. She had gone to college to become a pharmacist but had not passed the board examination on her first try. Her initial reason for starting a *sari-sari* store and going into farming, she says, was to save up money so that she could re-take the pharmacy board exam and practice her degree. But every time they were able to save up money, her husband preferred putting that money into expanding their business, by renting or buying more land to expand their farm.

After 10 years, she and her husband decided that they could stand on their own, so they paid back the capital that their godmother lent them, and one third of the profit. The remaining two thirds of the profit they used to expand their farm further, and now they farm 60(?) hectares of corn.

Financing was one of their side businesses that they got into as they looked for more ways to grow their business. At first they tried "full financing" (i.e. loan covering seeds, all agricultural input, and labor costs) but this was difficult because many farmers encountered failures and couldn't pay. Now they only finance inputs, and these are no longer the same people that they gave loans to in the past. She says it's not good to loan the whole amount ("*dili maayo na tanan ang ifinance*"), and while some financiers in Cabanglasan still offer "full financing" it's not something they will consider doing again.

It was the farmers that that first approached them to ask if for financing, she adds. At first, a farmer approached them to ask if they could be a co-makers/guarantors for a loan with the financier that they already had a prior relationship with in Malaybalay ("*co-maker sa among suki sa Malaybalay*").

She estimates that she still has collectibles of around 400,000 pesos from their “full financing” days.

Do you work directly with seed companies? Can you please describe your relationship with them? Do they approach you?

Mrs. B says that the seed companies do approach her to set up demo farms. She says they usually approach her with free seeds and free inputs good for ½ hectare, and whatever harvest will be hers. She recounts that the seed companies that have approached her have included NK [Syngenta], Pioneer, and BioSeed. Companies with glyphosate brands also visit her frequently as well.

It’s the companies that seek out the farmers for demo farms, she says. They look for the farms that are right beside the highway so that people can see the demo farm easily and search out the owners of those farms.

Kelvin asks if they were also affected by the drop in corn prices last September.

She says that yes, they were affected—they had a failure of harvest in their own farms, and they have lands that are idle as a result. But she also acknowledges that they weren’t affected as badly as others, because they have their own dryer, tractors, and trucking, so that cuts their expenses significantly. They had areas in their lands that went to negative [*i.e. did not recover the cost of seeds and input*] but this loss was made up for through their own facilities [*i.e. still earned from people renting out their dryer and other facilities*].

Kelvin follows up by asking, do they store their corn to wait for the prices to improve?

Mrs. B says that they don’t, primarily because they don’t have the liquid capital to store their own harvest. They need to sell their harvest as soon as possible to keep their capital flowing (“*wala mi kapasidad mag store, kinahanglan ibaligya aron makatuyok ang kwarta*”). She says that the other farmers in the area who can store their corn and wait for prices to improve tend to have more liquid capital than they do.

What other crops do you farm aside from corn? Do you have other businesses aside from corn farming, financing, and corn trading/trucking?

She shares that they grow four hectares of sugarcane and the same number of hectares of rubber.

Do you finance other crops aside from corn?

She says that she no longer finances crops other than corn. In the past she recounts that she also planted cassava because the prices were good. They planted around 10 hectares and were able to sell the cassava at 6 pesos/kilo, got a big profit from it. The cassava was good for the soil, too, she adds. But now her priority is corn farming because she says it can also help others because it also provides food, not just cash (“*kay kanoon man sa mga tawo*”).

Kelvin asks if she has tried selling *tipuso* (unshelled corn).

She recounts that she used to sell her harvest as *tipuso* around 10 years ago, back when they didn’t have a big solar dryer, because they didn’t have enough space to dry the harvest if it was shelled. But the profits are better for shelled corn, she says.

What keeps you going every day? What motivates you in your day-to-day life, at work, at home?

Something that keeps her going, she says, is her children. Her youngest child is still in Grade 11, and still needs to go to university. She has three children in total—the oldest is 27, the next is 23, and the youngest is 16 years old. Even if she gets tired, she'll continue working hard for them. She adds that once the youngest is finished with college (university), she and her husband plan to downscale their business—reduce their farmland to 20 hectares and limited to the areas nearby to their house. Her husband, she says, is also getting tired of driving trucks (*"kung makahuman na siya'g college, maghinay na mi, 20 hectares na lang, og dili na moganahan mokatkat ang akong bana."*)

Another reason she continues is because she wants to continue providing jobs to people, and to continue helping people improve their harvest. She considers providing jobs/a source of income an extension of her public service [*she was the barangay captain for 10 years*]. Even if she gets tired of managing their business, she thinks about how many employees depend on their business. She's thinking of looking for someone who can take over some of her work (*"mangita kog masaligan"*) when she needs to rest, probably her oldest child who has begun helping out in the family business. The second child is currently working in Malaybalay. She shares that she always prays not just for her family but also for the people who work in their business, so that she may help more people.

When she was barangay captain for 10 years, she recounts giving up corn financing and corn farming, because she wanted to focus her attention and time on public service. She wanted to leave a good legacy as a barangay captain. Now she thinks of her business as another way of leaving a legacy.

She is currently still in the barangay council, but she is just a *kagawad* [*councilor*], which requires less time and attention from her. It has only been two years since she re-started her corn farming, financing and trading business, and this has been her main focus since then. She says that she really enjoys corn trading, despite sometimes feeling tired or discouraged (*"usahay ma discourage ko kay ma kansa"*). She says corn trading and financing has allowed her to meet all sorts of people (*"daghan kog ma meet nga tawo"*).

She says the prospect of being a housewife holds no appeal for her and considers their business her office—she comes in daily at 8am, and goes home at 5 pm. She shares that she even trades clothes with her daughter and enjoys going to work. She wants to continue living an active life.

Annex J

Interview 10: Small farmer/indigenous person/community forester/development worker

2 February 2020

around 8 PM

Sitio Bendum

Gali⁷ is considered one of the prospective future leaders of his community. Aside from being the son of a current member of the tribal council he has actively organized and participated in initiatives of the tribal council. As a teenager, he successfully organized his peers into campaigning against the geodesic surveys into their ancestral domain conducted by a mining company. (Under the Philippine Indigenous People's Rights Act of 1997, such surveys are illegal without the free, prior, and informed consent of the community that resides in the area claimed as ancestral land.)

He is a community forest manager for the community reforestation efforts and has been employed on and off by ESSC in their projects in the community. Aside from this, he also farms his own small area in their ancestral domain.

Can you tell me about how your farming has been going? What crops do you currently farm, and have you ever tried farming GM corn? Why have you and your family decided to not farm GM corn? What influenced your decision?

He shares that he currently has some GM corn seeds [*the Asian Hybrid seeds given by the governor*] at home, but he still isn't sure what he'll do with those seeds. He's sure though that he's going to plant corn this coming planting season in March-April [*panuig*], but he still hasn't decided what variety to plant. The difficulty in deciding, he shares, comes from the great changes he's observed as a result of people (his neighbors, peers, etc.) focusing on commercial corn farming.

He has previously farmed white hybrid corn for personal consumption, but is wary of planting commercial corn, especially after having taken part in many workshops about organic farming and returning to traditional varieties and farming practices, and the long-term effects of chemical-based farming on the land. He is interested in trying to return to traditional crops but is still uncertain of what he intends to do once his projects with ESSC are done.

Kelvin asks, what is the reason for your uncertainty?

Gali says that he's trying to balance different considerations. He explains that on the one hand, he would probably earn more cash from inorganic farming, but on the other hand, inorganic farming has long term detrimental effects on the soil, on the body, and on the quality of the food. That's why he's uncertain. He's also unable to say yet what his vision/plan is for the next 10 years. Because, he says, if he's just thinking for now and not for 10 years in the future, it's very easy to decide to farm GM corn (*"didto ra gyud ka taman sa kemikal"*).

He says that he has been discussing this with his parents as well—what crop would be best to plant, something that they can both grow to eat and grow to sell (*"unsay matanom nato, mabenta nato, makaon nato"*). Last year, his parents experimented with growing *adlai* [a traditional indigenous grain commonly known in English as Chinese Pearl Barley or Job's Tears], which they found easy to plant, inexpensive, and easy to grow because it did not require fertilizer. This made him ask himself, why

⁷ Binukid term for "guy" or "dude."

would people still plant hybrid corn, knowing that it's bad for the soil, the body, and the environment?

Kelvin: And what was the result of their experiment?

Gali says if you have big enough land to farm you can do well ("*mabaligya, kung luwag imong tanom, pwede*"). He recounts that his mother sold their adlai harvest for 40 pesos/kilo, and it was all bought by Fr. Dario [the Jesuit priest who was the principal of parochial high school in Zamboanguita]; if it's sold in small quantities though it's not do-able.

Kelvin: Why is it not do-able?

Gali shares that adlai takes a long time to grow before harvest, because it takes one year. It's also very difficult to find seeds now, and in the past people didn't save a lot of seeds because it was planted just for personal consumption, not for sale.

But he is still considering the possibility of planting adlai instead of corn. Especially since he's concerned about the possible negative effects on the body of the chemicals used on the corn. He says that recently people have started eating the glyphosate-treated corn, even if the seed sellers say that these are not for human consumption. These people maintain that they experience no ill-effects from eating the glyphosate treated corn, but Gali wonders why it seems that in recent years illnesses among people, especially among children, have been very extreme.

He recounts that in the case of his parents' adlai harvest, it was all bought by Fr. Dario. But they only harvested six sacks of adlai, they had only planted less than a hectare. After milling the adlai, this went down to just three sacks [*approximately 50 kg/sack, if sold at 40 pesos/kilo, totals 6,000 pesos*]. His parents set aside a bit for their personal consumption but sold the rest. Based on their experience, he concludes that the disadvantages of planting adlai are that it takes a long time to grow before harvest, and that you won't earn a lot if you don't plant a lot ("*dugay harbeson, og gamay ra imong kita kung gamay rai mong tamnon*").

Have you observed any changes in your life/your family's life since GM corn farming began?

He shares that when he had tried farming hybrid/GM corn farming in the past, he noticed that it is indeed a lot easier than traditional corn; he can do the labor on the farm himself and not have to get others to help him or pay for labor. But on the other hand, it doesn't give food security ("*wala gihapon makasigurado ang pagkaon*"), which demotivates him from farming it.

He shares that even his parents plant hybrid corn [*the sige-sige variety*] and use the glyphosate spray because of how easy it is. They usually still prefer to eat the traditional corn varieties, but if times are hard they will also eat the sprayed corn ("*pero kung wala talaga, kaonon gihapon ang gispray*").

One change that he has observed is that it's hard for people—his parents included—to know what to do if they want to change their livelihood ("*Wala na pud nila mahibal-an kung unsahon ang pagbalhin sa kinabuhian*"). There's a feeling that they have no choice in the matter.

He tries to look at both sides of the matter, he says. On the one hand, he can understand why people want to use chemical agriculture, especially if you can afford it—it really allows you to earn cash relatively quickly ("*paspas ang kwarta*"). But on the other hand, planting traditional crops, though these may be more labor intensive than the commercial ones, has a lot less costs on the farmer's part, and ensures that people have a secure source of food ("*Secure ang pagkaon adlaw-adlaw*").

Weighing the two, he wonders, which option has the most advantages and least disadvantages? He adds they previously had a workshop in Bendum with the mothers in the community, discussing the effects of glyphosate, and they all listened and participated in the workshop. But he thinks despite all the information they learned in the workshop; their hearts and minds were already set elsewhere.

Gali thinks that even if people have all the information available, it still ultimately depends on what their priorities are, and that will influence them when they reflect on and analyze the costs and benefits (*“depende sa ilang analysis...depende sa ilang pagbalanse sa ilang huna-huna”*). For instance, if someone gives them traditional seeds, say adlai, he thinks some people will give it a try, but most will still stick to hybrid corn (*“sa ilang analysis ba, dali makalamang ang kemikal”*).

Kelvin: Why do you think that?

He says he thinks people will not stop chemical farming because people will always think of the difficulty first (*“ang tao, ga una ang iyang huna-huna sa kalisod”*). They will first worry about the difficulty and how much labor it requires, the chances of failure will only come later in their analysis (*“dili nila analyze-on daan, first gyud ang kapoy”*). He thinks that even if there is a sure buyer with a fixed price for the adlai or another alternative crop. Their thoughts, he says, will always be on how difficult it will be, even without trying it first (*“wala pa nasulayan pero manghuna-huna nga lisod”*).

Do you think your children have more opportunities than you had? Or is it the other way around? What are your dreams for your children’s future?

For the future, Gali says he dreams that his children will live a balanced life, not poor, but not excessive (*“dili umaw, dili dili umaw”*). He hopes that they will learn to make good choices, to be able to balance for themselves what things are beneficial and what things are not beneficial (*“balansehon daan kung unsa ang makaayo sa atoa, unsay dili makaayo sa atoa”*). He also hopes that they will have a strong sense of and relationship with their community.

He hopes this because he has noticed that nowadays so many young people in their community just want to leave their place, no longer help their parents, no longer care for the land. They only seem to care about supporting their vices, being able to access things that they want, and having cash on hand. It doesn’t matter to them that they have low salaries, working odd jobs, what matters is that they have cash. This worries him because their elders [*tribal elders*] had fought [*figuratively*] for their ancestral land, but once the elders are all gone, who will manage the land? Who will care for it? Will the land just slowly be broken up until nothing remains of their community?

He wonders, of the young people who went to the city and came back, what did they gain from that? He speculates that maybe they just saw what their peers were doing and copied them, without really thinking about whether this will really benefit them or not. He worries also about a difficult future ahead for them and their families, if these young people don’t help their families plan for the future.

He shares that he had his own experience of working in the city, in Malaybalay. He took a summer job there when he was still a college student. But he was very uncomfortable with the life there.

Kelvin wonders if he has any peers in the community who think the same way, and if not, why does he think differently from his peers?

He shares that he doesn’t have any peers in the community that share his same reservations, particularly in terms of his worries for the future. He has a peer who is also concerned for the community and would like to be a future leader in the community, but there’s still a difference

between them. He thinks the difference lies in how he wants to hold on to and be faithful to his father's vision (*"pag gunit ko sa akong papa, paghikot ko sa vision sa akong papa"*).

This is also a reason why he didn't find working in the city attractive—what good did working in the city give to his family? He would serve other people [*many young people from Bendum end up working in service jobs in the cities, such as nannies, househelp, gas station attendants*], but how about his family? He says that one of his priorities is how it's necessary to continue what was started [by the community elders] (*"Usa sa akong huna-huna—kinahanglan naay mopadayon kung inu nasugdan"*).

He shares that when he was younger, he really wanted to become a soldier. In fact, he was ready to start his military training. But he started to reflect on his father's position regarding the military's presence in their ancestral domain [*indigenous peoples are often caught in the crossfire between the military and the communist rebels, accused by both parties as coddling the other; the Bendum Tribal Council has a strict no firearms policy that it tries to implement during military and communist incursions, which has led to animosity from both groups; a tribal elder was once assassinated by an unidentified armed group*]. It occurred to him that joining the military was tantamount to building the stairs that would let in those who would kill his father (*"ako ang maghimong hagdan para mapatay akong papa"*).

One thing that led to this difference is how he really tried to learn from his father's leadership. He recounts how he really tries to listen to his father and understand his decision-making process. He adds that growing up, he would go with his father everywhere he went, whether it was a tribal council meeting or just a drinking session where his dad would get drunk. He cannot find it in himself to turn his back on his father and his father's values.

Annex K

Interview 11: Farmer/trader/financier

5 February 2020

around 10 AM

Aglayan and Linabo, Malaybalay

Mr. J has sizeable businesses in Aglayan, a barangay of Malaybalay City that is much closer to the urban center than the barangays located in Upper Pulangi. He operates a large corn buying and warehousing operation in Aglayan where I went to visit him. From the warehouse, I was directed to his modest home located in a property behind the warehouse. He was late to our meeting because he was unexpectedly called to a Farmers' Meeting by a seed company sales agent, and what we had planned to be a brief interview of no more than hour long ended up with me tagging along for a few hours, observing a day in the life of a big farmer/trader/financier. Most of my interview was conducted in snatches—while in his pickup truck on the way to his farm, while having a snack, after the farmers' meeting we attended, thus the conversation is a bit disjointed in parts. At some points of the interview, we were also joined by his business associate/partner, Mr. F, a retired agronomist who spent 30 years working for agricultural input companies like Bayer.

Can you please tell me about yourself, your history here in the area, and how you began your business as a corn trader and financier?

I started my business as a corn buyer 13 years ago, I didn't get into financing right away. I have also been a trader/seller of agricultural inputs for 10 years, through my company. My most recent business venture, which I just started two years ago, has been developing a pre-mixed fertilizer, with the macro and micronutrients formulated according to the specific needs of hybrid rice and GM corn respectively. We have a 100-hectare farm where we developed and tested these products on seeds from major seed companies, specifically Pioneer, De Kalb [a Monsanto/Bayer brand], and Syngenta, and recently got licensed to sell the premix fertilizer.

I am really from Aglayan, while my wife is from Lanao (*another province neighboring Bukidnon to the west*). My interest in GM corn started when I got to go to a demo farm for De Kalb (they started farming GM corn in a small farm in Linabo). Prior to that, I was just a trader of corn and started selling fertilizer and other agricultural inputs, when I realized that farmers needed help with increasing their yields.

He shares that when he began his corn trading business, he only had a motorbike, and would sometimes buy newly-shelled corn that he would just dry on his own, on his mother's property.

He shares that on his farm he is currently farming three varieties—a variety from Pioneer, an NK (Syngenta) variety, and a locally-developed variety from the university in Isabela province which he is testing to see if it's suitable for the conditions in Bukidnon.

He adds after his mother retired early, she started a business selling animal feeds in Bukidnon for Ace Feeds, an animal feeds company based in the provinces of Bulacan and Pampanga (*these two provinces are just outside Metro Manila, the national capital*). This is how he got into corn buying, as his mother was the one who first introduced him to the Ace Feeds corn buyer who was interested in sourcing corn from Bukidnon for their production.

I cut the middleman for them. I buy directly from the farmer and sell directly to the feed company. The standard practice is for traders in Bukidnon to buy corn from farmers, then they sell the corn to

shippers/consolidators in Cagayan de Oro, who then ship and sell to the feed companies. He shares that capital is his only struggle, as now he sells directly to big feed companies like Philweco, Cargill, and Bounty Fresh. He's still working on establishing a direct line to San Miguel. This direct line to feed companies has been going on for just two years though. He started the corn buying following the conventional system, which he describes as "pasa-pasa," with the corn going from the farmer to the financier to the trader, to the middleman who consolidates the corn, to the shipper (called "P.O." in local parlance), to the company. He shares that having his own GM corn farm and his own large yields helped him build his credibility with the feed companies.

He explains also why we are headed to the Farmers' Meeting organized by De Kalb at the demo farm that he hosts in his farm. The sales agent, he says, is from the same college fraternity as he is, and called in a favour because their resource speaker didn't show up. So he's taking the opportunity as well to pick up his business partner, Mr. F, so they can talk about their new fertilizer product.

At this point, we stopped to pick up Mr. Fernandez, and headed for the farmers' meeting. The farmers' meeting was held in a tent set up in the middle of a newly harvested demonstration farm. Around the tent there were some corn plants left standing, with the ears of corn still on them, to serve as visible samples for the farmers at the meeting. There were about 30 farmers present, both men and women. When we arrived, one of the De Kalb sales team was explaining the benefits of this new GM variety they were selling, as it was not only Bt/Gt corn, it was also developed to resist infestation from the Fall Army Worm, an invasive pest spreading across the world but originating from Latin America. They then gave Mr. J and Mr. F some time to discuss their premixed fertilizer product, their recommended fertilizer application schedule, and how this could increase their yield. Some farmers in the back were sceptical though, as I overheard them say to each other that it would be too expensive to use or would require too much capital.

After the farmers were given the opportunity to ask questions, the farmers' meeting ended with a simple lunch of roast chicken and rice. I continued interviewing Mr. J after we had eaten.

What do you think causes low prices for corn?

Mr. J asserts that it's the import of raw materials like feed wheat that makes the prices drop, especially during harvest season. The imports, he says, cause an oversupply of raw materials for animal feeds. He was considering if it would be possible to request or appeal to the government to regulate the import of feed wheat, or to pause imports during harvest season.

For hybrid rice, for example, increased yields are in view of rice self-sufficiency (*the Philippines is one of the largest importers of rice in the world*).

He notes that he himself struggled when he started GM corn farming on 3 hectares, but because of the fertilizer mix and improved planting and input techniques, he was able to increase his yield and grow his farm size. He shares that he was able to grow his corn farmland to 100 hectares in five years but worries that this is not easy to replicate for other farmers.

One reason is because interest rates for financing are very high. The price that corn is sold for is low, but the costs of inputs are high (*"mamaligya tag barato, palit tag taas"*).

Another cause of worry is the arrival of ASF (African Swine Flu) in the Philippines. The hog raising industry will be affected by an outbreak, which means that the demand for animal feeds will go down, which in turn means that the demand for corn will go down as well (*"mao mohinay ang palit sa corn"*).

Mr. J then asks Mr. F for his opinion on the low yields and low prices of corn in the area.

Mr. F thinks sometimes it's because of how farmers mix their fertilizers. They will use a lot of nitrogen and phosphorous, but don't include enough potassium to meet the needs of GM corn. Traditional corn and non-GM hybrid corn varieties, he says, require little to no potassium because of the antagonistic effect potassium has on micronutrient uptake, but GM corn requires (and can tolerate) more potassium before the antagonistic effect happens.

Another factor he has observed from working with farmers is how plant spacing is inconsistent. Ideally, he says, the spacing should be from 65 x 20 cm to 70 x 20 cm. But if this spacing is not consistent or incorrect, the farmer can actually lose up to 1,500 plants (*"kung dili mao ang spacing, mawalan jud ka og up to 1,500 plants"*).

These two adjustments, he says, has increased yields for some farmers from 5 tons per hectare to 10 tons per hectare.

The general advice that the sales representatives give to farmers when asked about fertilizer application is not good, either. When they are asked about fertilizer application, they just say "farmer's practice." He shares that when the fertilizer is applied, how much, and where it is applied, makes a difference. For example, many GM corn farmers add *iti* (chicken manure) to their soil, but if they don't mix it into the soil, it won't improve soil quality.

In his view, what GM crops require farmers to do is to adopt new technology and techniques, not just changing crops or seeds. But that's not the way it has been approached. What he is trying to do now is to work with farmers to see what new techniques can be adopted by farmers to help them benefit from GM seeds while still maintaining the quality of the soil. He recounts what he and Mr. J have been doing with farmers in Silae (*another barangay of Malaybalay located in the Upper Pulangi*). They have been experimenting with burying calphos (calcium and phosphate) fertilizer in the soil while simultaneously planting GM corn seeds. They have had good results so far in increasing yields, but it is just more labor intensive than farmers' practice. Burying the fertilizer together with the seed as it is being planted, he says, has been a way of mitigating fertilizer run-off when planting in sloping lands.

Seed company agents, he says, don't specify what the GM corn seeds need, they just say "farmer's practice." And you really need to research what are the exact fertilizer requirements of Bt/Gt corn, as this information is not readily available.

(To Mr. J) Can I ask you about the financing side of your business now, and how it's going?

Mr. J says he has definitely scaled back this part of his business (*"gamay na lang ang akong gifinance"*) and is very selective about which farmers he finances. He has a "tie up" with First Valley Bank, where they give loans for 1% interest, much lower than the usual financing terms, on the condition that he's the one who supplies their seeds and input, and that they work closely with him and Mr. F to maximize their yield.

In the years that he has been financing, he has noticed that farmers who have 2 hectares of land or less have difficulty doing more than breaking even or having minimal profit. There's just not enough capital. Now he only finances farmers with who have 5 hectares or more because he can help them turn a profit. Less than that, profit is not guaranteed.

Another factor that has affected corn farming in the area is climate change, he notes. In the past, there would reliably be rain in the first quarter of the year, before the dry season of April-May. This is no longer the case in Bukidnon, he says.

The farmers are the ones who come to ask for financing, usually for inputs and fertilizer. Then they can return near harvest time (about 20 days before) to borrow cash (interest free) to buy sacks and pay for labor and other associated harvest costs. Over the years, he says, he has noticed that most farmers want to keep their input costs low.

What about those who come to you with land smaller than 5 hectares asking for financing?

He says that he discusses with them first why he doesn't take usually give financing to those with smaller plots, explaining how it's really difficult to make a profit with GM corn with small farm sizes, and how they will become dependent on borrowing money to keep farming GM corn. He wants to be able to help them be able to self-finance eventually, not become dependent on financing just to keep farming. If the farmer tells him that they want to eventually self-financing and not be dependent on borrowing money, he tries to gauge their openness to trying new farming techniques. If they are open to new techniques and seem dedicated to working towards self-sufficiency, then he will still agree to finance them, on the condition that they work together and use the techniques that Mr. J and Mr. F will teach them, so that they can maximize their profits and attain financial independence.

When he first started financing, he recounts that some farmers were reluctant to go into this type of arrangement because he didn't have his own farm. But after he started his farm and began growing it, farmers began to see for themselves that the techniques were really beneficial, and this helped grow their interest in working with him. The seed companies started to take notice too, and this led to his multiple demo farms. He believes that the seed companies think of him as a kind of "influencer" that will help them sell their products.

His decision to do this with his financing business has a lot to do with what he has learned from his corn trading experiences, he says. He has seen how most of the big corn buyers that consolidate the corn for the big companies (*those who have P.O.'s, short for Purchase*), are all based in the city, are good at networking and marketing ("*laway ra ang capital*"), engaging in paper trading in Manila—they don't really have directly relationships with farmers at all. He realized that becoming a trader who is also a farmer, who has direct relationship with farmers themselves, but also sells direct to companies, was going to make a difference. He states that it was important to him to not sell exclusively to one feed company, but at the same time still be able to sell corn directly to companies, so that he can take advantage of who offers the best prices at a certain time and pass that profit back to the farmers.

Another thing that he has noticed in his years of corn trading is how these traders with a PO collude on a lot of things, to the detriment of the farmers. They collude to keep buying prices uniform, they collude about how much corn they sell to what company ("*magsinabot sila tanan sa presyo, sa tonnage na pwede nimo ibigay sa kompanya*"), as a way of controlling and minimizing their risk in the market. But this has a detrimental effect on farmers that they may not realize. This is something he has difficulty dealing with, since this type of collusion is accepted as common practice.

He also quickly notes that the improvements in the quality of the highways and farm-to-market roads have been a big help for his business. He brings up the example of Mrs. B, who was once his client (he used to supply her inputs) but is now his competition in the corn buying/trading business. The roads allow her to go into areas previously inaccessible.

He also notes that in the past, farmers' meetings used to be held at the same time by the different seed companies. This helped farmers compare the seeds better. But seed companies don't do this anymore.

(To both) What keeps you going?

Mr. J:

He says that what keeps him motivated is the desire to share the techniques that can help farmers. He says that when he thinks of this, he feels like he can't quit (*"di mo pwede sukho"*).

He reflects that yes, he has been blessed in his business, but it's also hard work. Now that he has many employees (*"gatos kapin mga tawo"*) he can't just sit back and take it easy, as their livelihoods are tied to the business. He feels that it's a big responsibility to keep the business going (*"dako ang responsibilidad"*). There's no time to rest, he says.

He adds that the average small farmer with land less than 5 hectares really need patience. Many of them may still be traditionalists (*"mga tradisyunal pa mag-isip"*), doing things out of tradition without examining the reasons behind the tradition. For instance, he says when he asks "why do you plant at this time of year?" the usual answer is that it's what's traditional and what they're used to doing. It requires a lot of patience to help them understand that the GM seeds have different requirements from traditional crops, how to farm them in a sustainable manner, and to explain how it would be a waste of the expensive seeds to put the wrong inputs (*"sayang ang mahal nga semilya pero butangan og daot"*).

Small farmers are really the most disadvantaged, he says. For small farmers, there are no crop technicians who visit them to advise on their crops. Nobody tells them about crop nutrition for GM corn, not even the representatives from the seed companies. At most, they get information about crop protection, for applying herbicide and insecticide. But crop nutrition, which is the most important to ensure large yields, they get no information at all. Add to that the costs of financing and the changes in the climate, the smallest farmers are really going to suffer (*"luoy ang wala maka-finance, ang walay makaadapt sa climate change"*). Those with capital will find it easy to adapt, but what of the small farmers.

Mr. F:

The DA (Department of Agriculture) doesn't have enough people, especially field technicians. But these are the most necessary jobs to support the small farmers, he says, especially if we want to get small farmers out of poverty (*"aron mabawas-bawasan ang pobre"*). Especially for rice farmers, he says that it frustrates him to know that they could be harvesting and earning more than they currently do. It's only the companies—seed and chemical companies—that go around to visit farmers. During his time working with chemical companies, the DA would go to the companies to ask and learn about new technologies, but that seemed to be the extent of their research.

He recounts that for 30 years working in these fertilizer companies, he had no contact with farmers. Now, he's finding it a good challenge to communicate his knowledge to the farmers, to show them that these fertilizers and techniques will help them with their livelihoods. He has realized that farmers are only familiar with traditional fertilizers and have been using the new fertilizers as though they were the traditional ones, or using traditional fertilizers on GM seeds that need different formulations.

He says that he's enjoying his work now, being able to survey farmers about what they use in their farms and compare it to what the GM seeds actually require (the desired nutrient uptake)—which the

seed companies never say when they sell the seeds, but are made available through scientific literature. He's also figuring out how to explain these to farmers without hurting their ego.

One strategy that they've been taking to sell their pre-mixed fertilizer product is if the farmer decides to try out their product, they will only pay for the fertilizer if they are satisfied at harvest time. He says that farmers need to see the results to believe in the effectiveness of the product.

He adds that out of all the fertilizer companies, they are the only ones they know of that give fertilizer application protocols to the farmers. (*Below is a sample protocol they give to rice farmers; I ended up giving my copy of the corn protocol to a farmer who asked for it.*) From working with the farmers, he has realized that seed and fertilizer companies are not sensitive to the farmers' situation and plight (*"dili sensitive sa plight sa farmer ang mga companies"*). It makes him happy to see farmers harvesting more and earning more for their efforts (*"malipay na gyud ko na madako ang abot ng farmers"*).

Another concern he brings up is how the costs of seeds are a lot more expensive for GM corn compared to hybrid rice—it costs on average 11,000 pesos for a standard bag of corn seeds versus 4,000 pesos for rice.

*Ang Bagong
ABONO-BLENDED
With Micronutrients
PARA SA HOMAY*



**RSG
(RICE SUPERGROW)
Fertilizer for Rice**

**NPK
21-6-6**

+ Magnesium, Zinc

BY: **MAXIGROW**
Complex Fertilizers

FPA REG. No.

RICE needs 18 Essential Nutrients
para Taas nga Abot ug Dakong Kita

RICE SUPERGROW
(with Micronutrients)

| | |
|---|-------|
| NITROGEN (N) | 21 % |
| PHOSPHORUS (P ₂ O ₅) | 6 % |
| POTASSIUM (K ₂ O) | 6 % |
| ZINC (Zn) | 0.2 % |

G1. Para sa Taas nga Abot ug Dakong Kita
(For Reservation & INQUIRIES: GROWER AGRICULTURE SUPPLY, Aglayon - Cell no. 0917 632 1109)

RICE ALTERNATIVE FERTILIZER GUIDE

#1. HIGH RATE: 115-118 Days Mat: DATE Seedbed Sabwag:

| APPLICATION TIMING: QTY/GRADE | DATE to APPLY | N | P | K | Mg | Zn | COST/ bag |
|--|--|------------|-----------|-----------|-----------|-------------|---------------|
| SEEDBED TREATMENT w/ VITAL N Bio-fertilizer 2 Days before Transplanting | | | | | | | |
| 3-6 DAT | 5 bags RSG | 52 | 15 | 15 | | | 1,150 |
| 13-16 DAT (MaxTillering) | 1 bag UREA 1 bag 0-0-60 | 23 | - | 30 | | | 900 1,000 |
| 24-27 DAT | 4 bags RSG (5 days before mag Buntis) | 42 | 12 | 12 | | | 1,150 |
| 50-55 DAT | 2 bags RSG | 21 | 6 | 6 | | | 1,150 |
| TOTAL Nutrient kg/ha. | | 138 | 33 | 63 | 24 | 600g | 14,550 |

#2. MEDIUM RATE: 115-118 Days Mat: DATE Seedbed Sabwag:

| APPLICATION TIMING: QTY/GRADE | DATE to APPLY | N | P | K | Mg | Zn | COST/ bag |
|--|--|------------|-----------|-----------|-----------|-------------|---------------|
| SEEDBED TREATMENT w/ VITAL N Bio-fertilizer 2 Days before Transplanting | | | | | | | |
| 3-6 DAT | 5 bags RSG | 52 | 15 | 15 | | | 1,150 |
| 13-16 DAT (MaxTillering) | 1 bag 21-0-0 1 bag 0-0-60 | 11 | - | 30 | | | 500 1,000 |
| 24-27 DAT | 4 bags RSG (5 days before mag Buntis) | 42 | 12 | 12 | | | 1,150 |
| 50-55 DAT | 2 bags RSG | 21 | 6 | 6 | | | 1,150 |
| TOTAL Nutrient kg/ha. | | 126 | 33 | 63 | 22 | 550g | 14,150 |

#3. LOW RATE: 115-118 Days Mat: DATE Seedbed Sabwag:

| APPLICATION TIMING: QTY/GRADE | DATE to APPLY | N | P | K | Mg | Zn | COST/ bag |
|--|--|------------|-----------|-----------|-----------|-------------|---------------|
| SEEDBED TREATMENT w/ VITAL N Bio-fertilizer 2 Days before Transplanting | | | | | | | |
| 3-6 DAT | 5 bags RSG | 52 | 15 | 15 | | | 1,150 |
| 13-16 DAT (MaxTillering) | 1 bag 21-0-0 1 bag 0-0-60 | 11 | - | 30 | | | 500 1,000 |
| 24-27 DAT | 3 bags RSG (5 days before mag Buntis) | 32 | 9 | 9 | | | 1,150 |
| 50-55 DAT | 2 bags RSG | 21 | 6 | 6 | | | 1,150 |
| TOTAL Nutrient kg/ha. | | 116 | 30 | 60 | 20 | 500g | 13,000 |

Disclaimer: The information contained herein is accurate to the best of MAXIGROW Fertilizer Blenders' knowledge. Recommendations are based on field trials result.
More Potassium @ Seeding/Tillering Stages is more effective. Potassium @ Heading (Boswak) will increase resistance to lodging, pest & diseases BUT will NOT INCREASE Yield.