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Reciprocal Technologies: Enabling the Reciprocal Exchange of Voice in Small-Scale Farming Communities through the Transformation of Information and Communications Technologies

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Appendix D: Significant messages published by the participants of the case studies.

The messages shown in this appendix attempt to represent how the interests of the participants in both case studies evolved over time. Each message included its corresponding picture,¹ a transcription of its accompanying audio clip and the date when it was posted.

1. *Sauti ya wakulima.*²

1.1. Significant messages posted by participants between March and May 2011.



Sent on March 14th.

This lady is from Bagamoyo, her main activity rice cultivation. We have visited her to find out how she is affected by climate change. I really do not know if

1 As stated on the websites of Sauti ya wakulima and Los ojos de la milpa, all the audiovisual contents are published under a Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License. For more information about this license, please refer to <http://creativecommons.org/licenses/by-nc-nd/3.0/> (retrieved 21.05.2015)

2 The texts included in each message are transcriptions of the original audio clip in Swahili, translated into English by Cecilia Leweri, a Tanzanian student of wildlife conservation who completed a short stage at the Swiss Federal Institute of Technology. She continued to translate the audio clips posted by farmers even after she returned to Tanzania. Although she is not a professional translator, her translations and transcriptions were appropriate enough for us to understand the voices of the farmers. For this dissertation, I have slightly corrected the style of her transcriptions.

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she will reap anything when it rains, as it is too hot now. This is the reality of how rice farmers are affected by climate change.



Sent on March 15th.

This is Mr. Kobelo. He is not only a farmer, as he is also raising goats. Following the effects of climate change on agriculture, he sells one of his goats to earn income and run his daily life, rather than relying on agriculture only.



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Sent on March 15th.

My name is Ally Issa Salum, I am one of the small growers of coconuts and cashewnuts, as well as animal keeper from the Chambezi community. I have visited our fellow entrepreneur Mr. Kobelo from Mataya, Bagamoyo, to see how he runs his agriculture and animal keeping activities, and also to know how he overcomes the effects of climate change. He has made good progress in watermelon production, as he was able to harvest 1500 fruits from a field of only 0.5 hectares! He insists that others should engage themselves in this type of agriculture, so that they can earn their living through it.



Sent on March 16th.

These are teak seedlings which have been affected by drought. The main problem that small entrepreneurs face in this place is unreliable water supply from our wells, so we are calling upon people who can help us to solve this problem so that we can easily run our activities.

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Sent on March 19th.

Among the lessons learned in the farmers' class was how to grow things in a professional way. This field consists of mangoes, oranges, bananas, coconuts and cassava, all of which have been grown in a professional way. You are most welcome to come and see.



Sent on March 20th.

I visited the old man who owns these potatoes and, luckily, I was also able to

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visit his okra farm. I have seen so many insects affecting his okra, I tried to take pictures of these insects flying off. He asked if there is a possibility that the agricultural officers pay him a visit to see how they can help him to solve this problem.



Sent on March 22nd.

As you can see this is a well which is now drying. I can not carry on with my farming activities anymore, please help me.

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Sent on April 8th.

This coconut tree has been affected by a pest known as chonga.



Sent on April 8th.

This cassava plant has been affected by a disease that causes a yellowish color on the leaves.

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Sent on April 21st.

Today's rain has caused a lot of disasters. As you can see, this field with young maize plants has also been destroyed.

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Sent on April 26th.

Today, 26th of April, it is raining quite a lot in Buma, Chambezi and Chimala. I think people with small houses are at risk now.



Sent on April 27th.

What you see here are the farms that belong to small farmers from Buma at Kigoda valley. This water is a result of yesterday's rain. We are happy that it rained, but it's a bit of a problem for those who were late to plant rice. Most of the

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young rice plants have sunk.

1.2. Significant messages posted by participants between May and September 2011.

Since May 31st, the group of farmers began to use the phones to conduct interviews systematically. They conducted the first interviews among themselves but, progressively, they started to approach other people. Here are some examples, the first of which involves Mr. Ally Issa Salum interviewing Mr. Haeshi Shabani after he had learned how to grow maize in mounds:



Sent on June 1st.

My name is Ally Issa Salum, one of the small farmers growing mixed crops. I am also a member of the Chambezi community in Bagamoyo, in the Coastal Region of Tanzania. My responsibility is to take pictures and have short conversations with small farmers, and later post them to the Internet so as to ensure that information is shared among them. This includes learning about climate change as well as how others carry out their farming activities i.e. farming techniques, plant diseases and pest control, and also to advertise our products and broaden our market. Also through this we are going to tell the agriculture officers to visit us as soon as we need them.

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I have visited one of the farmers who is a real a model for those who grow maize. He is from Kimeremeta neighborhood of Mataya village.

I am going to ask him his name. What is your name?

- Haeshi Shabani.

I have learned something from you. Given that this village is characterized by sandy soil, most people prefer to grow cassava, especially during rainy season, as the soil is always water logged. Which technique did you used to get such nice looking maize?

- I planted them on mounds.

Which variety of maize did you grow?

- Kito variety

Good, have you faced any challenge by planting these maize on terraces?

- The biggest challenge were pests.



Sent on June 2nd.

This is Mama Rehema. Apart from permanent crops, she is also growing

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groundnuts. Let me ask her how long does it take for them to be ready.

How long does it take for the groundnuts to be mature and ready to use?

- 4 to 5 months.

Which variety is this?

- It's the big nuts but I don't know the actual name.

Where did you get the seeds?

- I bought them from the shop.

How long have you been growing groundnuts?

- Almost every year.

How much sacks do you get from one acre when they still have pods?

- 10 to 12 and sometimes 20 sacks.

How do you sell the nuts, do you peel them first?

- No, I normally sell them with pods and I use the buckets to measure them and sell to other farmers and business people.

How many buckets can you get from one sack?

- I normally use the 50 kilo sacks and one would have about six buckets.

How much do you get by selling one bucket full of groundnuts?

- The prices vary depending on the availability of groundnuts, last year it was 8000 Tanzanian Schillings.

Thanks a lot, what advice can you give to other farmers in your village, in Bagamoyo and Tanzania in general?

- I have been going around the village but haven't seen anyone else growing nuts.

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What can you tell them about growing groundnuts?

- I advice them to plant groundnuts as they are not affected by pests and the sandy soil of Bagamoyo can support their growth.

Which season do you think is the best for Bagamoyo people to grow groundnuts? Is it autumn or spring?

- Spring time, especially in March.

Thanks. As you have heard from her, she is growing different types of crops and she advises other farmers to do the same, as she thinks that by doing so one could easily raise their income.



Sent on July 1st.

What is your name?

- My name is Fadhili.

What are you dealing with?

- I am cultivating watermelon.

When did you start with this activity?

- It's been a long time, like five years ago.

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What are the benefits of this activity, and what are its challenges?

- The challenge is that we are facing a problem with water supply. We are only using man-made wells which do not have enough water. And the benefits are that we earn our living through this activity though we cannot grow large quantities as we do not have water.

Is this the reason why some places are watered and some are not?

- Yes, that is the major challenge. The wells have a very small amount of water, and thus we need to have small farms and wait for the next season.

Can we see that well?

- Yes, it's just nearby.

The following messages were published by the participants during the Nane Nane show. At the show, the participants of the project used the smartphones to carry out interviews with farmers coming from other regions, as well as people who were presenting technological innovations.



Sent on August 4th.

What is your name sir?

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- My name is Nazareno Kisinini

Mr. Kisinini, I have seen some onions and a tank above them, what kind of farming technique is this one?

- It is called drip irrigation, it is a technique that can allow one do other activities while irrigation takes place through small drops.

Where did you get this knowledge?

- We were trained by our experts from Ilala. These people go to different villages to teach people about modern farming.

Thank you very much, this is very nice. What is your advice to other Tanzanians?

- They should come to these exhibitions so that they can learn on how modern farming is being practiced.

As you can see on the Internet, this tank is connected to tubes which run from one channel to another. This exhibition helps farmers exchange their views and learn from each other. Thank you very much.



Sent on August 4th.

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I am still in the pavilion that belongs to Ilala region, where there are a number of women entrepreneurs .

What is your name madam?

- My name is Goodness Charles, I am from Gongo la Mboto in Ilala.

Thank you. Madam, what are these products and how did you prepare them?

- We are a group of women who process vegetables, fruits and grains. Today we are showcasing pulse and pumpkin leaves, we also have tomato paste and jam, processed dry mangoes, dried mushrooms which can be used as vegetables and mushroom powder which can be used to prepare mushroom soup, and snacks which have been prepared from fried spinach seeds. We also process flour from the same seeds after drying and grinding them. This flour can be used to prepare porridge, ugali, bread and other things. We also have peanut butter for bread and soy, which can be used for tea or adding nutrients to infant food.

Thank you very much, I think most of those products can be easily seen here. What is your advice to other women around the world?

- I advice them to consume local products prepared by women entrepreneurs as they do not have any added chemicals.

Thank you very much, I think you have gotten the message from Ilala. I did not know that vegetable seeds could also produce flour, but the people from Ilala have shown us. If someone want to get this knowledge, madam will tell us where we can find them.

Madam, tell people where they can meet you.

- They can find us at Tabata Segerea and Gongo la Mboto in Ilala.



Sent on August 4th.

Here I see a machine and cassava flour, I will interview the owner to get more details.

What is your name sir?

- My name is Mbaudi Selemani, I belong to a group of disabled entrepreneurs called Mvuti. This is a machine that grinds fresh cassava. Once you get fresh cassava from the farm, you peel it and grind it in this machine to get small pieces which may be dried later and ground using the normal machines to get cassava flour. Then you sieve it to get fine flour, which can then be used to prepare ugali, cakes, buns and spaghetti. You should consider that cassava flour is highly nutritious: it has proteins, carbohydrates and minerals.

What is the weight of each packet seen here?

- Each one weighs one kilogram, and is sold for 1500 Tanzanian Schillings. There is a carton there with ten packets in it, and it is sold for 12500.

How do you motivate Tanzanians to use your technology?

- They should use it! Come and use this machine to process cassava, you will be able to add more value to your products.

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Thank you. For the cassava growers, this machine is a new technology. I will ask this man to give us his message about cassava production. People should engage in cassava production as it is more valuable than other crops, just have a look, one kilogram of maize flour is sold for 800 Tanzanian Schillings, while cassava is sold for 1500.

Thank you.



Sent on August 5th.

I am in the pavilion of Rufiji district, and here is a farmer.

What is your name sir?

- My name is Mr. Daudi Mtiga.

Mr. Mtiga, I have seen you have a new variety of pumpkin, which variety is it?

- It is called mshumaa (candle).

Is this special from Rufiji, or can it also be found in other places?

- It is special from Rufiji. As you know, the Rufiji valley is a place that produces pumpkins that meet all the national and international quality standards.

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Do you mean that we should all come to Rufiji?

- Yes, it is a big valley, suitable for many different crops.

What are the benefits of planting pumpkins?

- You can get money, food and spices, as well as soil conservation.

Do you plant them on their own or with other crops?

- I practice agroforestry.

What is your message to other farmers?

- Pumpkins are good crops because they help to conserve the soil and may be stored for a long time without suffering damage.

Thank you very much Mr. Mtiga for this useful knowledge about pumpkins, it is my hope that other farmers will see it on the Internet.

Where can people find you in case they are interested in your knowledge?

- I am available in the small town of Utete in Rufiji district, they should ask for the agriculture officer.

Thank you very much, it is my hope that people have learned from this and that they can start growing pumpkins so that they can increase their income.



Sent on August 6th.

Mr. Mbonde, how do you call this building?

- It is a greenhouse.

What is it for?

- It protects these tomatoes from pests.

What variety of tomatoes is this one?

- It is called Ana F1.

How long does it take for them to produce fruits?

- They take 15 days to grow into seedlings. In 75 days, after they have been transplanted, the fruits start to ripen and while they are inside the greenhouse you can harvest them for up to a year, but if they are outside you can only harvest them for six months.

How long can a ripe tomato stay fresh?

- If it is still in the garden it can stay for three to four weeks. After this time it may easily be transported.

How many baskets of tomatoes do you expect to get from this place?

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- About 1000 kilograms, which is equivalent to 50 baskets.

Where do you sell your products?

- They are highly marketable, and they are bought even by Shoprite³ because we do not use a lot of chemicals on them.

As far as I know, most small farmers cannot afford to pay for this building, what is your message to these people?

- I advice them to grow the tomatoes outside. After a while they will get the money to buy the greenhouse.

Where did you buy the greenhouse?

- Our company sells them, in collaboration with an industry located in Nairobi.

In the following picture, Mr. Hamza may be seen showing the project's web page to other farmers who attended the Nane Nane show in Morogoro.



Sent on August 7th.

These are small farmers from Lugoba Bagamoyo. They are here to learn

³ Shoprite is the name of a high-end supermarket in Dar es Salaam.

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from other farmers at the Nane Nane show.

Although interviewing others was the most significant activity between May and September 2011, the group also continued to use the phones to report on the conditions of their crops and notable weather events.

1.3. Significant messages posted by participants between September 2011 and April 2012.

In the last months of 2011, a number of agricultural fairs were held across Tanzania. Such fairs increased in number and intensity mainly due to the fact that Tanzania celebrated its 50 years of independence in December. The Chambezi group used the phones to interview the attendees of the events, as they did in the Nane Nane show. The following picture was taken at the cassava week, which was celebrated in September.



Sent on September 14th.

The group Sauti ya Wakulima also visited Mr. Ngatawa, and they are going to interview this farmer from Ukerewe. He is going to start the interview now

Dear farmer, what is your name?

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- My name is Robert John, you are welcome.

What is the name of the variety of cassava found in your pavilion?

- This is kiroba variety.

How did you prepare the cassava that we see in the picture?

- It was prepared locally by sun drying cassava for two to three weeks.

Do you have a modern way of drying cassava?

- Yes, we have a good way which requires just one day for cassava to dry. To do this, we use a machine manufactured by SUA (Sokoine University of Agriculture), it dries the cassava very fast.

The Chambezi group did not limit itself to interviewing other farmers. In the following picture, for example, they interviewed a government officer.



Sent on October 5th.

This pavilion belongs to the Prime Minister's office, provincial administrations and local government for the Coastal Region Commission. I have met someone who I am going to interview.

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What is your name sir?

- My name is Edward Bruno Mwakipesile, I am an economist at the regional commissioner's office for the Coastal Region. We are here to tell people what has been achieved by the region since independence. All other districts are also here to do the same. Despite the challenges that we came across since we declared our independence, we have tried very hard to overcome them, and we have achieved many things. We are proud of the fact that all sectors are well developed now, as compared to the time when we declared independence. For example, when you look at the education sector, you will find that we had only 5 secondary schools but now we have about 143 of them. This is a great achievement. When it comes to agriculture, by that time we had no tractors, but now we have plenty of them.

Besides the interviews at fairs, members of the Chambezi group documented episodes of farmer-to-farmer learning and even encouraged them to learn from others, such as in the following example.



Sent on October 9th.

I am very thankful that this lady has visited us so that she can learn something about watermelons from the Muungano group.

She was highly motivated when she saw these youths producing such big

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watarmelons. She is the mother of the sponsor of these youth, but she also wants to learn something so that she can practice it when she gets back home in Iringa.

What is your name madam?

- My name is Anneth Mshenga.

Why did you come to visit this garden? What do you intend to learn?

- I want to learn how to cultivate these fruits so that I can grow them as well.

Very good, we are going to explain to you as follows: once you get home and prepare your farm, you have to look for a water source. You can use water from DAWASA (Dar es Salaam Water and Sewage Authority), which will be expensive, or you can look for underground water. After you prepare the round holes whose diameter is like this big tank, you have to dig it to a height of eight centimeters. The distance from one hole and one line to another should be between half a meter and one meter. Then, fill the holes with manure using a five liter gallon. The manure can be from chickens or cows, if it is cow manure you have to mix it with the soil and water the holes for three days, then soak the melon seeds one day before the planting day. When planting, you have to plant three seeds in one hole so that at least one may survive in case some are dead. You should plant them at a depth equal to the length of your finger. After this you have to wait for five days and then spray them with pesticides.

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In October, the group began a trend of documenting talks and training sessions, such as the following presentation on cassava and potato participatory breeding research.



Sent on October 18th.

I am going straight to the group leader, he is going to tell us the aim of this meeting that involves farmers from Buma and Mataya.

What is your name sir?

- My name is Fredy Jairo, and our aim is to look for potatoes and cassava seeds which are more resistant to droughts. This is a collaborative research that involves farmers. The aim of today's meeting is to inform farmers about our research and also to involve them in each step we are taking. We have trained them on the required statistics and the benefits that they will get from this process. Everything has been carried out both in theory and in practice.

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In November Mr. Ally Issa took up the task of visiting different areas of the Coastal Region to interview other farmers. His interviews were thorough, as he systematically tried to find out the details of the diverse agricultural techniques he encountered during his visits.



Sent on November 20th.

I am with Mr. Ndenga at Kimeremeta suburb in Kilomo ward, Bagamoyo District of the Coastal Region.

It is very interesting to see that these people have managed to use the sandy soil for agriculture just by using urea and manure.

Mr. Ndenga, you had previously told us that you had only planted tomatoes, but I can also see there are other things among them. What are they? These are carrots.

Do you mean that carrots can grow on sandy soil? This soil does not support any agricultural practices, so we are forcing it by using manure. At least it help us grow what you can see here.

Which fertilizers are you using? I am using chicken manure.

Thank you. These people do not grow only tomatoes and carrots, they also grow okra and maize.

Let's move on to the maize field and see how they look like, and how these people have changed sandy soils into productive soils, as if they were in Morogoro.

1.4. Subsequent significant messages.

Between December 2012 and June 2013, the participants of Sauti ya wakulima continued to publish messages, most of which followed their explicit interest of interviewing other people in order to learn from them. Notably, the participants began a new trend by using the platform as a means to denounce conflict and crime. On January 10th, for example, a complete report about an incident in which cows which belonged to a Masai pastoralist invaded a farm and damaged its crops was published.⁴ This trend continued, with further denunciations of a speculator who illegally bought products from farmers at low prices,⁵ or a person who had stolen coconuts from a farm.⁶

4 The complete report is available at the following URLs:
<http://sautiyawakulima.net/bagamoyo/bagamoyo.php?c=5&date=2013-01-10&from=15>
<http://sautiyawakulima.net/bagamoyo/bagamoyo.php?c=5&date=2013-01-10&from=10>
<http://sautiyawakulima.net/bagamoyo/bagamoyo.php?c=5&date=2013-01-10&from=5>
<http://sautiyawakulima.net/bagamoyo/bagamoyo.php?c=5&date=2013-01-10&from=0>
(all retrieved 18.11.2014)

5 The messages which denounce the speculator may be seen at the following URL:
<http://sautiyawakulima.net/bagamoyo/bagamoyo.php?c=2&date=2013-06-28> (retrieved 18.11.2014)

6 This incident, in which a person had been caught stealing coconuts from a farm near Chambezi, had strong consequences which led to an interesting discussion. After being caught, the robber was brutally beaten up by farmers, and exposed to public derision. The messages which documented the punishment were sent to the project's web page, and featured images which could be rather disturbing for the general public to see. Therefore, I discussed with Mr. Hamza whether to remove those pictures or to leave them as evidence of the crime. After realizing that the images would probably affect the public perception of Sauti ya wakulima, we decided to remove them. This was the only case in which contents published by the participants of Sauti ya wakulima were deleted because they were found to be inappropriate.

2. *Los Ojos de la Milpa.*⁷

2.1. Significant messages posted by participants between February and April 2012.



Sent by Santa Ana on February 10th.

I'm doing the winter pruning, with the purpose of helping the blossoms get stronger and making the fruits grow more abundantly.

⁷ The texts which accompany each picture are English translations from transcriptions in Spanish. The Spanish transcriptions, in turn, were translated from Mixe, which was largely used to record the original audio clips.



Sent by Santa Ana on February 12th.

We are thinking about how to put trees in the milpa, that's the system. So, the most important activity we are doing now, during these months of January and February, is the pruning of peach trees. We are seeing, that the little trees are sprouting favorably. The problem we have here appeared because we didn't apply the treatment, but it's never too late to fix this tree. Then, there are different activities which we must perform, we are noticing that the trees are really a bit sad and, for this reason, we have to rehabilitate them.



Sent by Juquila on February 14th.

Here you can see another peach tree. It has grown too much, so we have to prune it and cut a few branches. If these branches aren't cut away things can get worse, so we have to prune without compassion.



Sent by Juquila on February 17th.

- *So we cut off this one here, it's enough like this. The problem is that it's too low, and when the soil comes down it remains underneath.*

- *Yes, when they fix that road all the soil ends up here.*

- *That's all right, anyway the soil here has to be mixed and loosened, so that it has to go down, that's why we make this groove, so that the soil can become levelled. We need to work the lower parts, since the branches have to go upwards. The soil is OK here, it accumulates anyway and it will become levelled somehow.*

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Sent by Juquila on February 17th.

This is how peach groves look like if you start taking care of them when they are small, if you make land fallow, you loosen the soil around them and they will look this nice.



Sent by Juquila on February 21st.

Today, we are fumigating the peach trees that we planted last year. Now they are growing and flowering, although that took a lot of effort. Now our son is fumigating them, because we want the peaches grow well. Today, you are seeing and learning: if you have them, you must fumigate them like this, so that there will be fruits and you may benefit from them and raise money from your efforts; you just have to work hard.

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Sent by Juquila on February 21st.

Here we are, working. That's what the peach trees need: one has to loosen the soil and check them constantly. That's the only way the peaches can grow well, that's the only way we'll be able to get money from them. This image is just for the record, so that we'll all work like this, even if it's hot, what can we do about it?



Sent by Juquila on February 23rd.

Just like this, as you can see in this image, is how the plant should be left. It

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has been pruned and even whitewashed, and it has also been fumigated. And this is how it should be left, now it only needs water.



Sent by Juquila on February 28th.

This is how we weed the peach groves, it is necessary to remove all the weeds so that nothing will stop them from growing well. Some branches were pruned so that the trees may flower, but they will grow again.



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Sent by Santa Ana on March 5th.

For this pruning, we are selecting the main and side branches, so that trees won't interfere with each other, and also to allow them to receive the energy of the sun.



Sent by Santa Ana on March 11th.

Right now we are doing the second fallowing, we are clearing the lands to start planting maize.

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Sent by Santa Ana on March 24th.

In this practice we are planting native varieties of maize, applying the potassium chloride fertilizer and the 18-46, which is diammonium phosphate.

2.2. Significant messages posted by participants between April and July 2012.



Sent by Santa Ana on April 2nd.⁸

- Good afternoon Mr. Germán, what are you doing?

- Well, we are planting according to the MIAF system, and here we are planting maize using direct fertilization. In this case we are applying the 17-17-17 fertilizer with three maize seeds, but we are using the MIAF system.

- And what variety of maize are you planting?

- The variety of maize is a native one from here, in Tlahui we call it criollo. Regarding fruit trees there are two varieties, which are Diamante and Oro México, as you can see here in the images of maize and fruit trees.

- All right. Thank you very much.

⁸ I conducted the interview in this message, with the purpose of showing Germán Vázquez how to interview other farmers.



Sent by Juquila on April 3rd.

(Fragment of tepache offering)

... may our maize sprout and grow well, may the weather be favorable for its growth; this is what I ask, brothers, sisters, compadres, please receive this tepache. Let's toast!

- We receive this tepache. I will say some words... we have come to give our hands and our feet (in this seedtime), in the measure that the Giver and Creator of life allows us to, and so we ask him to offer us his help and protection...



Sent by Santa Ana on April 5th.

I'm doing the summer pruning, selecting the plants, selecting the mixed branches, the ones which will bear fruits in the next cycle. I am clearing the mixed branches so that there will be more production next year. This tree is good, but it takes up a lot of space because there is a proportion of 150 centimeters between the milpa and the trees. They measure 300 centimeters, 3 meters wide and it's 50 upwards, down and to the sides. That's why we are doing the pruning, each year, always, that's all.



Sent by Santa Ana on April 10th.

Well, here we are serving tepache to show respect to the Earth. We are planting maize now and in each hole we place four seeds, which already have fertilizer. The fertilizer we use is er... it's called 17-17-17, and we know what it's for, and that it is the result of mixing three products. We do this so that maize can grow with fertilizer from the start, because small maize plants need nutrients, not when they are already big, they don't need them then. And we are also doing it in this way because we want to try out what the engineers say, that's why we're testing this method.



Sent by PMSL⁹ on April 13th.

This is a rustic trap for fruit flies, which was placed at mid-height on the peach tree, where it is a bit shady and the liquid may be retained. This is used for trapping the fruit fly.

⁹ PMSL, the acronym of Proyecto de Manejo Sustentable de Laderas (Sustainable Hillside Management Project), was the name chosen by Mr. Odilón to identify his messages.



Sent by PMSL on May 4th.

- How do you see the peaches? How are they ripening?

- Well, they look good, they look good to me. It's just that they need to grow a little more, but that's because the thinning was not done properly. They looked better when I did the thinning, I think they take longer to grow, but there are still more of them coming. If they had come out already, we would have done the thinning, like this one here, we would have cut them already. They grow better if you do the thinning.

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Sent by Juquila on June 1st.

Here you can see that we are fertilizing the milpa. We planted maize on the 22nd of April and, today, on the 1st of June, we are fertilizing. Forty days have passed, and that's the time that must pass before fertilizing the milpa.



Sent by Juquila on June 23rd.

Well, we're going to tell you about this photo. Today is the 23rd of June, the time has come for plants to sprout, now the peach trees are greening and the maize

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plants have grown quite a lot, because we fertilized them when they were little, and now they look very pretty.

2.3. Significant messages posted by participants between July and October 2012.



Sent by PMSL on July 13th.

Here we are in Santa Ana, in a meeting with farmers. They have come together to make a plan for the prevention of diseases in fruit trees, in this case peach trees. We are also going over all the processes learned in the workshops, from the planting of maize to its fertilization and weeding. And we still have to talk about the issues related to peaches, the summer pruning has been done in some parts.



Sent by Juquila on August 7th.

Today, on the 7th of August of 2012, we are here in the community of Tlahuitoltepec, Mixe, Oaxaca. In this picture we see the forging of two bells, because the previous bells, the ones we have here, have deteriorated: they're broken, battered. The community of Tlahuitoltepec wanted to forge the bells here in the village, because they have tried to buy other bells, or bring finished ones here, but they didn't make the same sound as the ones we had here. That's why the community had the initiative to forge the bells here. Maybe the reason is that, before, our ancestors made the bell we have now. According to its date, it was forged in 1776, so truly it has been here for three centuries, and for that reason new bells with the same sound are now needed, because now they don't sound like they used to. This is why today we are watching the process of the forging of new bells.



Sent by PMSL on August 23rd.

Here I am, in the participatory breeding plot which is located in Santa Cruz. At this moment, maize is still in a milk-like state, we can see that some collections are premature, others are growing and others still haven't started to grow their cobs.



Sent by Juquila on October 10th.

We are weeding around the peach trees, and they look good. We can see that maize has developed well next to the tree but... now that I see it more closely, it's not that good. What happens here is that all the plants are too close together and the peach tree can't make it, the bean is getting tangled on the tree, and it's also tangled with maize. So this is what we do now that we are weeding, and now you can also see it and do it too when you select and clean the peach trees.



Sent by Juquila on October 18th.

Here we are looking at another picture, it looks like this is how it starts, this is how the problem begins, the disease. And in the end, well, the treetops dry up and, well, that's what I've seen so far. I understand that this is how the diseases of peach trees and other trees start to appear.

2.4. Significant messages posted by participants between November 2012 and January 2013.



Sent by Santa Ana on November 9th.

These are the tomatoes that we planted a month ago, but now they are being affected by the cold weather. But little by little they adapt to cold. This one is still in a bad shape because of nematodes, I need something to help me prevent them, something to prevent this disease, such as fertilizers or insecticides, pesticides or organic nematicides.

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Sent by PMSL on November 29th.

This is the experimental plot in Santa Cruz, a typical model for the MIAF system that is being implemented in the region. The distance between maize plants and fruit trees is adequate. In this case, we have 20 different varieties of peaches, they come in different colors and sizes; there are other varieties being evaluated in this site as well.



Sent by Santa Ana on December 30th.

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That's right, I am tilling the soil around my peach trees. And why am I clearing? Because there are some weeds that can cast their shade on the flowers and fruits of the trees, so that's why I'm tilling the soil.



Sent by Santa Ana on December 31st.

Well, here you can see that we are already pruning here in Santa Ana. We do the winter pruning because the weather is getting cold, and we prune because the trees are starting to bloom. I don't know how is the weather in other places, but here the trees are already blooming and that's why we are pruning. We also do it so that the fruits may mature well, so that each flower may become a large fruit, instead of just growing halfway. If we don't do it like this, the flowers will not

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develop properly and the tree in general will not grow well. That's why I start to work now, to make the tree grow well. That's all, thank you.



Sent by Eugenio on January 19th.¹⁰

- You were telling me that you didn't plant beans this year, and that these beans are the ones which are not adapted to this weather, right? So what type of beans would be more adequate?

- There are other beans, they have a darker color, these come out in different colors, but that's the one that is better adapted to the weather we have here. These ones are of the same color, and they're not adapted, these ones need a colder weather.

- Oh, okay, so, the one which is adapted to this place is more or less for temperate weathers?

- Temperate and wet.

¹⁰ This is one of the messages I sent using my own smartphone during my last visit to Tlahui. These messages can be seen at <http://sautiyawakulima.net/oaxaca/oaxaca.php?c=3&date=2013-01-19> (retrieved 20.01.2015)