**F4 - Interview commercial farmer, 2 male, 1 female, Otjiwarongo - 2-2-2023**

##[the beginning]

Yesterday i wanted to buy 20 litres of tar to paint some of the telephone poles i took out ##[0.23].

Not covered, not protected. I couldn't get 20 litres of tar.

Now we will use very high temperatures for that to get very high pressure. It's called hydrothermal liquefaction.

**He's doing more the technical work and the technical experiments?**

I'm not sure about the numbers, but it's still under investigation. But we're looking can it be possible in this context

maybe just to add on that there are actually many technologies now. there are different people are testing at ##[01.36]Cedar Conservation Fund. We from the Namibia Biomass Industry Group.There's another more similar project that we are that we are piloting. So what they have there is they call it torrefaction.You have wood chips and then you put them into a system where you hit them sort of with some only moisture. What is it with the lift of water? Yeah.And again you kind of dry them, but that one is just around 250 to 300 degrees and then you drain, you remove all the moisture. So what is happening there is like you are just adding value to the wood chips.You are just killing the biological activity so that even if you store these wood chips, they will not get rot or you increase its shelf life. So with this we are aiming to see, for example, they were using coal in the past and if it's possible, there's a possibility that you can use this material to replace the other one.

**Are they harvesting on the farm wood for their own plant?**

No, at first they started with their own farm.Then they realized that it's not good, it's better if they give this test to farmers to supply the woodchips to them.

That's what they do because they were new farm. But then they take it to a separate plant on Otjiwarongo if you come into the right is the wood section and then you go and then you get the cement.So this is where the wood goes and they work with that before it goes to whatever they do with it. Yeah, remember they chipped them on the farm with that big machine

and also they are also using it at Namibia Brewery in Windhoek.

**to do what?**

For heating. hot water. needs a lot of hot water and all that.

**but they fired with oil before.**

so now they are trying to find alternative energy sources. So I can see also a project like this is sort of developed, maybe new initiatives coming through.

**But all this harvesting, chipping burning and then using, is it still worthwhile? it's a question. also part of the investigation.**

Okay, we don't know yet because you do a lot of things, to get something which you can have turn open diesel and the sink is there, it goes on. I'm against diesel in any case because it's too expensive in any case. I've got a problem with my solar system at the moment. But generator runs every night for 6 hours.This is unacceptable.

So 12:00 some other people are coming to pitch up. But you are okay, you don't need electricity. No, but I was going to say something about the costs. I think they miss out a little bit on the real costs on the farm. Okay. People always miss out on the costs. Central burning is fine, fully understand, but there's a lot of traveling.

Yeah, well, we saw the diesel.

It's not only the diesel. It's a breakdown. It's a puncture.

to get it out of the field to some other place for processing.

And you don't have a tarot to get it out of the field. You have stumps and wood and things and lots of punctures. Yes. And what is the price of a tire?

Sometimes you just can't repair it anymore. We do it with all sorts of things, but sometimes it's not possible anymore.

The real cost on the ground, on the farm, I don't think they've done a proper investigation on that, but yeah, it's all part of it.

All we know is, end of the day, something remains. Expenses are not more than you what you get paid for at least something.

Okay, but the nice story, the charcoal people are making a lot of money.

Definitely.

especially And Walter is one of them. He works out every little thing because you have to you can't by the end of 10 years, say, my tractor is broken. I don't have money for it. So you have to work out what is it costing this tractor to run up and down.

Not only that, he's off, but in ten years time, there's not money in the bank to buy a new one.Not at this stage. Wasn't it strong yesterday? There's something in the pipeline that the charcoal prices might get up. And but with these guys coming out now and learning the people to make better charcoal. Then we can increase our he says, up to $20,000 per load. We can increase our income if the quality gets better. We don't have a lot of ash and scent and all this nonsense, and that is a lot of money. We get 60,000 now, and if we can increase that to 80,000. yeah, well, it's a lot of money, but you know, that people don't

NCA has helped us so much already. We're here I don't know how many times, and then the people run away, and you get new people.

The biggest problem.

all the input is just gone again. Now we force them, and we pay 950 at the moment per ton charcoal, and we will go up to1050 if they give us proper quality charcoal. Yeah, just make it make it interesting for them. Give them a carrot. Do what we say. You get better meat. We must do something.

I mean, for the two of you, it's unheard of. And you can't believe it that these people are not trained at school. And if then it's a standard, which is unfortunately very low, so.

To write it all. And Matia has got a lovely training room with everything in writing. pictures, pictures. But it is still a slip to really get it through to the people. He says it again and again. And we have to do training and they have to sign for the training.You don't know whether they really understood or what. But this is one of our biggest problems. The people. If you can keep your people and if you can get to that charcoal, it's a dream. And if this happens, well. you are how long in charcoal now?

Three years.

You really did a lot.

Yes, we tried.

I bet compared to other farmers, the houses were fine.At the moment, it's all with plastic and for the rain. But the houses were good.The toilets, the bathrooms, the playground for the children, the training room, the little shop.You must see his shop.

**Have a shop?**

Yeah, he's got a shop. It's a mobile shop.

I couldn't bring all the people here. I may not may not load more than so many people. Then I had to drive how many times to get over to my shop here?

It's fun to have something like that. So he's really doing his best for the people.

Last month we had some new people. The one guy didn't know bathroom. He used the wash basins for number two, please toilet. They see. Where does it come from? What? This is out of the bush. They haven't been to school. Nothing.

**like most of the them are from Angolan?**

but most of our people are from local guys. But they work because with the unbalance, you know, the paperwork, they have to have papers otherwise.

And how many people work here at your farm?

29 charcoal workers, four or five woodworkers. 6 Woodworkers.

**What do they do?**

they just harvest drywood. For the grill like that. They cut it up. ##[11.48]

Namibia and Cape. It's desert. They are held transport trees for fire making.They bring all the wood up here and go back empty. A waste of money.Come down there and sell the wood.

And that's Nicolas.That's her section.The partner to Matias.

**Okay.Yeah,But that's economically viable in terms of transport?**

And we don't have anything to do with the transport.These guys must get back in any day. He must get it. To bring up the next load.

**But do they come here to collect it?**

Yeah, they come into Tribe for shoprite. They are doing all the shop rides from windhoek to the north. I took a team on it. Yeah.To return.They can't drive empty because of the fuel price and stuff. So we are doing now for fresh mark the wood also. So every truck that is returning takes a load of woodwork. So then every time he drives, the truck is full.

that's nice business.

Much better business. Especially the ladies are very interested in the packing and helping there. better than many were harvesting also. doing twice what men did here.

**Is it ?**

the young guys?But people come in here that are from 21to say, for instance, 28 years old, the woman are beating them by double the production.

**Okay.Because how many of these 29 charcoal workers and six wood workers are male and female?Like, how is it?**

Three, three, nine are males.Working for the charcoal. And 3 woman for wood and 3 men.

We try to utilize women more. People have got lots of special, to bring the woman more into the game. And we tried it and it didn't work out.For the charcoal, we picked up major problems, private problems, like drugs, like alcohol. Like, I sleep here and I sleep there and I get a little here and I get a little there.

Is this what wasn't our idea?

No, it is not to build a new Amsterdam here.

Yeah.But some of the women and it's unfortunately only a few, but those who stayed, they are good. Yeah.They are now working on the harvesting drivewood.Yeah, yeah.

And there's there are two more ladies.They're very much interested. Their men are here. Okay.Working for the farm, not for the charcoal, but for the farm. So we give them a chance and yeah,

we had ten woman in Mourner doing charcoal. We split it up.We said, all right, the men are the tough guys.You harvest, you get paid for the wood and the woman, they burn it, they pack it, they seal it, packet and everything. They split it up and we paid them accordingly, as everybody should be paid.

Our target was they must have two loads a month, then it's worthwhile for them.

One load. One load. Then was this wrong and that wrong? And we just had opposition.

**And why was that?**

Men and the woman started fighting because the men didn't understand the work that the women were doing because they only do after work. Now, you can say after work, but then women are doing after work, like burning, packing, sealing, all that stuff. And they said, but the women are getting more money than they are. It just didn't work. And when the woman were alright, then the main started. And when the men were right, the woman started. So it was each week there was just problems sorting out and I personally started went down. They, later on, didn't worry, how they burn, so it was a bit yeah.

The problem with the kitties on the farm are young babies, toddlers, and not the ones going to school, because they are at school. So we're talking small little kids. Now If you go to the charcoal, the central burning spot where they do the sieving and all that, even one day, I said, Just turn around then. Then the dust goes that direction. Oh, but the dust was all coming up and the little baby was at the back and all these things these little kids are black. I have a problem with that because don't wear masks. So Nicola started off. we got some money from Germany. We had a beautiful little kindergarten there with everything to get the kids there to be busy whilst the mothers are doing the charcoal work.Yeah, it didn't work. The kiddies want to be with a mum.They were actually sleeping next to the kiln.To give the child a warm in winter.

**can't be healthy for a child. I'm sorry. And the workers are supposed to wear, like, protective?**

not actually it's in the shop. They can buy if they want to. They can all do their own mask, unfortunately.I don't know why I purchased too many masks. I've got many of them. The order was wrong from Klaus. Something even went wrong.

Most of them, they say they don't feel comfortable. For example, the gloves, they jump on the gloves, put on the gloves when you are handling the bush. then he's telling you I can't handle, hold my knife because of these gloves. It's not comfortable. even if a farmer provides the PPE to the wake.

**And are you certified FSC?**

Yeah.

Peter was here once and then the first time Enger was here. To check everything and if we are according to rules and regulations. they are always something if you want to find something, you find something, no question about that. I'm not perfect. I won't even try. because you can't check these guys all the time. No, too sick and things like that. You are not standing behind him. But if you can come there and push overthings like that, you just have to open. You know, it is too big for sure, you know this. Or they make a fire on top of it but they still burnt in the field.They put the kill on top, but it doesn't vanish. It's still there. But these are things which happen. I apply to the government if I can get a permit to also cut bigger trees because I've got too many trees. I'm not wanting to Deforest this country, not at all. I've got plenty of protected trees. Wildlife has got enough shade of that and they never even bother to answer me, unfortunately. And now see the cheering. By the way, sorry, you can't go so far.

But then actually, within the government, even if you have protected species like the Acacias, like the Camelthorn, they say you can get a special permit if they are too much.

We don't have that problem. Camelthorn, these are protected on my farm as well. Absolutely protected. If it's on the road, I might drop it over but this morning I saw a ##[21.16] from standing next to the fence.

and we have that all up in pictures for the people to know. yes or no. pictures is the best way to talk to them. And if they don't want to listen, take money.

But I don't know what I do. And I have new people.I go into the bush and I show them a big tree and a small tree of the same sort. And then when I'm done talking, I'm walking like I'm going on. I ask them, okay, what tree is that one? So may you cut it or may you not cut it? What is the procedure? And then if you can't tell me, I'm starting over those things. And so when I started with this, it's much better with what they should cut and what not and if they don't know, they can call me. because there is threeor four times a week I'm in the field. So when they don't know, they call me and ask this one .And then I can tell them okay, take it out. Or only take one branch. So it's better. But you must be there. If you just leave them, you can't control. when they first started doing something, you can't take it from them. If they first started dropping the big trees, you suffer to lend them. Don't do it, it's a problem.

We then change it. If they bring big trees, I said all right, fine. If you go for this big ones. No, a piece of wood thicker than 100 mm. Get closer to the king. Now they must flip this lot. Extra work. Extra work. It's not a good idea to stay the thick stuff. You must bring them to the head of the easier way.

But mostly they do this to fill up the kiln quickly. It doesn't work. It doesn't work.

They don't understand.

I started on this farm taking only out the big tree because we buy ##[23.28]. And then we started buying per tons of wood. Yes, it's the only things they have. The rest I left bringing them back to the way they start and say, okay, you must cut the smaller trees also .Everything thicker than 100. And they just walked away. So we had a lot of problems with cleaning up the field and taking out all the wood that must be taken out.

As you can see, we also still learning.

They learn us the hard way.

**And are often new workers.Or like from these 29?**

Every year it is a different one. I think we've got 29 here at the moment. I think there are maybe six, more than six months.

I can tell you. We started when you give the date, we have one file with people working here at the moment. We have six files. We worked here before. We put it all on file. We keep them. We take photos. We make a little note. He left because of this. He left because of this. He was a good worker. So that we can go back and check on everything. So these six files are very important to us. But unfortunately and it's not only the charcoal workers. I remember in a little career where they trained the ladies to do work in the guest houses. The biggest complaint was once she's trained to work in the guest house. I'm leaving. I'm going somewhere else. And then they go somewhere else and they might come back. We don't understand that.

But it's not only here, but maybe they get a bit more pay on that site.They are trained already. They've got no expenses now. They just take the trained person. Maybe they can pay a bit more. here on this farm, we train them, Train them. It costs money. But I said, this new course is, I think,$1,000 for two persons to take your own. I said people. I can't bring 30 people and pay $15,000.You can't handle 30 people. Come out of the farm and teach my people. Be here the whole morning, be here the day before, show them how to load. And they are not too much taken out of their work that they can just have a look. Because they reduce the time of these courses now to 5 hours. Burning. Yeah, I say, this is fine for me. They will come for 5 hours, but they will not come for two days. Forget it.They lose production, lose money. They just don't come finish. But I say, if I teach 30 people, if ten remains back at my, 20 also have learned something. This knowledge goes to somebody else. Fine. I can live with that.

with the workers, no matter approaching ##[26.58] the nomadic bend for how many hours?12 hours. Yeah. Too long. Yeah, it's too long. But I think the method which is waiting now, it's only for 5 hours. Correct. This is what they will come out. I spoken to Michelle, I spoke to Peter yesterday. They will come out.

But we told them that long ago. As you look again whatever.

Because I think the trick is on the congestion efficiency. The ratio of you can say from wood to charcoal. Like if you put 100 kg of wood in a kiln, how much of it is going to, for them? Sometimes it's the opposite. You end up with two less charcoal because of their prolonged, burning upto ashes.

They worked hard for that. But why did they do it?

Don't understand this ratio. They need up to five times of wood capacity, which you can do with three times of wood capacity. Get the same tonnage if they burn properly. You can get away with three tons per ton of the charcoal as they're going at the moment, you need five tons of wood, nearly double the quantity for one ton. they are actually, I think it's five to one something.

Are they doing this much? Because you were out morning met but in the afternoon they sold.

Don't they close at 1 o’clock finished? No, because you tried very hard. You were there, you did it. They don't understand. They think when the kilN is full to the lead, then they burn now. They produce now perfectly. They don't understand. How much would they put. I showed them to them many times. Listen, two half-pots are also a full one. I check the wood. I put it in the pot I burned to have only the, I sorted the wood, the small pieces in one pot, the bigger pieces and the other one and the big ones. So I burned them separately. I also stood there for many days showing them I don't understand. I don't understand that two pots are also one big one burning. And good charcoal.

**Is there also a language issue?**

It's also better, yeah. And I think my talk, his message wasn't, ulafi, the translator. The story came out different. When I worked with the people with Lorenzo from NCI, no problems. They understood everything. They tried for, say, a week or so and then they turned back on their way. But when I worked with my guide, Baristas, they couldn't understand me. And I only did what I saw at Lorenzo and tried to do other stuff. It's a little bit different. But they were checking me. They were laughing at me. They couldn't understand why. What am I doing? I never could have told them that I don't need a full pot. I need the quality that's inside the charcoal. I need big charcoal. I don't have fines .And also not ash and stuff.Because I bought in nice sets and stuff. And we checked it with the heap underneath this. What? My two pots. We set that and it was smaller heap than day one pot. But I don't understand if you can but this is an ongoing process. I'm not going to say we're stopping it. We must still pay on. We won't get there anywhere. Yeah, because being negative doesn't help.

**Okay, so why did you start three years ago with making charts?**

I sold all my cattle because there was a drought, a huge drought. Huge. That was huge. Everything that this was, it is finished. And then my neighbor could be my son. He said, but you can't sit and do nothing. ##[32:00] He's got the factory there on the farm and he came back from Germany. A lot of debt on the farm. His father died last year. This time the farming is not good anymore. ##[32:28] I've managed to do for, I think, 15 years, I was busy farming. 15 years. Except for the one you and I sold all the capital. All were negative. One positive here. And he said, but you will never do a business in Windhoek. 15 years negative. You can't do that.I said, yes, you're totally right. I had no problem. I had a business in Windhoek. The money was there no problem. And that's when I said, but you can't go on like this. You can't just lose money every year.

**So how many cattle did you have?**

The farm?Only 5000 hectare farm, and I only kept 200 because the farm was too densely bushed. Whilst in the past I was going through the papers, 900 to 1000 plus sheep. So the old days they did overgrazing like met, so our grandfathers were still talking to them.

**So is this a family farm?**

100 years now.This year, 100 years. Okay. We're having a party, you want to come? Yes.

And that's why we got the young one in because you want to pull out huge mistakes. So the bear goes on. That's the surname, bear. All right, we saw some signs. Yeah, there are, yeah.

And how many hectares are you harvesting now for the charcoal?

Three years now. We have completed 2020, 22%. We've got probably a few more years to go, but if you increase our production, I say six years to go now, then the farm is finished.

**But do you think you can make this a profitable farm then?**

I have to learn as much to learn, but I think okay, if you can manage the bush, yes, because I think water only can keep 200 cattle. Farming carry now, say, 50 or 200 more.

**Because you manage the bush now?**

that is very important. You only can start really farming when we've got more de-bushing. At the moment, it's very interesting. My neighbor, he's leasing or hiring, what do you call it? Renting, .Hiring, or whatever. For 160 cattle. Just this piece we've cleaned out.He rents out his farm at more than 10% less than he pays at my farm.

The type of harvesting method is manual. I bought ten steel ##[36:11]. We hired them out, we tried to sell them, did lots of funny things. One just disappeared, one and one chainsaw. This happens as well, but the people don't want to use this chainsaw. Roger Jackson, he was here two or three times or more to teach these people, to help them, to convince them. If you take this thing, you cut it, you cut it, you cut it, you cut it. In one day you've got ten times that wood you can cut with your axe. The chain tools are standing there. Chainsaw is standing there, and he chops off the tree. He says this with the axe. And then he cuts up the tree in pieces. Ask him now, why do you do this? No, it uses too much fuel to cut the big stem. I said, no, people, you're wasting now on it. But it's a learning curve. It would take a while.

**I want to show you this image, show it to you. This is a concept that we are working on. It's called the biohub. And the idea is that, well, this area is like farmers or communities that can provide the biomass, like the bush to a factory or like a biorefinery, where they use this technology that we are investigating to produce different products. One, the main product is the bio-crude or the oil that can be used in the ships, for example. And a bio-char and a biochar can be usedin different ways, again at the farm, into the soil, for example, water treatment, soil mint, energy generation.**

But we have got nice, clean water. But also that was a problem on the farm. This ball is what is it? 2 meters diameter, centimeters deep. And it was really starting to get empty. The water level went down, down, no water left anymore. Then I built a dam up, up here in this river here. And I increased my water level from, of course, with permission from the government, from 72 meters I raised the water level to first to 11 meters. And then it dropped to 50 meters this year. But from 72 meters to 50 meters, that is a vast increase. And I store my water more there. So pipe going out of the dam, the moment it gets water, it is released at 1000 cubic meters per day, goes into the soil, into the sand. It doesn't even pass here. Then it's missing. And it will be there next year as well. I can get it again in the ground on top. It's just evaporates.

**And do you think it has to do with the encroacher bush? That there was less water?**

No.This is what my father always said. This is main problem on this whole in the whole country, the people are mining water. They're not using water, they're mining water. And he said the government should give out rules and regulations. Everybody who sinks a bowl should be forced to build a dam to catch it. Put water back into the ground. You can't take out anymore all the time. It will be depleted some of the day, if you have got a mine, copper or whatever, someday it's empty like in the water. If you carry on using, using, using, using it our recharge from the rain can't do that. How much we take it out, can't recharge it quick enough. I think three or 4% going into the soil. But we take out 100% there. And this doesn't match at all. But this is where I could see and I had not a lot in there and see coming up, lifted up again because of water. And i’ve worked with water before. And I had all these things learned in testing from myself. Because this is the same project like the Omdal Dam. Attain and display big dam in the ##[41:31] river with discharge to press back the salt water into the sea again. Get so sweet, water the fresh water into the soil and push back. Because the first balls we lost already in the 70s.There are plenty of balls in the along the ##[41:53] River. But the first are gone. Salt water. This mobile you take out too much. This side is no no feet from the in country inside anymore. And you take more out. More than that comes from the top. The water from the sea will push it back. Was proven.

When there was a drought, Was it 20?19,18 and 19?

Yeah, 18 and 19.

How was the water level?

My water? My water is fine. We pump. We pump the pump. We pumped 2.4 meters/hour. And I joined it all 40 meters deep. I joined it. I think my inflow was 1.2 km. That is what was left. That was in influx .And now we pump seven cubits power. It drops, but it comes back. Just another water.

**Nice in there?**

Yeah, just wondering.Nothing new there. It's very nice, this water in there. there's something happening in there.

I don't know whether you have seen this, but they actually estimated that on this average bush, like the Mellifera, the average bush of maybe three to 3.5 meters can absorb up to 60 liters. 65 liters per day. 65 liters per day, every day.

Is that true? It was the same with the eucalyptus when they told us 80 liters every day for a eucalyptus.

**Yeah, but people, how deep are these roots?**

3 meters. 4 meters. The mellifera, it's quite a but, I just speak about the depth. That is what happens here. Acacia takes all the water, the rainwater, and he grows nicely. They are not worried about the water down there. This is chemicals. They go deep, they go deeper. But this is why we all even get less water into the soil back. Because all the use it up here suck out water immediately. We can't recharge our groundwater. Because this Acacia Mellifera has got a vast root system. I see the Acacia. He's even worse than Melifera.I push my lots of trees to open roads forgetting into the feet and things like that. And that's got a yellow stem, it's a German name for it. But that one has a double as crazy root system as Acacia and also widespread and not deep. Deep and white. I've got all these small checkers, 100 things like that. But they better to get this thing out of the soil. You can break them off, but don't get them out.

So two ladies doing the research. I just went a little through there. I think maybe Goodwin should also sign it. Right? Yes. Do I have to sign it? We're taping it's.

Biomass. What is the factory coming up? Here also at the gate of ##[46:24] there's also ##[46:26].

But they want to use all the small sticks. These small sticks has to stay there for the compost. And for me it's very important. That seed which is lying there for the last 30 years or 50 years, now he's got a chance to come up. Nobody can eat it, nobody can harvest it. And only when it's established, made his own. What is it really got established then the tree has died down. Only then, in three years time or four years time, then you can get to that grass and you will see wild animals, cattle. The best one is the first one they can go for, always. At the moment, this grass underneath the trees, ##[47:41]. But it's sweet, you can taste it. It's really sweet. They go for that.

So for this technology, I think we could use all kinds of bushes. It doesn't matter. Also smaller, small, but also thicker .Leave me my small one. We can have a look at the shed, we can show you the wood production and we can have a couple small shopping there. And then we can.