Transcript F3- Interview comemrcial farmer, male, Otjiwarongo, 1-2-2023

Name of Transcriber: Melis Teke

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**Nice to meet you.**

Then Shiva like like Shiva is the legal. Alright so. We we basically mechanically debost office, we've got some Bush regrowth that we are handling on the front ways currently doing our own research basically to see what's the effect on that, what we've done with mechanically debugging and we've taken out all the charcoal and they've paid for the initial debugging of that chemically exercise that we had then. So currently what we're doing we are stocking more than double on our farm than compared to the Jason farms. So the double stocking right that we are having here is paying now for the aftercare. The bushing projects that we're running so.

**And you say mechanically debushing. So what matters?**

Yeah, I will watch up there to you. There's a YouTube movie that we've made in 2000 and. 1718 somewhere there.

And we basically used the bulldozer with big rollers at the back, almost like who's also doing it stefaniak stefans way.

I think for stableness.

Yeah, what they called. They've got a front end loader with a roller in front they their roller is 4 meters wide. Our roller is 3 meters one, but you can put on one, three or five. So we've got the biggest one we that we pulled at that time was 15 metres wide. So that's just the cost to make it more cost effective with the same equipment that that all depends on the density of the Bush and the ground contact and what all that. We did it to the old farm now.

**And roughly how much tons of charcoal you produced?**

There is a pic to this farm. I am going to give you the answer, but that's not the norm. The norm is higher. So what we've averaged on this form is 1.1. 8 tons per acre charcoal that we took off. Alright, but now just take in consideration that in two in 1990 we had 3000 actors that we basically threw with herbicide or a parasites. So all that regrowth, it was new bush it wasn't old. It's all new Bush, alright? On that side, 1500 hectares that we've flattened with a dozer in the 90 twos to 94.

So all the boost that we are talking on our numbers is illegal. Bush, we had a lot of problems with the charcoal. That was the density was too light. So we always had to mix in other charcoal. To get the package packaging line running to get the the packets for the the bags. Otherwise it didn't work.

**And you produce the charcoal here in the fields.**

Yes, in the field.

**So you said. The first one was 92, the other one was 95. So that's we are looking at. And you did this in 2015 to 18. So that's the growth in sawer 20 years, 20.**

526 I'm going there, sorry.

**And how many people were involved in this?**

In that operation, we average were 120 to 150 people. That we employed continuously through that process to do it on that right.

**You had them stay in the farm and.**

Yeah, we we build mobile hostels that we we had three centralized places on the farm, so we basically set up the centralised hostel system and the housing hostel if we want to call it. So we worked around that area 1500 hectares plus or minus. When that's done we move that whole installation hostel place to another area. So we did the same thing and when that area is finished, you move it to the next place so that that's the process that we do.

**And what do you because you produce charcoal, right? Which means there's a certain diameter and stuff. So what did you do with the rest? That's like twigs, leaves.**

No, that will let for compost on the ground. So basically what we did, we only harvest. All the the. The woody parts. OK, the woody parts from let's say 20 to 30 millimeters and upwards. What what we realized later on the. The research wasn't clear on that. We basically only got the answer about 18 months ago. Do not harvest the big stuff we didn't do it, but on this form, because of the borrow sites we used and the previous may thirds, we lost a lot of the big trees. So we currently have big trees, but not enough on our point of view. They must be scattered. Not at all. What's currently written in the FCC standards that is way too much, way too much. So what we currently doing, we are rolling for on FSC standards on our other farm to harvest charcoal. But what are doing is we are rolling like, let's say as campus now, tangaloor square, whatever. So we're rolling, we going around around, around, around. So we are we? We Are rolling a 27 meter flat if there's a big tree we leave it. We try to muscle it. Then we're leaving 9 meters of old encroach Bush. And we see that as a problem. So that's a bit. That's a completely different argument for later, but what we're currently doing in areas where there's non FSC charcoal, we roll everything flat except the big trees, everything above 100 and 8000 and 5000 and 80, we leave that. So we maneuvering with that machine through the and that machine is quite maneuverable. It can turn 90 degrees. That's easy even. We are now rolling 9 meters at one shot. And yeah, if you. If you do a roll, you get about say 20% more production and it's more accessible to the workers. The production rate of the workers is even going up.

**And I assume you also have livestocks in the in the in the informs, right? So you didn't have any issues with the workers working on the farms? Like there for like.**

Let's let's. If you roll like we do, it's open. And you as now, because we we flatten a camp or area and we we we issue them a portion to work in. So you know worker number, company number one or five or 10. This is his portion. #10 is your #20. This is yours, so you know where he's supposed to be. And they are not allowed out of those camps. But then we have penalties as well, and if they must now steal or have livestock problems, then you sort it out. With the right manners? Well, it's. That's the only way.

**So you hired some. So I think you hired a contractor from out there. You managed all the workers.**

It's doable because it's open. You can see where everybody's working. It's not A and they also. They are contract workers. If you want per say, the contract workers, you don't monitor the hours of working they work from and there's no they work from 3:00 o'clock in the morning until 10:00 o'clock in the morning. And then they when it's starting to get hot, they leave the job and then they start later again. Then they work like from 4:00 o'clock in the afternoon until 10:00 o'clock at night. So they they sort themselves out. You've got people working. At areas where there is livestock, it can be problematic. Yeah, you're, you're, you're smaller animals like porters and the dikkers and that stuff is a little bit of problematic, but we didn't have a lot of incidents like that. As from the day that we started. Rolling the Bush, flattening it, making open area, that's basically. We never like such theft. Yeah, we've got poachers coming from town with dogs hunting the large antelope, like hens book they things focus easy to hunt with the dog, so they do that, but because it's open and I've got people living at certain places on the farm now, it's open. You can hear the dogs barking, so we can go and handle the situation. Nine o'clock, 10:00, o'clock at night. So it makes it a little bit. Easier to manage.

**And all those people they are from. The local region, the workers around the region.**

90% of them were from Angola. Namibians are Namibian workers, are too lazy. They're too lazy.

**Farmers have problems with people with workers on that farm that's that hasn't been in place for you then.**

With Angolans. No problem, no real problems. They've got social problems from the upbringing discipline. So you will have to. You'll have to manage that. You have to understand that it's not coming from Europe and everything is, it's nice. It's not like that. You have to grow up with the people you enter, have to understand the the social, yeah. The social building blocks you can call away. Even in a million worker, we've got the million workers. It's better to pay people for production delivered, that's a measurable. It's my biggest song. So my father is a little bit hard of hearing.

**I will ask you the question.**

**I've got my degree BCPP. You see. BSc by experience. I just got to hear the question.**

So yeah, the answer is basically you pay people botanics then you know it's a major bull. Then they don't tell you they work for five hours or 20. You don't know that. You won't know. It's nothing that you can manage. So that's coming up. Tonnage of clean charcoal for reviewers because some of them they put in extra sand or a few rocks, or a few unburned twigs or whatever, so yeah.

**And how do you measure and see which tokens from which you have.**

Yeah, that's not easy because we load like 30 ton trucks out. So we've got the, what, what basic idea that five workers plus or minus. They have loaded this truck so when that truck reports to the company the packaging company they must see. Yep, and tell you you've got so many clean charcoal. So what we do is all five of you guys. Sorry deduct 8% or 5% or 3%. What we also do is we've got sampling sets on the phone. So you bring your 5 tons or three tons and we say bring me that bag. Red bag, this bag read three ways. Post leak and we take a calculation there so we can basically say of your five guys that weigh in, you are the culprit, more of a culprit. If you do that, once they start. Wait, wait, wait, wait. Well, then they start to understand the. And managing style.

**Major questions why did you opt for remove the mechanical harvesting. Specific reason.**

You won't look like me. OK, what the devil has been? There's a few ways you you asked specifically the obviously. OK, so. Basically, we must now manually harvest the with the X so you get you get a cleaner and we also give some work to other people, so you can also take that into account and. Labor is a little bit cheap. It's not cheap cheap. But it is, it's affordable. It's worse. Our price of charcoal stayed the same for the. Last two two and. 1/2 years. Basically it will last thirty months. The UFC charcoal we didn't have increases nothing, so as from the beginning of COVID that time that price basically stayed fixed. And we've got a lot of. Extra governing acts and stuff that came in now. But yeah, the centralized burning. But there's positives to it and there's negatives to it. The negative is you must now take all the wood out of the field to a centralized place, but positive of that is you've got more control of how clean your. Who's producing what? What is going on? So yeah, there's extra cost on to this, but now you don't have the risk of the fire in the field. Those days, when we walked by the we lost a lot of. Possible production out of the field due to fire was caused. So in our case as well. We fell the tree. So it's on the ground in the grass, so the fire is there. The wood is gone. So your 1.5 ton of charcoal or 1.1 ton of charcoal that it falls to .7 ton of charcoal because all the finer wood is actually the better stuff to burn charcoal from. And that's now gone. So you only ship with the with. The bigger stuff and that's the. Stuff you don't want. Why would we opted for the rolling that far? If you use a Burrow size, you lose a lot of biodiversity in the field and that is critical to us. We want biodiversity in the field. We know a lot of different for the trees and Bush and shrubs.

Your grosses? Yeah, but if you use a borrow sites, most of that. Set ups and. The for the Bush is. Actually, it's gone for 20 years. And the big trees, they're gone. Because maybe now. But in any case, the current borrow site that you're getting, they don't. Everything is dead, so that's the problem. They're not selective, no.

**And from the Bush, are you only involved in making charcoal or are you also? Involved in other types of products.**

Currently, we we begin the charcoal and what we're also doing is wood asset. On that form, we also taking the old name killum, we've, we've we've made some extra radiators and some of those killings that are now centralized burning. We take some of them and we take off the wood assets.

**And the feeling you had for regarding going. To the using a central specialty is that. You say that's opinion is for you alone, like or all the other farmers also motivated.**

No, I think I do see the positive. Let me tell you the negative the farmers in this country is getting. Old operations as capital hunger, this they they need a lot of capital and to build up to that takes long time and if you don't have big ground, you cannot afford those capital. If you do want to do centralized well, if you have to do centralized burning, you cannot do it with a vehicle. You need a tractor or a truck or something heavy duty because every day like. At this stage we did about 60 tonnes of charcoal a week. Currently we've now the handbrake was put on to us. We cannot go so fast, so we've now pulled down to basically. One truck a week 130 ton truck a week. But even with that, we've got a full time tractor with wagons just rolling out Deadwood. Luckily, we've got the bulldozer. That's pulling the roller. So when we now roll the camp, we put in extra rolls through that hole. So the access to get the wood to the, let's say the track, the train, whatever, that's a little bit easier, but other farmers don't have it. It depends on all the speed that you want to. Reboost or take the charcoal out.

**And all this, and how much the whole operation was a mission how much did? It cost because I assume you purchased the bulldozers, but.**

Yeah, bullos that we bought second. Hand it's almost 1,000,000. And the rollers was 1.8 million. And then the tractor. 400 to 500,000. And per trailer is about 50,000. So yeah, we're in now 3,000,000.

**Not every corner has this.**

But luckily. Hide the connections to have the roller design building we tested them, we basically modified nothing on them. We've already built. Initially we built one and then on the same order we change it to three. So we didn't think our machine will pull three and then we force the machine. Now it's going to pull three and it worked. And that was with the initial Bush. And then afterwards we build another three. So then we had six, we've got currently 6 in our operations. Six loose rollers. So what we've done already is we we can go up to five rollers at once on the after gear process where the Bush is smaller. And you don't have all the big stuff, and the dozer don't have to climb over stumps or whatever. That's now all out. And we've got operation in Botswana, they've got a bigger dozer, they pull it in the in the, let's say the white sand or the sandy area and Botswana and they they pull 5 rollers through the big Bush. But yeah, luckily what we had the connection, so we build the rollers. Design the boulder and we applied it here. Here actually add a smaller roller in the beginning that that we tested and it had a lot of. Breakdowns and failures and we basically gave up and later on, but this is also possibly we can just modify this and this and makes it easier on the wear and tear or. Of the people. So yeah. The initial charcoal that we took off this farm pay for the roller. So that's possible, can be done, but for the farmer to go and borrow. 2 1/2 million sort of to get into that process as a once off, but it's the same, it's the same. Case if you take it further for a farmer to basically throw a bar sites. On the whole farm, it's also. Way too expensive, they say. 1000 hectares on one farm is the same price as the roller and the dozers 2 1/2 million.

**OK, I am driving home here here a but can your machine.**

Now, if you if you take let's say 200 working days just like 200 working days not 226 working Days, 200 working days and we do we average about 7 working hours a day on the tours. So there's a lot of greasing and oiling and servicing. So let's say 7 hours. So you've got 1400 hours. And on 1400 hours, we can do 2000 undetected. With, with with the three set of rollers in our area. That is what's possible. We didn't do it. We cleaned the 1500 hectares because that's what our charcoal operation could take. We didn't run in advance in front because otherwise you you flatten the wood and the grass. And you cannot find the wood anymore. So we progressively rolled through as we needed wood. So we had the luxury on our side. We had the equipment. So we just took it step by step then.

**Did you sell your charcoal too?**

OK.

They phoned me yesterday or Monday morning.

**OK. Yeah, we were there.**

I've got these nice people here. They wanna come and see you. I'm already. I'm already booked.

So then all the all the 5000 forms are certified.

Yes, makaras files makaras forms is FCC certified looking. It's a better price, but there is more challenges on that.

With these challenges.

After social challenges, working with those people and with the employees that you have to employ, there's there's different. We, the employer, have to look at other stuff that if it's in the non FFC people don't have to look at. It's it's, it's not so bad. It's that's paperwork. And it's fine. It's supposed to be like that. It's a labor force. You have to look at all that stuff, but there is some stuff that is a little bit unnecessary. There is not always. Very applicable on a farm.

**Can you get some? Like, just understand. Yeah, just.**

A hard a hard date on a. Luckily we got that now out. You're going to have. A sun cap. Gloves, gloves on a farm. Do you see people in the European factory working with gloves on? You don't see it? You don't always need gloves, but then the if you see people come there and they you need gloves for what they don't work with that stuff today, they don't need, loves smarter, practical, there's little bit practical issues there, but most of that Gray area depends on the attitude of the day. You can sort it out.

**And why did you become certified. Where did you choose?**

For the money, we always go for the money. Yeah, and to have a more sustained market. The estates, the non FFC. There wasn't really a market for that. We currently they're currently looking at all other markets available because we've got too much charcoal in this country, way too much we can do a lot more. But currently we're not getting take off.

Currently around about 3%. Of the encroached area yearly annually.

The nearer to 20% it will be better.

If you take that 3%.

Thank you for say, three or five years time.

You don't give the net getting anywhere.

Or if you can't go to 20 percent, 20%, then you can maybe clean 1000 hectares a year. It's very interesting to be here. You are all on technical and theoretical and whatever issues but.

Economic yes, money.

Where's the ship with the money? Relationships with the man.

**Yeah, we can maybe show you our concept or the concept we work on. It's called the biohub. Any ideas that there are communities or farmers that supply biomass so that in this case their culture Bush to a biorefinery, and in that bio refinery we are investigating? Technology that can have different outputs, but the main output is a bio crude bio oil.**

Biochar by oil in France.

**And and in the indeed bio char and biochar could be used again in this area as a fertilizer or water purification or electricity based on what is needed and we would like to find out here. In our case studies, how could this concept work in this context of Namibia?**

Easy, easy.

OK.

Just play me the right look.

That's the first.

There there's there's the bottom. Just pay me right amount for the woods. Then I'll supply. Yeah, we've got the same problem with your other feathered friends, yeah. Yeah, I told them. And I they told me no. I'm out of my head. And I I even gave them a case. You're gonna you. You're gonna strangle the farmer. It's not going. To work. The friends, the friends. Now you're recording me? You're gonna take me to court here.

Basically, the bottom line is we we, we've we've got enough. Crouch boasts that we wanna gather around. We don't wanna really gather off the big stuff. The the, the bigger trees. That is detrimental if you take that out, you've got explosion of the small ones. So basically, if I go to somewhere and roll for somebody new. On a far. We just flatten all the small ones. Basically prune them down onto the ground with the rollers and the big ones stays and you've got an explosion of grass explosion.

So to understand you do also then do. The same works and stops in other forms.

So I I subcontract my ruling.

OK.

But if, like I said, the roller can do what 2000 plus hectares in a year, currently we can only harvest 1000 ourself on our on supplying Makara. So the handbrake is on, we can do nothing more. So we are now contracting out the rollers. So we in this area we go and roll. At other places.

**And do you oversee the management then? Of the rolling or OK.**

It's easy, it's not complicated. It's easy. You've got an operator. He knows the system he greases and services, and we've got radio connection, cell phone connection so. It's a one man show. Basically the rolling is a one man show. Yes, we we we are running a supporting system from here. So we are cleaning the filters and we're supplying the diesel and we we asked we just asked the farmer to we've got the mobile firefighter tank 1000 liter tank and they. Just take water to the machine every second day we use about 500 liters of water a day. To clean that machine and to drench it with water. Because all that tweaks and leaves us under the machine, we don't want to fire. So yeah, that's the easy part of taking the Bush down to the ground. And then the harvesting that I don't know that that's where the other part is coming in.

Just to him, actually you. Know the way the bushes are going. You know for a guy with in my life. It's somehow inaccessible to reach this thing. So if you roll them down, you expose the steel, so it's easy for him. And it will be thick. To complete the.

That that big Bush like this is now on the ground, flat, flat, whatever like there. But now the thick one is lying here, and then all the thin ones is now there. So they just chop it a little. But all the thinner ones is now easy to chop off. And then the sick, the sick. When you take off this side and. Then they just. Cutted to size.

And then the farmer does the charcoal himself.

Right.

Either that or they just leave it as as compost on the ground.

Bottom line, you don't kill a plot. There's no. There's no killing like arbitrary.

Noboru sites must now basically kills the three, but on the ruler. 10 or 20% might not come back, but you've got you've got regrowth and that is part of our our further plan on this farm. The rigorous we're utilizing both sheep. Sheep is not normal in this area. It's we've got sheep. Yeah, lots.

**And they can they eat?**

That's small bushes that's now growing up. They get to that, they they don't eat trees, they they not camels, camels. So they eat the small shrubs that now the all the regrowth basically but. That slot grows too quickly for what we can stock here, way too quick. So we have to do aftercare. Every depends on the area, on the climatic conditions. If there's a cold front that came in. With frost or. If it's raining a lot all day depends on how quick that Bush is regrowing, so that also the paint and of course is on the different type of soils you've got clay sand. What what there's different type of Bush growing on that and then depends on what area. You are farming. What kind of Bush is on that farm? We've got a portion there. It's got circle Bush, of course. Which is a very aggressive grower, it grows like a meter a year, first year, second year, third year. It's 2 1/2 metres, making flowers making pots and that's what you want to stop. You don't want that. So in our in in that areas we have to basically roll every two to three, let's say three years. We've got a little bit little bit other methodology currently on rolling. That we are. Practicing now and we're getting a good results on that on areas we swap back. So I only know that the other names like. Yeah, yeah, yeah. That areas we are all ones, that's usually the areas is colder, there's got frost all day. You've gone only for after every six years. Let's open area now. So it all depends on that on the regrowth. But Bush is regrowing, that's for sure.

**So do you ever use biochar for?**

No, not in our system. No, no.

**You don't need it.**

We we not in Arctic culture, not we we water controlled area so we cannot plant they pumping from this phone they're pumping water for to fall down in any case we don't have enough water to plant yeah. The ball rolls cannot take a pivot, so it's not going to work in any case. Luckily, maybe unlucky, I don't know. But yeah, biochar mixed maybe with wood asset that will be a big positive. If, if that's like available to. What we are doing and we're seeing the results, we're taking all the shipment near out of the crawls back into the field. We don't burn it. We just take it back into the field. That's like explosion of grass. Where we we put that manure back into the field. Just roll like that. Nothing done to it. So basically child Bio child will do even better. Already processed carbon. All is there. Manure must first go through that whole process. Before the microbes get to.

**And as your livestock carrying capacity increased.**

Its 2 1/2 times more than the bordering farms. Yeah, bowling balls about doing 34 kilograms. Actor stocking. And they are. Mostly focused on Kettle mostly it's 98% is. UM restocking anything from 57 up to 75% our average is about, yeah, let's say in the 60s, the lower, lower 60s. Some areas can take a little bit more than others, but let's say I was talking later about say 60%, sixty, 4%. Sorry kilograms per acre, not percent. 62 kilograms per acre. So we've basically we've doubled some areas. We've went over the dog. But that's now with the sheep component. With it, there's definitely a huge difference there. So on this 5000 hectares, currently we've got about 550 big cattle and 1700 sheep.

**And you sell a sheep or you just.**

So. So, so yeah. We we slaughter also a lot of sheep ourselves, but we mostly sell the new Lambs and the use we we sell off. We've got too much.

**And in future you want to do apart from charcoal like push to feed or put chips or.**

We've done books to feed. I've got the equipment for that. We've got a harvester that harvest Bush, a small one to harvest about a tonne an hour.

This feeling of lignin, or the woody in the fibre. Yes, thank you. The fibers is to iron that stuff. You can only you can only give it to full grown animals, and that's only like like there's only a filler in the feed.

It's the whole feeding.

Yeah, it's not the feed itself now.

**But it's too much energy to harvest Bush, too much energy to cut it small so that it is edible for a browser.**

Yes, the fiber is too high, so you have to break it down. And you're breaking it down for a filler in in your feet. Well, if you don't have anything else, sorry it works. It helps, but it's not the N and the B overall, no. What we've now seen is rather take the big the the the brush, take it down to to to the to to the level where. Animals can utilize. Break it down on top of the soil as a as a soil cover or as. Compost there are a. Lot of. Better grass is coming and yeah, it's. Our ship is 80% browsers and 20% cross and the kettle is just the. Other way around? So yeah.

**And the losses that are coming back are those the more nutritious grasses?**

Yeah, proper leaf rukla. It's top grasses.

**If you're getting annual, then we've got now currently semi perennials here, perennials. It's now going to annuals as well. Sorry annuals going to perennials.**

I don't know.

So our our gross is. When we cut grass also to Bale the cowboy style, we try and get away from that. The cheaper route is to have animal, let's say cutting and bailing the grass himself. That's cheaper. You also messed up the soil if you start cutting grass and bailing that you're taking too much out of it.

So yeah.

**And in this concept, so you see any big challenges? With the one we proposed.**

Look here. These feathered friends have been through this. It's basically so manage crazy.

It's a topic on its own to manage pricing is a topic on regenerate the farming. That's what we're doing here. We've got three big herds of cattle and we've got three big herds of sheep and basically. In three different blocks on the farm. So it's it's regenerative farming, high density grazing that we're doing here, not like on pivots, we're replanting. Roy Gross and Russian whatever we don't do that. We we we pray for rain. But in this case I don't really see in your bio bub. I don't really see a problem. Transport, you know, is going to be a problem. This is light stuff. To transport light stuff. These cost now that the double handling in that as well also creates problems if you have to now your system can take way to a day not right outward.

Weight wood. Why? And you even get more wood asset. There's nothing in any case. That's the one problem that we had with with other study we did. They only took that I would so would have to be chopped for six months dried. How do you favors people? On what? On tons. They jump. So you have to. They're not going to wait for six. And I still have also have to have a cash flow for six months period, no income. So I have to pay these people, I have to roll a chop, but all that, so that must all happen. So if you can take wet wood, of course, is that cash flow is now that that it is out of the equation basically the only problem you're going to set with is initial capital. Roller the dozer. If you go my route the roller, the dozer and then the start starting up capital and then start. Up cash flow, that's. That's all.

Very easy. I put mine $1,000,000 and next to it. They're not me.

Now if you look we've we've taken on a farm that's already been through the. The deep Bushing System 2026 years before that and we only took off let's say 4 tonnes, 4-5 tonnes a hectare average that's low.

**What's wrong?**

That's low. If you go to adjacent forms, that's got original encode. Push it will be higher, but now we also say please do not fell the big trees, stay away from them. They're bringing nothing to your system. It takes too much energy to process that stuff. Even our charcoal burners. They don't chop that stuff anymore. They've now been. Thought they've been shown drop this try and burn that chop this stuff and they burn. This is easy. Chops easy. It burns easier, makes easy charcoal. The process is easier. We all know that chemical stuff make it smaller. As well. So yeah, I don't. It's just a price. As I said that that initial capital, the starting up capital and then when can that the first be delivered and then the transport cost of this is is it's a major obstacles. You put up a app like that. How far are you going to transfer date? Would we've done it our average about? Build our three kilometers was our average of our people staying in a central place with still burned in the field. Currently we we transporting on average. 1.5 kilometers because what we do is we take two camps like this. We roll this camp and this camp and we make a central up in the middle of the two camps, so this camp would goes to that up. This camps would goes to this up. So it's about 1.5 kilometers where we treat it. And if you put up, say, on this farm and all the other farms don't bring in there, would that transport cost of that light stuff with the current diesel prices?

OK.

Mind blowing.

And do you know, like the neighbors here? Are they also involved in charcoal?

My adjacent follow he wants to go into charcoal, but maybe he doesn't have the attitude to work with people he's struggling with it. This farm is now really clean. This one is a government farm.

It's on extending.

Up for they up for nothing. I even told him I will flatten your ground for you for free. Just give me the charcoal. No, no mechanical debouching. OK. What are you gonna do? No, nothing. We're gonna do some more research, so nothing's going. To happen so 18,666 hectors nothing is happening there. This has already been cleaned. All the farms here on this side has been cleaned by us, but this one here it will. It will definitely invest. Is already talking to me for the last two years he wants to. Wants to. It's just the people, but if you've got a controlled environment where it's rolled, it's open. You are with this portion. I know yes to any people. And because you've never rolled it's you get a lot higher production out of the person as he said you get to the tree. It's easier to chop.

**And you said this is the next farmers owned by government. So that's a resettled farm or a communal.**

This other researcher is a research station. It's a research station farm.

OK.

Yeah, yeah, they've got they've.

**So what did they do with Matt?**

Got 4/4 in the country.

From South to north, only culture in culture area.

Let's say in the commercial area, not in the. It's a year and in hot fountain.

For a full time. Is 2 or 12. 2 sensibus. Sensibus is also. One and Barbara is also one hokkoku zone gonde.

Know they had the top animal we were fighting to buy the demo.

At the university, the universe also got a farm near the Barber, which she. But she not great, but she not quite hopeless person.

Yeah, yeah, we are also now we are. I know I'm aware about it. Because they are actually renting out that firm to India.

**And you are who is? Yeah, he put his carpets there.**

Forget the commitment of the government. It won't work forget.

Yeah, just maybe one. One question on your regarding the equipments especially I I know the norm here like the guys who are supplying the chips, they normally complain about handling of wet materials.

The people don't think a lot.

Well, they are cheaper and so forth because I think they normally give it a chance. They harvest, they let it dry and then they only handle. It when it's.

It's a big drive. So now maybe considering that maybe will be there some.

Sort of new research which need to be conducted to see what. Kind of machines can be maybe be brought in to handle such material like weight material like weight small. Push brush that you want to cut like mostly to handle wet materials. Because I understand now they only. The machine the current machine, like the cheapest they are using. They only handle more of dry materials.

**So if if such initiative maybe comes into reality, we'll. Will they wake some or they would need some adjustments? Maybe or?**

There's now complete the front. Also, I'm going to give you the machine at the level anbaran what I drew of Nadi Hooters and tear our experience we're currently doing and it's one machine that's now in the field. We are currently cutting all the fence lines open. We do it in the beginning of the raining season. It it our experience or it looks like there's the information that we now also researching, sorry also thinking. On my own budget. It looks like if we cut the regrowth in the beginning of the raining season, there must be 100 millimetres and 50 millimetres of rain that fell already. They'd regrow both. If you now cut it wet. That takes a knock. It grass grows faster so it outgrows the Bush, then the root system takes over the Bush sort of gets hammered. It it doesn't, it it doesn't get all the nutritions and stuff at once. It looks as if we winning that fight. It's it is expensive. But it's cheaper than burning. The fell down the it's cheaper than burning. Not getting to utilize the grass. So if you do that calculation that we are, so we have to answer you, we are cutting the smaller stuff weight. But we are not chopping at shipping our the machine that we are using. It has got like a three quarter. But it's got a big flywheel at the bottom with eight blades at the bottom, so it's it's it's cutting the the small Bush off, but it's also jumping at or let's it just jumping it like this length, so it's all over the shop. So it's like a compost mat that basically is what's happening there, but that, that, that wet stuff actually cuts better for us and works better for us.

Because I think for the that's what they. Teach us they see something like. It's it's like crop that crops.

Especially on the bark, the bark. It it becomes like wool makes like wool pegs look, any machine can be developed and it's. Well, you know, but you want you guys basically want to develop a machine you have to. Do it. Manually and labor manual labor it's gonna it's it's gonna go away soon. So you will definitely need a machine to cut it off. And and I've always got the picture in my head. Yeah, we don't have uh. Lawns and trees. We've got the the, the basically. Confusion of Bush, but at the bottom it's basically one stem soil soil, so I was always in my head.

That one.

I've got a picture of the of a harvester like carbon harvester or something. It goes like this and just got it off next week, goes with a screw. Wire or something to the chopper directly. And then you'll have less dust, because basically these choppers they use 200 kilowatt engines with blowers and that big rotor with all that flail hammers on it. It just. Creates too much energy, way too much energy.

O'hora Engos Sabet factory brought in from Germany the cutters which they cut the Bush to Preheat. To Preheat the what you call it the to Preheat her to the furnace, the preheating of the furnace of the machines were sent back. So they are more or less arresting.

Right. Thank you.

They are still using wood, they are harvesting by manually by they they use choppers through all of that.

And you say manual labor is going to. And that's going to go out. There's too much labor issues that the government is pressing down on us. Way too much. Unnecessary stuff you want to employ a charcoal worker. You have now go to the through the government to employ. You must now first say I've got a vacancy for a charcoal worker. Inform the government they send you 15 names that you employ.

There's one thing that we on these farms on charcoal worker charcoal worker.

You've got this guy you can trust him, right? Bring your brother, please. You want. Yes, you. Want bring your brother. That's how we work. On the farms, the seam, the seam of place. Anybody know somebody that want to come bring him? Let's train him.

And I think with with manual it's safe. To do is what. Kind of operation is it? Like you know you. You want to produce a certain tonic in a specific. Period of time. Mechanical is a bit. Quick, yeah, yeah. Also, even from a farming perspective, you know? I know you don't read. I don't want to have. 503 hundred people on the farm? Hmm. If you want to it's it's. Somehow and also yeah, there are a lot of things. Also, the safety aspect, yes. You can give me PPE, but I'm will not be comfortable working with. Some of the grams and. And so forth and also. Considering you know you're in the Bush there. Might be some snakes, bees. Blah blah and so forth. It's a lot of things, but at the end of the day, for me, for somebody who's just doing maybe an operation for survival with his own time, yeah, I can consider manual, but for business. You mean the time?

If you increase your, say your, who would harvesting operation by 10%? Even by 5%, you haven't got enough Labour. To do their job, you can't forget it. That's true. They easement enough people to do the job. Touch the button. As I said, we are now on the moment around about of two to 3% of the total encrypted area. And we are starting. If the demand list by by say 2 or 5%. They won't. They won't be enough labor to do the job. Then you have to go to medical, mechanical, but to go mechanical costing. Yeah, it's very costly.

Remember, our labor is now it's it's unskilled. They they got the extradition. We they've got planting time, so it's actually unskilled seasonal workers.

So we've definitely got times that we've got more labor available than certain times in the year. So we're also trying to work around that, but it's not easy. And then the. The discipline among the labour force, he said this. It's a concern. I've got Dad in the family. OK, who's now who's now passed away. Now my uncles, sisters, brothers, nephew. OK, but that's not. That's not really. You need to go. Yes, I. Need to go you. Can forget to tell them it's. I won't give you leave. You just gone. It's more like that's not it. If he decides he's sick, you take him to a medically medical doctor. No, no, no. I'm going to the witch doctor.

It's not here. You must travel 1000 kilometers to the which doctor or 705 hundred them? You will not tell them. You're wasting your time. You don't even bother with telling him that. That's. And smile at ease. And we certainly we're working with golden workers here under with work permit conditions or that visas soon it's going to we won't get it anymore soon. It's going to come more and more. It's actually not already happening. So it's a new. The new act of the government now basically falls down on us. Going to happen now. So yeah, unfortunately we don't want to go to mechanical harvesting. You want to employ people, you want to give people work, but. You know like. Your government's operating now, it's not going to work anymore.

**And based on South much things you have done, so have you also like? Tried out like pilot studies or did some pilot studies here in your farm or some.**

Pilot studies. For anything.

**You say you do research like do. You have like. Use it for. With Academy or something, do some job. Yeah, pilot projects. Something like that or.**

Yeah, we've, we've got guys of number that came and took some microbial ground samples to test what's the carbon content off the ground, but we couldn't really get a the guys in America, they basically messed up the house. So we've taken 20 samples at different places that we know the, the, the Bush and the ground was different, differently handled or treated, or the borrow sites or burning or charcoal or just rolling or this and this. And so we got different 20 different places where we took samples. To compare and the other example, just went for. A bowl of napping. So yeah, on the Bush cutting, we do a lot of after care treatments. We've got. When do we do at what stage of growth to see what is the green regrowth come back. Our force is coming, is it not coming? Are we winning? Are we not winning? Too much of regrowth is also bad. You want the regrowth, but too much is also bad.

Currently we're in a situation, it's too much. We cannot process is as a fodder through animals, so there is a stage where you just lose the fight and you have to do after. To get it back to the ground.

And this is, he said, no with after pay, one could say you can use biological means. Like you said the like the ships. That's biological means kind of like you're controlling yours. You want to suppress the reproach which is coming. So you kind of put in. Like the ships that they browse on the. They need growth, however, as I said.

To suppress this. To keep it at the. At the level you want you. Need more? I don't know how many books you're going to put some, yeah.

You know the bushes forever growing in in, in our area and start growing in September and only maybe we'll stop growing in July somewhere then maybe. If the frost comes, we in this area, we only get every 15 years, maybe fast, maybe.

And so we would also like to understand the different state that's involved. In this hub. And their position and relationship between them. So we've plotted them on a power interest grid, so here you see the power if it's high or low. Any interest in a project like this if it's high or? So here we put the. Actor set of high power high interests. High power, no low power high. Interest low.

Cheers and I'll see what you're going to.

And we would like to ask you, how do you see these plots? Do you agree with the positions of these staplers?

I do like what I see here. Commercial farmers is high and. Right for me.

**And do you agree with that?**

This is I. It's fine. It's I, I I as well. Yeah, that's a dollar number that you have to know employee. So that that thing will definitely move maybe, but I think that that's going to. Be a concern.

**Is that to generate power?**

Yeah, that's basically the the influences that can cause this project. To work or not work? So that's the whole process. Who's who's taking influences? The government, the commercial farmer. Small, small, small scale, farmer, biomass collectors, maritime industries. It's it's just a rating of who's got the most influence, if this. Is going to work. Or not work. And if it's going to be viable.

**Or not. Why isn't? Why is the Community deal? Farmers lift out. Why? You just don't spend?**

Union and small skilled farmers.

Small scale and chameleons are very big difference.

**Communal or commercial? Communal.**

Because somebody. It's round about. 53. Million hectares communion area, which is managed communion. Why is it left out there? That's the one thing. The other thing, the power. To whom are you going to sell it?

So our idea is to the shipping. You can use it in their ship.

Hotel shipping. As a fuel.

**So OK, so your. Your bio oil is going to the shopping lines.**

Or fuelling the ships.

**Or fuelling the ship. The crude oil?**

Yeah, it has to be treated. Yeah, it has to be defined at the valve spray.

OK.

Our experience from the woodwell. From the wood vinegar that we are taking out, the wood acid vinegar that we're taking out, it's like it's nothing. It's like minute percentages this process.

But here we are three days. It will be like 20 to 30%.

OK.

That's still workable number, if not very high 20 to 30%.

Alright, what is your waste products name?

The pipe so the main product is pie oil that's 20 to 30%. Yeah, the biochar will also be 20 to 30%. The other two streams are aqueous phase because we.

OK. OK.

Water phase and gas but both will be.

Recycled in the system repo safe, basically fueling your own system there.

Yeah, exactly. Because we need energy. Yeah, exactly. We need energy to run soft. Gas will be burnt with the methane will be burned again.

With the burner, yeah. And of course, Steam will have organics, but we. Need water so. We will recycle it back again.

**And what do you want to do with the biochar?**

That's the thing we don't know yet. The what's the nature of biochar is, but it's based on its nature. It can be either used for electricity, but you can still burn it to produce electricity, or you can use it as a fertilizer for soil, lemon mint or you can still improve its properties. Little bit for our activated carbon and then used for water treatment, but we still don't know. That's one of our colleagues is working on the experiments right now based on the process to get those bio charts and then perform the characterization of chemical and physical properties. So then we know what is present in that biochar, in what form it is present. Whether it's easily accessible by the microbes or so on, if the carbon, if the nutrients are blocked, if it's inaccessible to the microbes, is pretty useless, pushing back to the soil.

So that's the thing. So these are something which you have to understand first.

And also to have been some what push you're actually going to harvest if it's going to be a mix because in our case it's going to be a mix basically in our old country it's going to be a mix. You're not going to tell the guy you only harvest across your mother, it's not going to work.

We must understand one thing very, very. We are. We ain't fight encouragement. For the benefit of the gracious Lord, for the benefit to utilize the crisis, because that is our resource, that is the resource we can change to meet for the human. If you. You can't say harvest this farm and leave it for 20 years and let go. It won't work. You had to re you had to to you had to fight the regrowth. At least every five years. Otherwise it will go out of our hands. What I am saying is you must listen very carefully what I'm saying. If you watch burn. Charcoal or utilize the wood or something like that. And you let it go, you'll look back to square. One there on thus far. There world will. In my lifetime, definitely not. Maybe in 50 years or again, maybe. Due to that it all. Depends on the manage how you manage. Childhood will never or would, will never be utilized other unless you use that and sticks for something else. But chocolate Bunny? Yeah. I'll show you a picture.

Charcoal, as you said, charcoal. You can only basically done once on a farm. Then it's it's for the next 25 to 40 years, it's. It's not a renewable sauce or charcoal. No, no, no. No, but this process I do understand this could work because you're basically going to. Be able to come in with a harvester and take everything. Grass, twigs, old wood, new wood, everything and it can goes into this. Basically reactor. That's what we've been. Waiting for a. Number of years now.

If you can build a if you can build. A harvester. They can take all that. All of that. We are cutting currently, we are not cutting near the ground, we're not even touching the ground. Only with weapons is just running on top of. The ground. We don't want to. Scrapes the ground, disturb the ground, all their equipment running on wheels, solid tire wheels up there, and we're cutting the. The brush we're cutting 100. Millimeters from the ground.

The the biomass is other than the instant maybe from in the beginning when we start here 30 years ago. You may be now on. The go up to 5014 winning. I'll be now we maybe we brought it down to round about. That is the point. They brought it down, surviving. Right now. You can't make it.

**Maybe an important question to you and you know that you understand and you are also chemically apart from the challenges to realize this kind of project here in Namibia. What do you think are the major challenges? Because it's a big value chainer which means. There's a lot of people. So what do you think are the biggest challenges? Technical non-technical.**

Yeah, you. Well, you first of all, you have to get a a big investor that buys into like if you've got the market shopping lines, I do understand then it's easy and then you have to get all the markets for all your products to pay for for the home. For the whole process. Otherwise we're. We're not going to work. To get to get the farmers to buy in. It might be a challenge if. Some people depends on the. On the background of the farm, it is going to buy into that you're going to hours with the machine. There will be only two or three or five people a year and he's fine with it maybe. You will even allow 200 people on the spot. In my case, I don't even worry. Bring 100. Let's get it done over what I can carry on. But you will have the one challenge that you have to picture a long term plan for a farmer. He's got a long term vision. Doesn't he have to come in, cut the Bush and you tell him? Alright, I'm gone. Thank you. No, we all know that Bush is going to come back and he won't have a plan. After care situation on the farms is a big problem. You want. You want the regrowth. Because you can come and you can come and they harvest it. I don't want the fire because I cannot fire destroys everything. All the father that I can use. But if you can come. It's they just. It will be in the rainy season. Well, maybe not so easy. And then some stages, let's say in the. Just after the rainy season won't be so easy for a lot of grass then. It all depends on how you are. Obviously close. You're going to work. But there will be stages. They will also be seasoned and you can take more off than other. But definitely for for the farmer's sake, it might be a continuous process for him to also buy him on our farm. We've got a A5 year plan, some areas it's like. It doesn't work out five years. It's three years and some areas it's six or seven years. So we also have to adjust on our aftercare system. So we try and work thousand hectares a year. To do aftercare. And sometimes we slip up and then we have to fight back next. Year tower like undertakers. And there is where the cash flow in. It boggles. As I said in the beginning, transport is going to be your biggest problem with all that stuff that you have.

You must understand something very clearly. To pay our operation to pay for it, we had to have our cattle and sheep or. That's that's what we must we have to produce kilograms of meat. You will understand you haven't got nothing else to say.

**They can't sell. Anything else? Where this we have got the results. If they defeat their figures. That should play for them. And then 3039.**

**Where is your stocking like? Where is this with that? Keep going.**

We we, we, we, we've all got this always almost when I say new age view of of. Renewable energy. This is all over renewable energy, but if you obviously. If you utilize it to our. You basically destroy them. We've seen that with the grass cutting and failing and harvesting, you basically destroy the way that we operate. So we're trying to cut down on that. Yeah, we've also got our dry streets that we you need that stuff. So yeah, but then the same year. You have to sell. Your business plan. To a farmer gets you. Come and take my wood. Pay me something or I'll hours for you. You play with whatever plane you've got there, but you must also have regenerative farming free range. Long term vision, because that's what is currently selling our businesses. We've got free range. Animals on the farms and we get to export it. We've got a .1% of the whole world market .1 it's it's basically nothing. But we've got the best meat. In the world.

**Right.**

**So if you if you also. Can I ever spin off like that? Due to this operation, of course, yes, why not?**

The different right the consume. The city of Stuttgart. Consumption on me on one. Is bigger than the production of the total Namibia for all year.

Slaughter all its animals on one day or the slaughter marker that's ready for slaughter market that we slaughter through the whole year.

To give you an idea if you slaughter for one day in a year, you will supply that all London. In Britain they eat it up on.

One base, but we can double it. Maybe we can double it if we fight, the grudge went and. Very important, if we put our grazing under food management. It's just don't sit in. The communal area. And wait for the crows to come down. You have to work. You have to manage your courage. It's a very. Complicated than nature. It's a very, very complicated.

These are I have just took out of my eight-year but the biochar business in the movie, it's not big. Yeah. But to take bio charge to activate the car when it's not so tricky as well, you're watching the steam cracking and the chemical cracking. So one of the one of the two, but I don't know the bell big debt markets. I know its. Its big dollars in income, but how big they're marketing.

It's not just so The thing is this is. See this will be seen as a by product, so it's not the main product so.

Yeah, you can make it work. You can make it validate, you get money. That's better for business. Plan, but you don't depend on that. The viability of the value chain depends on the price of so far price of the fuel. You know you increase it, you can export it, you can use it here in India to improve the.

So The thing is, this is also so if these land has. Been, yeah, hopefully deep. Bush or Bush? Control body push. Push control or push thinning happen. If you want to do agriculture, bring agricultural. Back, you know, you need some agricultural land as well. You can't have. Full range land out there. You can't just turn. And you get the. Full range and you need horticulture to sustain, you know. The peoples life. So you need these kind of biochar might help in that thing. And also if you have enough content and. Most if the. Place or the village is not really connected to the grid. If they have like a small. Biomass boiler or something? You can still be off. Grid but have electricity connection. You are still connected so.

That's the way to, I think the other thing. That we all sort. Of forget and you now leviate into that. If we take the encroach Bush away, our groundwater levels will pick up big time and. We can put up a lot more perverts and we can use our a little bit more biochar. We not doing a lot yet, but we can utilize a lot more.

Yeah, that's the first thing I notice that when I thought, yeah, Namibia is not really dry. People say groundwater is low, but you. Just remove the Acacia out.

60 litres of water per day.

Right there. Yeah, that's a lot. Yeah, yeah, I put it into my head. I was. Like that's a. Lot of water. You can regenerate the. Table it's it's it's possible. It takes time, yes, definitely. But it also took time for the bus to.

Doesn't really take a lot of time, really 2, two years, one year, maybe 1-2 years. Really. Like we've done. Here our water table is up 25 meters.

OK.

**So you monitor that as.**

Well, no, it's it's it's, it's. We've got balls, that's. That we had monitoring equipment in it for some say some time. And you're going to immediately see when it starts to rain that water levels. Are picking up quickly. We've got dolomite area on this side, so with porous. Water just looking. Into the ground. You can even see the water in the fountain. It's getting there brownish color sometime. Get danger. The moment they they they they just get. That will be dry if they get 5% of water. They're water is, there's a bottle just. On the back of the dam, that water is flowing out of that bowl or on top of the casing. They don't even have to pump it anymore. Let's let's take out the trees. There's no the strap. Sorry, not the trees.

**So just also you are you are also. You said the first you are part of some. Your character and those kind of things, right? Do you also tell your experience or you know? To other farmers like.**

Well, yeah, we're talking information days that we share in a movia we. I'm not a consultant, the farmers. Consult share invoice or each other. We we open for discussion. You want to jump. We want the ball. The right to invoice. No, we don't really. We we all. Try to make it better. Better for for the community. If it works for everybody, so community. Will pick up. Some wants to buy in and then you help them to understand how can they buy in and some just. Don't want a bike?

**Have you ever thought you can go into politics and have a career? On that, no thank you.**

Not in Africa. I'm voted out.

Yeah, because that will also be one of the like what I'm. Trying to say is like if you have. Something has done. Somebody has done. Something and it has been beneficial if others are not really copying that or practicing that. If that's not inspiring them. I'm just wondering what will because? That will be the case. Right, you can't just rely on certain. Things you want all of them. To do that, as you said, it's a community. Of but if one of one form. Does it and the rest of the farms surrounding it doesn't do it. You pretty much. What this person? Did becomes useless, usually coming immediately way back.

Farmers like to talk business. They don't like to put it on paper. So let's talk business. I'm stocking this. This is my expense. This is where I'm going. This is the profit that I'm making. My accountant is basically confirming this is the numbers. In number talks, we're talking around the table with no numbers.

**Like this?**

Where are we going with this? I told you I was. 505. 50 big bird of animals here. It's not the right story. I've got 600. And ten young. To the cost of what? Am I feeding them extra? Does does do I make a profit? You know, saying we are going with it, but the farmers, they like to talk the story and make it seem nice, but there's no numbers to it. When I read an article in. A book we don't read anymore, but if we read. You must have listen, look at YouTube top. If you read an article you want to see a number you want to see the real number, what is the? Effect in this area. Do we have a number that makes sense for the next guy and then I can look here, can we do a partnership and I help you, I've already done it. Then it must make sense. He also wants to make a card, but to get to that convincing stage, it's always about the dollar number at the bottom, like always about that. You won't do it for to go bankrupt? Of course not.

There's maybe something small.

**Right.**

From the issue of communal planets. I know they they have been. This issue, you know, like the government does not allow a number of these activities to take place in these criminal areas. However, in one side that in the. Yes there is. An equal change, but there is a lot to be done. Windows Media. In some in some communal areas there are not. There are not any governing. Yeah, yeah, yeah. Who can manage this? And you know, it's it's also somehow amazing all these conservancies. The that decision is for game winners. Only not more on the on the forest. Products more like the. Bushes and so however for me. It's about the size how much resources are you, how much business in this area? Also look at how many peoples are in this area, like for one Conservancy, we visited the. 10,010 thousand people. It's just pulling in the residence. You wonder how I've been going since it's economics. Property or rent, how are they going to? How much are they extracting and how are they going to share these benefits equally?

Yeah, but and and also for me, what I picked up is communal areas diverse in India. The communal areas which falls South of the veterinary fence. Are more different from. There not any communal families.

Yeah, because of the economics, man. Yeah, how they can actually trade. There's a different way of doing trading, but as you said in the commune, different communal areas, there's different tribes. So they manage different and with with regenerative. Farming practices.

Percentage charged.

Yeah, it doesn't that some of them do understand. If they can. Apply this and take in this traditional area all the cattle in one big hug. But because of the. Additional they don't want to do. It so they are all.

I've got the answer. OK, I'll give.

Unfortunately they, they, they, they they falling behind because they're not. They're not seeing. The new way? Well, it's not new. It's old. We just forgot it. And now we're reinventing the wheel and we are also waking up.

Farming farming is a science. Communal farming or management like communal. Farming is a way of living. In this world of today, no more place for. A way of living your act to use the science. OK, is that is is that I think that that's the one thing.

I think that this. The other thing is. Anything you do. You had a must have a long term vision. Sorry to say, in Africa the short or the vision is only five years from the one election to the next one. How to come into power and how to to power and enemies? Commercial farming in this country is around about under 20-30 years old, very young young. And now you can go back.

It's not like, well, I'm. And sit and look. On what was what was, what was changed on the commercial side and what changed on the communal side.

**And then Netherlands?**

If I go to the kebab. I would say the only difference is they learn to drink cold drink or beer out of a bottle and a ton. The outstanding day. The on the what you call it. What is? Yeah, yeah, the oxy standing there and then you pass. This afternoon at 5:00 o'clock you came around just standing there and the people sat under the tree and drinking beer. Is that true?

Yeah, that's the reality.

**That's true.**

That's the reality.

Nothing would change as far as I am concerned around about farming and developing. Your your land.

**You said you you cannot use agriculture as a user.**

No, you can't. You can't. Use agriculture. Use urban waste. High defaulting. Preferably not everything at once, because that complicates everything because the end product chemical composition will be. Ideally, one species would be most preferable because we can still control what's coming out. We can predict what's coming out and. Or else there's going to be lot of heterogeneous lot of. We won't be able to. Predict it. That's why we right now look at one species like mellifera or something could be done, but yeah. You have to work it. Out how it's going to be.

**A little bit tricky, yeah. And then also. Are you also going to do the? Carbon credits.**

This is possible. Possible with a big added.

Not yet. With all the heavy metals. There's areas with 80 medals in this country.

**Yeah, that's why we're here. To understand what's so big. All picture is so yeah.**

Yeah, except on the looking at the. Certain species, he said. It's going to. Be a big challenge. Because even even. For our, we are working together with the. CFO for their they build. Up a new record, this team by plant. So it's we are actually they want wood chips. And we want. To just eat it, it's 200. They're using autorefraction method with it, kind of like. Hit it only 200 to 300 degrees there. Drink all day. Or their visits. So they kind of only kill the biological activity in the in the in the woodchips, yeah, one. This now the solid wood chips. Which which is completely dry for maybe for. Longer selling trailer in. But I think with their with this method it's a. It's it's a bit different. Small hydro thermal.

**Yeah, we don't need to dry we. Can just directly use the chips.**

Yeah. Yeah, so but for. Obtaining now only if you want only. For example wood. Chips from only black from. It's gonna be. Getting into a farm, I think it's going. A bit difficult. Because it's more. Sometimes it's a mixture of all the species. The mixtures all over. He said. That's not a it's not a no. No, no, no crop. Everything else. Yeah, but but because for on our side, they we agreed that now in the media we can use the mixture and then we. We can use the tiles, the Pines, the wattles and the you carry. This from South Africa. So the other one from South Africa, there is. To to obtain because they are, they are, they are separate, even the way.

They they have. And this is very different from. So maybe that's the only. Way we can kind of try. Different environments, but for us the scripting.

**So you've done based on our biomass already.**

I think. Right now our colleague is working on it with Melissa. Yeah, we're working on it.

**And it's you've got good hopes, yeah.**

So like. But it will take some time as yeah, as you know, it's a research, it's going to take time. It's not like we are like not company. We don't have the. That kind of power or influence, yet we have interests like we have, but still. But yeah, but we see a. Lot of potential here because this is something you know on a bigger picture. You can stop better. On a bigger. Picture this also you see transport cost is gonna be high. I think it's also because of the diesel right diesel cost.

They are in the distances and the the tiny purr load basically is going to be low.

And so most of these end products right now like charcoal and those so on. And so forth. It's those are low, low. Value products. If you can produce high value added products, the economics changes. Yeah, right. And also these, whatever you are producing in terms of diesel, this biocrude if you can produce much more more than just marine fuel, it can also be consumed in Namibia because Namibia currently is importing everything. So you satisfy that demand, so your cost of production will come down.

That will also it's a, it's an iterate, it's. A loop. It's a process. Things will go down. That's what we are. Hoping and predicting, obviously numbers matters and. Yeah, I still have to do those things. This is what we are listening.

Yeah, maybe we don't have a lot of customer. No, we don't have a lot of customers.

You do.

We only we only got 2, two and a half 3 million people.

**Think think around a positive way. You don't have a lot of people in your local demand. That's which means you can satisfy domestic market quickly. Very a lot of buy ones you can export. And with Namibia you have you can go to all. The continents. Very, very easy. Latin America. Here you, as it's always Europe here. If you are getting bored of the West, you. Can go to east. Across the Cape worst case scenario, worst case scenario, right. You can sell it to South Africa.**

That's a, that's a. That's the worst scenario. We can generate power and sell it back to them and hopefully you'll get paid. That's the other problem. Can sell it, but you have to get paid. She was good. Thank you.

Just what I'm trying to say is like maybe I can reduce its dependency on others for electricity and materials and. Transport fuels and so on and so forth. That's the hope. But once again, the numbers are still have working. But it's quite interesting and also especially with all other projects, which has been happening like green hydrogen and those things. We can integrate these things and also like fossil fuels being found near. Namibia. That also helps. If there is a refinery structure involved, this pair at one point you can make. Use of it. But yeah, once again, these will take. Some some time. Unless until in some big player some big petrochemical player, OK. There you go. Goof within one year you have.

Just phone Elon Musk. Why you phone him and tell him you've. You've got a green thing here.

**Do you have this number?**

Got his e-mail address. He's already setting an. Looking like South Africa. Four guys fall. I'm gonna come in.

**So you have been approached by you, understood that you have been approached by this company called Pyronaut. For this project.**

There are power on them, but they are part of. Yeah, I know how the thing sort. Of works but. They don't have a big picture and they don't want to understand you. Put it now. They they, they that seems as if they've got, we call it foreign money. You understand? They've got they've got money from somewhere else and they're now trying to make this thing work. But how they tickle it? And no, don't want to. They don't want to go through this process to understand where is the hiccups, they just falling. They're just falling. They're just falling into the system, so it's not gonna. Is what they want to pay the farmers? Are they going to make the Farmers Bank?

If they get somebody to supply to them.

But courseware plant but. No, not there yet. I don't know what the plant cost is. I just trying to see where the whole. Picture is going to come in.

**But you had to supply how much? 14 tonnes of hogs? Of wood but.**

Yeah, Paranam needs 14 tonnes of wood, birthday wood, dry wood.

For that big plant, Angie. This plant never. Never.

24 five.

Never mind debt. Never mind debt. They don't see the big picture of the.

**Did you guys want some more coffee or some?**

Water or fine.

He has been talking a. Lot should ask him. We have been just listening.

OK, no problem.

They don't see the bigger picture of. You got the wood. They just got biochar. In their heads and the green. The carbon credits are going to sell. That's all they've got in there. I'm trying to tell them you you must look at the other stuff as well. What you are basically trying? To look at the other stuff. They know. They've got a retort system by they've got a retort system. Why the? Hell, waste your time on a retort system. If you've got. They don't even know how to cool down charcoal. I told them why you leaving it open. You can do this. This will happen basic stuff. But don't just change the plant here. You can take off with acid as a byproduct. No, no, no, no, no. They not open for for change and a little bit of understanding and what I've told them you're going to struggle with the labour. You must have this labour and this and this checks and balances in your labour force. You're working 24 hours. You need contacts, permits. What's that? You haven't even worked. You haven't even worked with the Labour yet. But you're already deciding how you're going to. Work with them. No, no. But the farmer or the farm will control there, but we will pay them. How does that work? That's they. Simple snakes in their system. They want to invest, create, but do understand you're going to grow into it. Yes, start small with the pilot blonde. Yes, that's the way. If you're not sure, you get investor start with the pilot plant. And if it works, that investment investor will jump in. That's the way that. Better way to do it.

Yeah, that's I think, yeah, you said that. That's where we met. At that site. It's very interesting, very. Yeah, the way it is, but it's. If for me, what I. Picked up is that the? There was not really much of noon. Planning or designing to come up with the most? Pilot before you kind of expand. It is a bit even looking. I think it's the kind of material they they are considering. It's like for somebody is producing chuckle.

Only one specific time date directly in in. Not in comfortable. Charcoal in in competing against the charcoal markets, they directly competing against them.

It's optional.

If you want to play in that field then you must up your game. To do better. For yourself and for your whole. Pilot, plant or expansion or whatever, but they are not doing better. That's what they've got that lot of fight with their people, where they're putting up the plants because those guys are also burning charcoal and they sing. Yeah, I can do more. Why do I have to bother with this? No, but it's more green. How man? It's not more green, not really. It's not really more green.

I think I. Think they used? Not more green.

I think they used Chapel as. A basis of securing the funds like they are. Going to replace this, but it's it's totally. It is not going.

Yeah, they biochar. They are selling as now it's green and we controlling and there's no heavy metals and we're not putting out gas into the air that's now making the big.

No speaker, no nothing.

You can do it better. You can catch all the smoke as you say. You can clean into the water. Everything is there. You've got everything at your hands.

And also the kind of energy. I think which is being. Used today needs some, even some, many jihadist things that we need. We decoupled in your space system.

Well, you. For for big blood like this. I doubt if you're going to have enough manual lanes to actually supply. Depends on the time is of course for a pilot plant. Or fire plants. Also easy to sort out the different. It's not easy to sort out the different of woods. Some of our trees. It's all a case. So there is so similar. If you don't have the right eye, you every year it rain season when stuff. What is this again? It's almost a central. We also every year we refreshing ourselves. So it's not a.

And also what we are hoping for this is this value chain is 1 big value chain it consumes. So so far whatever. Value changes here are being explored. They are very small and even even if you upscale, they won't consume more and this value chain has the potential to consume so. Hopefully it can. Fight against the rate of regrowth or something like. That's the hope. But let's say we we are still at the very early stage. This is, let's say, let's call it as a pre feasibility study.

It's not even a feasibility study. It's a. Pre feasibility study.

Yeah, but yeah, you you left. You must need to have a dream to build on it and to see how the picture develop into a dream or a nightmare. If it's a nightmare. No, sorry, it's it's this is not possible which we can try and see if Elon Musk is gonna.

And also we actually want to the one of the reasons why we took this approach is that if we do like this then we pretty much identify at very early stages what we call as show stoppers. You know that's a really good thing. So which means we are a bit closer to a realization. That just boom. It's not going to happen. Go back to square one. So you know that's that's that's a lot. Does it respond for everybody? So that's that's not going to happen. So this is something which we want to do and that's why we are identifying like different stakeholders who. Might have. Then they can let us know what will work, what will not work, and based on. Yeah, here, one thing we saw is like there's numerous projects have already been done and we are not the first person to come up with. Hey, guys. That's to use. We are not the first person and I'm pretty sure we won't be the last, but there has been quite an interesting lot of lessons learned from pretty much everybody.

Yeah, yeah.

It was, yeah, I was told us either from charcoal or other pilot projects or other value chains. They're difficult, practical difficulties. So we want to, you know, learn from those lessons and then make it a much more, you know. Yeah, I would say things. Smart decisions are really bankable business plan, yeah. I mean, first Academy. So there is. There is also something and we know that Git doing lot of things a lot of projects already here. We also want to learn from. Them as well, but also from farmers who are actually farm in the field doing their job. That's that's the plan.

Look, if you really want to. You said it right. Don't try and sell this in Namibia. There's some of it. Our market is minute at the moment. You take it out of the border, you get that foreign currency in. Our money is worth nothing. Nothing but the moment that you take. The product out. For us, it's a lot of money coming back, so you need to produce something in this country that you can export, otherwise you will for sure fail. We give our meat diet, Bryson, South Africa and Botswana. Because we export it, it's the only way that we can survive. And increase the government. That's conniving Thursday, but.

And I think maybe in in a few years this this is more the study I think by then we will have some more also datas or information due to the kind of the ongoing projects here in Namibia. Maybe one you can see like. In non power project if you. Do it. The approach of taking the biomass to to them, but on my side, what I've seen so far and now it's, you know. Tendering force for for such an initiative like for, for, for this it's a it requires a lot of. Like just for one farmer to apply for the tender to supply the woods, it's just like the same model, except these three plants. And most of these smaller companies will so forth. With a discussion on the production cost of this this, it's something else. So I think what I've seen so far, even some media. I think producers. When they looked and they offer in so good they were like, we can't do this and. So it's different. But then. The major problem getting the with the bushes from the farm. Convert it to the like the wood chips and delivering to the website. It's the biggest. It's the biggest kind of concern and also the now, the way we structure like I need this for you to for you to win this thing. I need to provide. With what? What, what the requirements are. Somehow not business when you see. Yeah, yeah, yeah.

But that's what the hurdles that you have to climb over on the side. If it's like an economical, viable or not thing anymore. But you have to harvest the wood again or the biomass in the field can be a a little bit of a challenge because it. It it changes all the time by us. You will have to always different than from the farm because we've already done something. So by us it's small stuff. When you walk through the field. By us, the. The brushes like yeah. And you. Hundreds of meters. It's only here, but just the camp two. It it's again here. So it changes all the time. So yeah, the Bush on this side of the farm is different on that side, so that it can be a little bit the front challenges.

**Was that too?**

And they don't know.

Too explain maybe to explain that better. Peter was in, in the light in the middle, late 60s. All over the country by those days, research our agricultural research. 250 plots. Was 80 square. To to to, to to measure the regrowth.

Also they can. There was 250 plots all over the country and every year for five years. They have done these these measurements and they came to a figure like the Reds. And the turtle gulf is around about all over the country. That's over the thumb a a ton a year. Per hectare, one ton per annum per hectare. The regular or the turtle graph. That means by to say that the grass. Especially the annual grasses up and down, up and down over 200. And 50 plots. Niku niku clerk, Kadai Dandia research. To give you an idea.

**What happened to the nampower thing? Where do they going to harvest? The wood and power generation. I think it's also ongoing.**

Last year they had two options. For supplying one was the large contractors, like those who are reading the industry and they have the capacity already. They know the whole process, they have equipment and so forth. Those one they were, they were binding. Probably standard, so I think it's they are done with that. So the second one is in ad hoc supply, so which means they wanted now any farmer. You can have. Your taxi and your trailer. Your chip. You you take it. But I think there was. There was a lot of. Changes which need to be done because their idea was that no, a farmer can just cut the Bush, put in a baggie. How many trips are going? To to have it's not work, so this specification. Of the final product. It's a bit of a problem because they I think they wanted the P-100 which size. And again now where do you get all the equipments for producing this? This specified those for every farmer, but so far they have attended for the only for the larger white harvest and see but. What I picked up is. That not all of them are Intel. Because they offer, I think they try to mimic, I think the model for the like for the OR longer segment, how much are they going to pay the tone of meetings and so forth. But most of them I think they will not experience the experience over here. Yeah, yeah, so.

**They're still guys not chipping for orongo. Yeah, yeah. Down also, one guy. You know, breath.**

Because there's a guy who's tipping for Namibia.

Yeah, yeah, yeah.

Famous omegle.

Being we are from a farmer's town.

Point of view. We want a crisis if we were to fight Crush, I see it. A long term good planning and use all the all the. You can't say we just burn charcoal or we just do this. We have to use we have and that. Arts discipline leaders, good leaders, management. But it's a combination of this and this. Regenerate power, burning charcoal, making locks. With asset everything. That's how I see it. Good planning, long term, long term and good leader.

Wheels use a lot of alcohol. Maybe you can use a little bit of alcohol. Maybe you can put an alcohol distillery in the wood chips.

Comes you.

OK.