**GIZ1 - Interview GIZ, Windhoek - 7-2-2023**

**Could you tell us more about the projects you are working on currently in the biomass sector in Namibia?**

I think as we have done briefly ##[00:22] operating in this bush, biomass sector since 2014. And between then and now I can see 3 phases. First phase was more at the beginning where we just conceptualizing and comprehending everything. The dynamics of this sector, back then it was only charcoal and a few operations happening in woodchips and supplying in Ohorongo

Cement factory, I think, if I'm not mistaken. Yeah, and then we were working on various components. There has always been components that dedicated for each phase. The first phase of the most from 2014 to 2017, 2018, and then there get three more years. And then the last phase is the one that we have been working on now started last year, April, and going until March 2024. So, like I said all along, if I can summarize it, I've always been working with the private sector, trying to find ways in order to unblock the commercialization of spaces of various value chains. Obviously, the lower hanging one has always been charcoal. And we have been working with the charcoal sector to formalize and also to focus more on how it could maybe improve operations, be social aspects based on technology or access to the market, but really just to have everything from a license association itself. So if I can say a little bit more on that. And yeah, there have been improvements and I think they normally always fight the number of employment that grew over the years. And in between there being the woodchips and through those interactions, that's how the establishment of the NBig came about. And in between have also worked on animal feed. This interaction with the private sector, that has always been there. Another part is on the policies and the neighboring environment side of things, where we have been mostly working with government and it's compliance issues. It's how we ensure the regulation of the sector, how they can change their processes, really, how both sides, both the user and the regulator can meet and ensure that things are done in a sustainable way. Yeah, and that also lead to the formulation of national strategy. Maybe you came across that as well. And on the technology transfer side of things also, that has always been another component that you have worked on and create stakeholders, including Nanford and others, any other components that have, maybe that's the relevant aspect for you guys, technology transfer. Because at least in the second phase, which ran between 2018 and 2022, we had a corporation, a big corporation with an ##[04:41] with the faculty of engineering and faculty of Agriculture, they were then able to really look at what are some of those issues that are hampering us from having this technology transfer. For example, they looked at the machines. So the technology, when it comes from Europe, is it compatible with our wood, for example? What are some of the challenges that needs to be done? What amendments can be done to make sure that the technology is only done for good? So they've done a few studies on that and there are various reports that support their findings. Basically. I mean, they were all pilots and trials, but perhaps they might be able to find useful information on that end.

**Is it possible for you to connect with these people?Because those are two different**

yeah, I think it's also a connection between NBIG now because the project coordinator is no longer university, but there is a new professor. I can get the contact from NBIG.

**was the word Project coordinator ever ##[06:19]?**

Yeah. But if you go on [www.bush.na](http://www.bush.na), You find everything there once it's done so far. But they also had a huge interest they wanted to become the center of excellence on biomass but yeah, I don't know what the things can be but through this corporation. Also knowledge transfer, it was also an element to support laboratory can you imagine that? We don't have that. We managed to support the Faculty of Health and Aplied Sciences to have at least the basic labs that can just the basic analysis on Wood biomass that's currently running with Professor Kamba at Nas. That goes for phase two and then in the third phase, obviously trimming down. So mostly still trying to support the Dignitary Authority, which is a director of forestry. And then we're trying to have this dialogue, have people connect ship aspects and so on. But maybe the third. Output now is working on business model looking at what are some of the best options from climate financing which you can debate. For example this carbon ##[07:56] in application of biochar. He has kicked off an assignment I think for about a month now. And few consultants might be able to produce some results in that regard, where they would not only look at Biochar, one value chain, but they might also have other options for other value chains at the moment. Assessment.

And then go into

**is it possible for us to meet this person? If not today, someday**

**till next week we will be here. But if not if that's not possible then online.**

His name is Yan. He's supposed to meet. Okay.But he's done on how to leave.

**But I think that would also be nice just to have a lot of experience into it.**

Yeah, that would be relevant for your research, definitely for everyone. But yeah, that's the one that you've already done. I mean, obviously what you're asking now, what are some of the challenges and so on you'll be able to get from those findings, you'll be able to find out where are the spoke to NBIG for example. I'm sure they have machinery problems, the access to finance, whatever else, keep allowance in the sector, might have had that already.

**And also just to understand. So this is Bcbo, right? So this was the project itself from the G-I-Z along with the cooperation with Namibia government or is it purely giz?Just trying to understand.**

Okay, I think most of the GIZ cooperation projects are always in collaboration with the government. They are all bilateral corporation. So you normally have a project team like ours working in collaboration with government ministry. For our partner in this case that we are collaborating with is a Ministry of okay, first it used to be Ministry of Agriculture, Water, Forestry and the Forestry Department was moved to a different ministry. So now that is a collaborative partner, which is a Ministry of Environment, Forestry and Tourism.

**Apart from this value chain, so you really start from conceptual stage until you cover the establishment of such an entity or something like that.The goal of the BCBU was to is it just to understand the potential value chains or also to establish them? where it stops, what is the final output or what are the final goals of this Bcbu? Because you had three different phases. So what's the end report or deliverables or outcomes of each of this phase?Is it like a pilot or is it like just conceptual study? Is it like what, just trying to understand. So the idea is that we see a lot of connections between what we are going to do and what has already been done here and a lot has been done before.We are looking for like how can we?**

##[11:58] a little bit more on what you want to work on, what you would like to achieve? Then maybe.

**we have some images of the concept that we're working on and we heard that this is quite similar to the Biomass Industry Park project. So it's called a biohub. And the idea is that there are multiple communities and farmers that supply biomass, in this case the bush to a biorefinery. And for this biorefinery, we are investigating a technology that can produce four different outputs. The main one is bio-oil, which can in the end be used as a shipping fuel. That's what we are investigating. But it can also have different uses. A biochar that depending on what's needed in the context, can be utilized again in the fields where it's produced so as a fertilizer or water purification. And then there is a wastewater stream and a gas stream that can be used again in the facility. And so we are here in our case study. Yeah, we want to find out how could this concept work in the context of Namibia, what will be opportunities and challenges? And I think for us it's very interesting to hear about your experiences. I think maybe also maybe about the biomass industry park, which is quite a similar concept.**

Okay, so is this like an existing concept that has been implemented somewhere?

**No, for now it's a conceptual one.**

And did you design this for Namibia or for somewhere else?

**This is a generalized concept, but based on the local regional story behind the biomass, this could be altered according to. so this is just one of the case studies which we are doing in this project. We look at different, we have just one case study. We have three case studies in total. Each have a different story based on that. Each has a different design and uses and so on and so forth. But to understand that, let's say for example, how biochar is used depends on even if the community changes within Namibia. Some community might need it for biochar as soil, some need it for treatment of water, some might need it for generating electricity. Right? So it really changes. This is super generalized concept, but to make it really specific and tailor made, we have to understand the context lying in that region around that specific beach stock, which you are looking at. But this is very at early stages, it's still in the conceptual stage. But we do realize that this was something which were previously people have thought about here in terms of biomass industry park, but we don't see that. So we are more interested on the learnings. However, any kind of learning is a good learning because you learn something at the end of the day if it's a success or a failure. So we would like to hear that because doing multiple things, multiple repetitive things and engaging stakeholders will just frustrate everybody and we don't want to do that. And that's one of the big learnings of which we also had it here. Because stakeholder engagement is not a new concept here. Every organization does that. So if we are going to just repeat ourselves based on whatever previous projects or previous initiatives has been done, then we don't really add any value to the group or to the industry, to the sector, to research. Yeah, it doesn't bring any value addition and we don't want to do that. So we really want to see why .Let's say for example, if you had certain difficulties in establishing such park, how can we then address that in these kind of value chains? What can be done differently? Right, so, as you can see already, this is a new value chain which you have not worked on before. And there is already inherent a lot of difference actually between the value chains which are currently existing, like charcoal bush to feed. Those are really small scale, but this is a really big scale, right? So it's totally of a different capacity and we need to see it in a different manner. But to do that, we need to understand what has been done so far. And also one of my questions, which I always had is like, did you also had universities partnering or collaborating from Germany? Because you do a lot of research and things like that. So I'm pretty sure it cannot originate just from nus. How does it work? And I'm also wondering why people have not did they think about more value chains or why did they just restrict to these small and immediate short-term value chains or low hanging value chains, let's say? So this is the stuff. So now we have spoken.**

Okay, to be a winding story a little bit, if I can then narrate. What I have comprehended throughout my involvement in this project is that some of the complications will come also from what the setup of our work as GIZ under the bilateral corporation. Because we work on technical support, typical technical support. You kind of work on ideas and concept and supporting services through partners. And even our project has always been unique because somehow we have been collaborating with the private sector players. That is not always your typical Giz project. Some are more embedded in the ministry and partners directly the government institution and they're maybe working on policy issues. And for us, it has always been great to work with the private sector players and somehow we were able to conceptualize some of the ideas such as the biomass industrial park. So the biomass industrial park was then out of one of the components that we were working on. It has to do with supply and technology transfer that component and that's how the collaboration came up with what is the name of the university? ##[19:10] and that collaborated also with NAS and they have been worked on that biomass industrial park idea in yeah this kind of looks familiar. They worked on a complex project. Yes, a feasibility study. They did a feasibility study. Ideal locations where identified. the investment just never took off.Already said. Why is everything at small scale? I'm sure if you speak to any opportunities for markets here are very limited. ##[20:07] I mean you just realize that and you find your private sector and you have not confirmed with any of not. Even J I'm looking at now. Also, it's going to be difficult for you to get off the ground.

**So in this process, the stakeholders were not consultants or involved?**

There was implementing, but I think yeah, so that is how somehow complicated the bilateral agreement can be. Because then the feasibility study you have a concept but then we don't have time to put it on the table and implement it. So it is a concept. That required fine, maybe investors. And that is where it kind of ended somehow. Then you needed to take perhaps someone as a custodian for this idea of this feasibility study. And that would typically be on Ministry of Industrialization. But unfortunately, they were not people interested in buying in this bigger idea and move away from your typical charcoal and other value chain. So that is where it kind of ended. So the concept is that the feasibility study is costed. And we're now moving towards the point of looking for your possible financiers and investors and some collaborations were also taking place between the town as a possible site. Yeah, but I think that is as far as it went. But otherwise there are people that are having this idea in their offices sitting somewhere that could be implemented if someone really get up and seriously look for investors and people that can buy into as far as I know it's a system more or less like this with different value chains at different points. And if I'm not mistaken, even by ##[22:46] must be there.

**is this feasibility study, was it done as an academic exercise? Is it possible to figure out, maybe I've seen it yeah, I saw some numbers but this feasibility, the numbers is there any report like is there the person who did this feasibility study? Is the report is on? And so one of the challenges then you identified was actually the if I want to phrase it, everything was done and then the local stakeholders did not have the capacity or for some reason they did not take it further for investors.**

##[24:00] But yeah, if probably one is coming with these ideas and then you are really having like a fully fledged person's idea and ready to invest, obviously I think that could be facilitated depending on where you are doing this. I don't know what your way to intend to do, but a good case with the interest is to build on within the disability study you will find which were the localities which were chosen. So you can build on that and use that. There's already a lot of work that went into this.

**Yeah, I really discussed this stuff. But then we were not able to put the finger on this report exactly because we were just only able to see the numbers. But then how it was done, where it was chosen, like what was the procedure being followed, that is actually quite important to understand how they draw on these numbers. Right. And ideally, that would be like you mentioned, what we are doing could be as seen as a follow-up project on these things, whatever we have been done. Right.Yeah. That actually brings back to my next question. So was there not being any new follow up projects initiated and was there some form of other difficulties o rto gain that to gain a new follow up project?**

Well, I mean, exactly this I don't know why exactly this is a movement for us, in all honesty, the fulfillment was right to come up with a visibility, cost it, to summarize it, and then somebody is supposed to fix that. We don't go on and find this technical funding now beyond the technical needs to put it on the ground to establish the biomass, we couldn't do that, that was beyond me and nobody picked it up personal investment or investor. We tried, I think as far as even having some potential contacts like the naming investment board to see if this maybe one of the projects that you can pitch. And perhaps they always have regional, whatever investing to the process. MIT we also don't have a budget for it, but ##[26:48] and potential currency. And then in the third space, definitely the priority is to imagine we have how much we have now for this space in terms of funding. Funding, I don't know. In total we had €2.5 million, the whole project, so in 2 years so there was no way we can do nothing but then they are people who are engaged especially they have been consistent in really trying to do something environment because you can imagine if about 90% of the research and that's where the resource life transport and logistics and what not it just makes it easier to centralize around that area. I think through the collaborations then through NBig and we had some German based colleagues that are working on this concept. Unfortunately, they have discontinued working in the project and on the topic, but those are the best level of collaboration or kind of what push that you can get that level of energy you can get from your typical GIZ Project. But ideally then you move it to the next level where you maybe connect with the investment board or, I don't know, external investors that are interested in project or people that have maybe nowadays typical companies that invest interested in this carbon credit project. Definitely badge could be very interesting for that aspect. Like I said, there's this linkage about the study that we are doing could also then be useful for you, inform on how things of that can be optimized in your concept for sure. I don't know about energy but at least for the spoiler amendment. that's a key and at the moment there are a lot of players and that's always okay. This is one of the issues with this value chain market. is very limited. You can imagine there's a lot of potential like you pick it up potentially there but market.

so just as to my next question just to go back a little bit. Can we conclusively say that investment was reason why that's the next step? Like what should be done for the next step? Do you think bringing the investment then this idea or this concept can be realized or do we also face other challenges like in terms of policies or capacity building or things like that? Because at the end of the day let's say if it's just a single problem we can try to address that but I really doubt it's just a single problem.

Obviously those two diligence I think has to happen. Okay, if you know your site and innovation there are environmental compliances that one has to observe. You need an environmental clearance certificate, that is a requirement. As the Environmental Management Act of Namibia. That is a requirement. And obviously that is probably one of the major maybe one of the major activity that you have to do and very important, the off-takers. I don't know if that is something also that one has to I mean, the project has to keep in mind how are you going to source your biomass? Who's going to be your supplier? That is something I think one has to sort out. I think at least from my experience on how Nampalis going about if they are preparing their biomass powerplant, at least those are some of it. But for them it was mainly because they also need external funds. Some of these are big requirements, working out your environmental issues, social issues and all those. Those are quite important for your finance series, maybe. But as from the government side, obviously you have to comply with the Environmental Management Act and there is a Forest Act that definitely you have to in terms of getting your permit because your suppliers have to get harvesting permits. Yeah, it's mainly those yeah. I don't know. On the technology side, is there really anyone saying you can't use this technology or that animal feed? ##[33:09] It's all different things that you're putting in one process so far. Maybe the travel is the most advanced anymore, pushing it through and these are all things that are not starting. ##[33:40] How many produces do we have?

And how do you see the farmers or people's interaction and involvement and dynamics towards these kind of projects? You didn't face any challenge on that?

people's perception on big projects. Not that I'm aware of. I think people, I think as long as obviously there will be consultations, you would definitely need to do that as a requirement for you to apply for the environmental clearance certificate. I think they need to do consultations and people will come and listen to what you're saying. But as far as I know, maybe about identifying your site and where you put it, you put your plant and people have to listen to what project is all about. But I doubt that you have a serious pushback like your typical oil drilling company would have, for example. Yeah, I perceive that. Obviously you have to do proper consultation

**because I also heard somewhere in a read somewhere in an article because at the same time around 2018 or 2019. Right. So I think there was also a plan regarding exporting wood chips or wood locks to Germany, especially Hamburg or something.**

that will be an export, right? Export, yes.

**That did not turn out because that never came to realize, right? Because I read somewhere in the article back then, if it's 2018, I was not even there, I just started. So just want to understand what were the difficulties in that time as well, because that is one of the potential value chain exporters, but it did not pan out well. So what was the challenge you faced in that one?**

It was external, right. International, having their own perceptions without knowing the context of the region. But as you said, the Namibian, at least as far as we are convinced they are open to utilizing the biomass resource for local and domestic should not be a problem with that because that has been the number one and explore the local use. And this also boils down to what you have here, the biomass resource. How much do you have the moment you say 45 million, that again plays a role to see the sustainability. But if we already convinced that locally we can use the biomass resource without, saying for me, ##[37:35] was external, something beyond our control. But with this one, definitely there was a lot of buying. You will get a lot of buying, especially from private sectors. How much they are there? Just the resources, right? They have the resource. But then the issue for me, especially on the hubs, it always falls down who's going to put down that first capital to initiate, who's going to recreate that market, who's going to open that explore that market. I mean, you can produce all these things and whatever. You just want to put all the voucher in the money to some big company that really wants this product material from the market, ##[38:28] all that maybe. I'm not so sure. Like I said, we were not even the main guys working on this aspect of the kind of process. I'm not so sure in how far all these elements from investment, technology, resources and how far those conceptualized okay, yeah, I think another aspect that is so important in addition to those that is logistics as well. I think that is one aspect that has been you can have a back and forth discussion on how because the bushe is scattered in your big farms and of course, we have good road networks but still we need to work out your logistics aspect and where will you position your plant and how will you get the feedstock delivered. Yes, then logistics aspect is another discussion, one where you could spend some time on.

**and what was this university you told, which was involved in this one?**

TRIER university.

**What would you say are the biggest social challenges or social aspects that could be an issue when we first value chance?**

I think one of the issues that we're trying to work on now, at least with the majority trying to know that the resource now is only used on the commercial area but then they would also want to engage, how do they automatically become the worker?##[40:48]

**Is that something you are also working on or explored in this project?**

Yes, we have an activity running currently looking because looking into the aspect of how we could get the communal set-up farmers to get involved in the bush biomass sector to be active participants in your typical current value chains. Yeah, like Cassella mentioned. Is that maybe a social aspect because you have this division on how your typical commercial farmers can do and what farmers in communal areas can't do. So there are segregations that are mainly made by the existing legal framework. We are working on something hopefully that could impact that could change the cost, some changes in the legal framework of policy.

**Okay, and what is that a proposal to change that policy or is it a pilot or what?**

It is just to really engage all the stakeholders and maybe at the end of the day come up with some guidelines on how the government could better regulate the use of these common Edge resources. Because obviously the use of Common Edge resources can result in over utilization and there are other biodiversity issues that you like to avoid and not just leave open access for everyone. And other social aspects on benefit sharing, if you then allow that anyone can just go in the community and address how would the benefit be shared with everyone else? Is it just a business person who is clever enough to set up this business and pocket everything or will there be a formula on how they can share within the communities? So it's those aspects but mostly I think the big concern from government is to avoid things like complete degradation where all the trees are cut by nobody and obviously from the communities themselves, they benefit sharing. Definitely you need a good model on that. Think at least so far in 2022, I think I have lost it now. Yeah, but somewhere we tried at least to have a palette where we were piloting the use of chapel and communal areas but it was through community forest. for example so we need a body to involve those community forests or joint venture business. ##[44:35] A lot of that is happening in the conservation beyond just the employment.

**And this community where you did this trial of bio-char, where was it?**

##[44:53]

**Ozanai community?**

Yeah,##[45:00]. there are three sites, I think. They are all in community forests.

Yeah, there are several.I don't know the number exactly ,but there are some deforests. They are not a lot.

**Are there any other projects which GIZ is currently doing apart from BCB here?**

Biomass

**Anything else in general? It could be of renewable energy or something like that.**

Obviously they have about 15 projects in various gases of the ##[45:53], the green people's Energy. But they are working mostly on the framework energy options in the country.They are also hydrogen is also like their key. Yeah, we thought that could be important and interesting for you. The Green People's Energy project because they also on the project called ##[46:28], they would like to explore the use of biomass in green hydrogen production. Okay. They could have been better to explain it, but they are trying to feature say bush biomass somewhere in the production of green hydrogen.

This is led by GIZ and the team is here in Namicia?

Yes, they have a team.

So I assume they are embedded in the green hydrogen project thing. Is it possible to speak with them, whoever is connected to that?

Maybe we can try again. But we invited them to join this meeting. Yeah, agreed, but she didn't show. Julian has a contact. Has their contact. Okay. We're hoping that he could have a drink meeting and maybe they could have dealt more in their bio ##[47:39].

That's fine, you can try them.

**Okay, and then what would you say that we have to do so that it could be quite different or take start from this one to make it realization because there is still a gap between conceptualization and actual implementation and we want to put, set a finger on that and address something around that.**

From which point now, you have your concept, you have everything ready. Or from way, which way would you start having just from there model? From way. What will be your starting point?

**Yeah, a model, let's say where a design which tells already where the plant location should be, where the plant size should be, how the contract agreement should be, things like that. So the model has everything fully figured, let's say for example, with more numbers than this, but also looking at not just economic aspects but environmental aspects and social aspects. Right. Because we are dealing with sustainability from there you have a model. Obviously the first step is one of the big learnings or advices or recommendations which we got from many stakeholders who we interviewed is that don't start big, start small. So then the obvious first step is a pilot to have of this value chain, right? So that could be, let's say for example, a starting point of having the same location or the same site or the same thing as a pilot. So let's say that's the obvious next step kind of I don't know, that's what I foresee or I got it from the stakeholder interview. But what should be the next step to having this? Because we don't want to end up like a concept. Because that doesn't add any benefit or value to any question.**

Do you have money? How much money do you have? That will depend your size.

**Hypothetically, let's assume there is enough funding for a pilot plant.**

private sector.

**Yeah, let's assume somebody with recent developments happening because the situation of the world is not same as 2018 right now. So let's say there's a buyer and let's say hypothetically there is an investment.Then what would be the biggest challenge that the first step should be?**

Okay, I don't know. It depends if there is just money for the pilot. They're not really like a real business case that you want to prove. You just want to pilot and see if it can work. I think that you can start small, but if you are really going on a commercial scale, I don't know. I'm not a business person, so I don't know. But then if we have to lean in some of the examples that she will serve NAM power when they started talking about the power plan, talking of starting small with a ten-megawatt power plant and they increased to 20 along all the calculation, they realized that it doesn't make economic sense to start to go small for something like that. So they went as big as 40 think. So it all depends on what you want. Like I said, I'm not a business person. I don't know what makes sense. But maybe if you're just trying to see if it is something that can work and it's just a pilot where you want to test a business case, obviously I think that you can go small. But if maybe it's something like a serious business, someone wants to put their money there and want to see your turn on investments, obviously maybe they will think of going big.I think it will depend on what you want to achieve. Okay, just on the top stuff. It could be nice to have a good local partner. For sure. Find good local partners who can drive things. Not just who are interested in the ##[52:14], but who can drive things and who can, who has maybe good buying to get.

**You believe that there is the drive available within the local stakeholders to take any of these kind of projects further or you see that as a challenge as well?**

I think the area you engage in, you have a good basis or at least some basic I mean, imagine I'm MIT and you come to me and you're ready to implement and this is the first time I'm hearing from it. So that's why I'm just saying I feel like it's always important to engage and have people from the get-go already and really have good local partners to buy into your project. Because yes, you can. You can have your nice concept, which is just starting small if you don't have buying of course, with any project where you have social, economic benefits and so on, you can imagine that if it's not government. Yeah, I was thinking entry point was also thinking entry point is important depending on how you're coming in as well. Is it? Just as a pure private investor, you're just looking for business prospects or you want some government partnerships or some academic partners in the academia? I don't know.

So I think all that matters would determine how big or how small you are. But I think in general there should be interest as long as like you mentioned earlier, that they are well-defined local benefit, benefits that are here, not just for extracting purposes. Normally those will be entertained. If we are able to have people that could jump on board with the green hydrogen, why not? Maybe your competition will be green hydrogen. But yes, it's quite different as well.

**And does GIZ have other projects with respect to like in terms of because you briefly mentioned also about biodiversity and climate and those things. So apart from renewable energy and biomass where these two comes under those climate plans or something? Or do they have like a totally different project themes and those things as well?**

like other projects projects?

**Other projects.**

okay, we have programs, so we have some programs on natural resources.You have to help me. What are the other programs? One is natural resources. like the bigger programs. It's natural resources, economic development. Yeah. And under there you have now your typical projects like climate change. So we have some other projects, some are working on the economic development issue. I'm the progress with the property for command. Anything relevant there is investment promotion.

**In terms of capacity building, how do you do that? Do you organize trainings or you organize school or you do a stakeholder engagement because you said you are involved in capacity building is one of the face of those kind of things. But how do you do that?**

Not anymore.We have given a role to NBIG outsource I think if I can recap what they've done so far, basic trainings, right? Like on how to use chainsaws for example, cut properly or charcoal or whatever they've done. Any more feed training from the actual harvesting to the processing and feeding your cattle, what is the ratio and so on. They've done biochar in again from harvesting to production. That's generic awareness raising. Capacity building. They've also worked on trying to formalize capacity building as well like incorporating the aspects of biomass harvesting and processing in the TVET programs. Okay, yeah. We have been working on it, progress have been, Yeah, that's one aspect we have been working on to have it there recognized under TVET program. Whether I do materialize, I'm not so sure but having progressively what moment.

**And from your experience and now looking at what we are going to do and things like that, do you have some points of caution for us or like something to look at it, something to find out from this project? Do you have any points of recommendation based on the challenges you foresee in this kind of setup?**

Challenges, caution

**based on the setup, what we just mentioned from your past, previous experiences derived from Bcbu and other projects, what do you think are the biggest points of challenge or points of caution, which we have to look for for establishing such a not establishing, for thinking to implement such a value chain in Namibia.**

Overall, I think we have really been working on these topics and engaged in so many conversations now with the government. And really we have tried to unpack as many issues as possible that I think they are aware of. Like maybe from my side, from my experience on the policy, legal framework, labeling, environment side of things. Overall, there have been a big shift on how we view the bush in Namibia. I think that shift has been there. And that is not the territory you have to trade. That's how we came up to the level where we have intensively worked with the government to review the Forest Act. That will probably be something that will come on board with and they probably don't have to worry. It will probably be a fragile sector because you are messing with the environment and you are extracting and all that. That is something that you always have to worry about. Government will have to worry about. Possible are extracting the resources. I think you will always be met by regulators and maybe as time goes, it will even be more strict depending on how it goes, because we are also not very sure which direction it will go. So that will always be there. I think the regulators will always be involved. We have some environmental, social, whatever compliance that you have to fulfill, I would really think that is one, but it's not going to be a foreign language that you speak to people are aware of. Okay, yeah.

**Finally, we also want to understand different stakeholders involved in a biohub like this, if it will be realized and their position and also the relationship between them. So we plotted them on this power interest grid. And power here means like if they want something, they can make a decision or they can make things happen. And interest, if they are interested, to play a role in a biohub like this. So here we put the actors that have high power and high interest here. Lower power, but high interest. We created this before we came here.So we would really like to ask you, how do you see this grid and the position of these stakeholders? Do you agree with it? Should we change something? Are there maybe stakeholders missing?**

Okay, now that you broke up this, just click in my mind. Normally sometimes you will talk things more at the centralized level in your local leadership. Maybe sometimes might not be involved in the may feel like they are left out. So obviously I think that is one group that you kind of have to take care

**and who do you mean with local leadership? Your regional government? Regional like the municipality regional Council?**

Yes, I think so.

**They're not always on the same line as the central?**

They could disconnect and that is the one. That's what you have to connection or linkage.

**And also here power means the ability to make things happen, make decisions, but also make things happen. I don't know.Let's say for example, if the mining industry decides to want to buy a mine and start mining, they can do they have enough resources and supports to do that, which means they are in the higher power. Just having the ability to having the power and the resources to do things or implement things.**

I don't know if there's anything around the transport in their country, logistics. You saw power in terms of what making things happen and having I mean, okay, maybe it's a silly one, but for me it's always important to keep media open the loop media. They will obviously have a low they might have a high interest. I mean, if you're talking about biohubs, I'm assuming this is really going to be a project that people looking at inquiring local, if you have media on the side that also helps with power or with a national government or the local municipality and see what is in it for.

**and where would you put them then on this block?**

I'll put them on the high end of the high interest. They always have a high interest because if there's a project that can really demonstrate that there's good social economic benefits for locals, the media will pick it up.

What about academia? academia would then also until maybe the Commission, commission consent and research and whatever. I'm wondering the financiers seems to be. So they can they're coming here at Dallas already. So not important. Okay. What was the thinking with placing the commercial specifically commercial planet here? Kind of right quartered.

**I think that they have the resource and they could benefit from it. So that's why we put them in high interest and also sort of medium to high power position. So basically if a commercial farmer, if he wants to harvest the bush first, he has the bush. He doesn't need any. I mean, he has to do the harvest permit, but he does not rely on anybody to actually harvest. It's his farm. It's his or her farm. So if he decides tomorrow he can apply for the permit and start harvesting. So that's high power. And also they have high interest because they have more land, which means they have more bush, which means they have more bush to harvest, to have higher livestock percentage. And they are commercial farmers. It's always about money. So they have high interest, obviously. And from your experience, how do you see it?**

No, I was just wondering if on what kind of power your communal farmers would have because obviously they could as well make noise if you maybe favoring if they see maybe the commercial farmers are more favored or maybe they feel like they're excluded in some ways. I don't know because we put them now quite low but you say maybe they have higher power.

**they can't they don't have the power, it's just that they will have they will be yeah, they will feel bad by looking at this even though that's the true reality.**

Yeah, they will complain. They will complain. I don't know if somehow remember when we discussed in NAM power there was always some discussions on how maybe you could make a provision, a special provision for communal farmers somewhere in your contracts. Agreements?

**those are the same as harvesters. So usually we have prepared for, let's say Omega Energy or something like that who actually harvest and chips and those kind of things.**

Okay, for me, I still see that if this project picks up, there might be an interest in financiers might be interested. I don't see them there and then the SMEs as well. I see they are missing because I feel like they will also have high interest, especially in supplying the biomass.

**Where would you place them?**

I think the financials I would put them on the high inch as well.

**in terms of power?**

They are just interested

**no, what I'm trying to understand is that you said high interest for both of them. Is it in the top quadrant or the bottom quadrant ?**

will be there.

**Okay the 3rd quadrant. And do you know there are SMEs? Because you say SMEs in the media. So is there any SMEs already involved in this biomass sector doing anything?**

We have worked there was at least like harvesting just for just having a single mostly chapel. Okay, but like I mean biochar, it's actually the only producer, for example they would be interested for sure. I don't know if you spoken to them already there will be more if then they see that there's a potential ##[1:11:15] some SMEs and they're also certifying SMEs, I think about 20 SMEs. But it was on the basis of them getting like a theoretical lesson on how to conduct a silo push half and then doing the second part where they then were exposed to a field versus where they went to do the actual harvesting, processing and visiting some chapel plants to see how it definitely SME. Yeah, that's it. I mean, civil society, that solid. And Nature Foundation members of the environment ##[1:12:17] done a lot of fun work atleast on the technology, biochar. ##[1:12:40]

**And where would you put GIZ? Let's think it not from this point of stage of the project or in general, but when you started out, how was the feeling based on that? Because I know it's trimming down, the projec tis entering the finalization phase and those kind of things but this is now but in general what's their position will be. Also think of how when it's when the whole project started and things like that, how it went from an overall perspective, not just at this point of time?**

okay, maybe we're somewhere I don't know if it's on top or somewhere below, but yeah, maybe on the high quadrant. Not power to implement okay. Or it has to be to implement only to implement the project. But the power to influence power to influence people

**because you are suggesting you are including you are doing regulatories and firmware and policies and suggesting them to government, that's power as well.**

to influence yes, not to implement your actual project on the ground, but to influence.

**maybe in that aspect. My question is just one last small question regarding the policies because you are you are in the right now in the face of doing those regulatory and policy frameworks. Communal farmers are not allowed to engage in these kind of commercial value chains as of now. Do you work on that one or what's your stand on that? Is it something which attracts you focusing on because you said involve communal farmers right, but there is a policy in place, active in place which prohibits us to do that then you are yeah. So from a governmental point of view you can't do that but then you are dangerous people. Yeah, you can't do it.**

But I think that's what we said that there's two things here the current policy is a halt, but there are means to do it in a way that it's sustainable. If you find a good, like, joint venture or something that really works, where you have a business guy and he goes to a media community which is cassette, right, which have some level of they can use their resources to an extent because they are cafes commonly to the government, such means. But you cannot purely go to open that do as an area and say, hey, how much should we part of this project? Obviously they would not even get the permit for that. Yeah, as much as that is the speaker's call. They are trying to address it. I don't think it is meant to be static. It's going to change at somepoint willing to work on it. I think the communal studies is from the community. Yeah, there is active activities. There some active activities happening withour influence, of course, but also with interest from the government side. Because obviously these communities are not happy with the status they also want to make use of. To benefit from business officers so they call on the government to work on this it is our hope that they will commit all activities and changes would come about. does not come but at least there will be some clear guidelines on how we can go about utilizing. there will be a second guideline which is still coming this year this year.

**Okay, perfect.Thank you thank you so much questions? Do you have any questions for.**