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Ancestral and Cultural Futuring: Speculative Design in an Indigenous ovaHimba context

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Figure 1: Focus group discussion exploring future possibilities

ABSTRACT

This paper presents the first instance and experience of futuring in two indigenous ovaHimba communities in northwest Namibia. Over a series of sessions, we, as part of a broad green energy access project, explore futuring to stimulate and invoke alternative green energy use cases. These alternatives are premised on the opposition of the dominant needs-based and interventionist approach and imagination of unorthodox green energy utilisation that supersedes mainstream, rudimentary and obvious energy use. We reflect on the application of futuring, particularly speculative design, in an indigenous context, highlighting the communities' back-looking future perspective, and relevance and influence of ancestry and culture over the future. As well as accentuate the friction towards speculative design, arguing for its appropriation and alignment to a more grounded design approach. Moreover, we indicate the agency that it provides, allowing local participants to re-evaluate their

values and practices and simultaneously determine the integration of technology into the future.

CCS CONCEPTS

• **Human-centered computing** → *Empirical studies in HCI*.

KEYWORDS

Futuring, Speculative design, Indigenous participants, Namibia, Green energy

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1 INTRODUCTION

Rural African communities languish in adverse and improvised conditions, facing many issues and challenges ranging from water to energy scarcity [2, 7, 39]. On an energy front, over 600 million inhabitants in sub-Saharan Africa do not have access to clean, sustained, and reliable energy [35]. This accounts for 77 percent of the population. Therefore, green energy solutions and approaches to counter and alleviate the above challenge are frequently pursued [4, 41]. However, many of the solutions often follow an established

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rural African development approach, based on declared deficits and needs, with projects and initiatives set up and led by outsiders, advocating extrinsic approaches. This often results in solutions being disoriented and misaligned from local values, practices and systems, leading to project failure or technology under-utilisation [56].

In essence, the above developmental approach perpetuates interventionism and solutionism, with solutions and interventions coming from elsewhere to save Africa [1, 54]. These solutions and technological interventions are often premised as panacea, ideal and appropriate, thus prioritised and advanced to solve local challenges and needs [55]. However, many of these solutions are mainstream, rudimentary and obvious, with little affordance and meaning beyond mundane and needs-based utilisation. The limitations with such an approach is that communities remain in a needs mindset and frame that perpetuates day-to-day survival and the bare minimum. Communities are constantly in survivor mode, concerned about livelihood and focused on rudimentary activities, with little possibility for harnessing their desires and inventive capacities [37]. This leads to a rise in community dependency and a decrease in community agency and creativity, as local communities lose their skills and ability to overcome challenges with local approaches and knowledge.

Additionally, the emphasis on extrinsic solutions and interventions has resulted in a dominant reproduction of a European model of being, progress and mobility [55]. Thus, disregarding possibilities of genuine alternatives, and limiting the ascendance of the pluriverse - a world in which many worlds may fit [18]. Upholding a single dominant model and approach restricts local communities from diverse possibilities and desires. As a consequence, rural African communities are inculcated into a singular developmental ideal that is premised on economic and market prosperity, with an emphasis on meeting their needs. However, communities have desires beyond just their needs and the mundane [40]. Thus, Leitão [34] suggests an alternative design and development approach which prioritises the design of technologies and solutions based on agentic and non-need desires. This approach would allow for local communities to pursue unorthodox and diverse possibilities premised on their inherent creativity and inventive capacities. These possibilities would offer *bona fide* alternatives that are oriented and aligned to local community values, practices and systems, allowing communities to have a leading role in formulating and deciding the futures that they want and eventually have, rather than have future scenarios and technologies imposed onto them.

In an effort to engender unorthodox and diverse alternatives within a rural indigenous African context, we, as part of a broad green energy access project, undertook futuring, particularly speculative design, endeavours in Otjisa and Epupa, two ovaHimba communities in North Namibia. In a series of sessions, we discussed local perspectives and understandings about the future, and explored alternative possibilities centered on green energy and emerging digital technologies. In this paper, we highlight the associate perspectives and reflections, arguing for their due consideration. Thereby, optimising futuring in the design of meaningful and appropriate alternative rural indigenous futures.

2 THEORETICAL FRAMING

2.1 Speculative Design

In recent times, there has been an resurgence and emphasis on exploratory work focusing on the future, its meaning, dynamics and possibilities [19, 42, 49]. Many of these endeavours are categorised as futuring. First adopted in future studies, futuring is the process of imagining the future [5, 25]. A more recent approach to futuring is speculative design. Its distinct function is to imagine divergent possibilities outside the status quo and at the same time provoke and instigate discussions exploring alternative ways of being [17]. It is considered as a means of navigating 'wicked problems' and expanding humanity's ability to address contemporary social and structural issues [49]. Speculative design finds its relevance in the creation of spaces and platforms for participants and designers to challenge current realities and explore future possibilities, thus shaping perspectives and attitudes by questioning desired futures [28, 49]. Dunne and Raby [16, 17] are credited for popularising and propelling the approach into the mainstream, having applied it in a series of domains, studies and exhibitions as an expansion of critical design.

Specifically, speculative design has been used, and has found base, in technology design through several projects and initiatives. This includes Chopra et al. [12], whom in their participatory speculative design work with food growing communities explore and negotiate sustainable collective futures. Their work demonstrates the application of several futuring speculative design methods such as future mapping, situated walks, gaming and making. Whereas, Gerber [20] highlighting methodological relevance, in a study about Utopian worlds and resulting consequences in relation to public safety combines participatory and speculative design to invoke, provoke and engage participants. In a more grounded context, Akama et al. [3] work with a local community in Australia to advance a digital platform that enables speculative design that supports governance, plurality and knowledge ownership around indigenous nation building. Their work indicates the complexities and possibilities of such an endeavour, highlighting the process of speculation and its affordances.

While Snow et al. [48], in their work on household energy interactions, engage participants through speculative design process to determine the human values implicated by smart energy technologies. This was done through a speculative app, allowing for the elicitation of user values around possible futures - resulting in the creation of participatory and engagement mechanisms. Rüller et al. [44] further endorse speculative design, showcasing its collaborative attributes. Through storyboards, they engage and explore with participants ways of using visual and touch-based interfaces to overcome illiteracy barriers. They highlight the utility speculative design provides in exposing local communities to possible digital futures that they could actively engage with. Tonkinwise [52], and Stead and Coulton [51], argue that the above cases, and other speculative endeavours, are an essential design apparatus, allowing us to provoke and critically think about the future and its plurality.

2.2 Pluriverse

Bruyns and Kousoulas [11] argue that design contributes to the discovery, manipulation and overcoming of intensive limits, thus allowing for meaningful actions and multiple perspectives. This correlates with the pluriverse - a world in which many worlds fit. Escobar [18] posits the pluriverse as a “different way of imagining life, to an other mode of existence.” He emphasises the diversity of the universe with divergent relational worldviews or perspectives implying that the world is always multiple. He argues for a design orientation that acknowledges the vast “radical interrelatedness, openness, and plurality” of the world. He calls on designers to start considering “other worlds and knowledges” when thinking about human interaction and design. Therefore challenging a one-world view, and embracing a plurality of perspectives that is needed to activate the imagination of diverse futures [27].

Querejazu [43] argues that one reality, one universe is a myth, contending that it hides the many worlds and realities. She emphasises that the pluriverse is an ontological starting point, accentuating that “reality is constituted not only by many worlds, but by many kinds of worlds, many ontologies, many ways of being in the world, many ways of knowing reality, and experimenting those many worlds.” This stance is not only in critical opposition to mainstream approaches, it is also an emancipatory stand that expands other processes of knowing and being [47]. The above stance is essential in expanding the world beyond its universalism [10]. This is more so relevant in light of the disregard of other worlds and perspectives [32]. Demaria and Kothari [13], in critique of the single and dominant development approach, advance the pluriverse as an alternative, arguing that “alternatives to development practices and worldviews intend to re-politicise the debate on the much-needed socio-ecological transformation, affirming dissidence with the current world representations (ie sustainable development) and searching for alternative ones.”

3 RESEARCH CONTEXT

This study is part of a wider green energy access project that explores divergent green energy use, digital technologies and approaches across 9 African countries, including Namibia. Two Namibian ovaHimba communities, Otjisa and Epupa, were selected as project beneficiaries, with an aim to expand and enable green energy and emerging technology access and use cases. Overall, the project is oriented towards a needs-based development approach. Previous project endeavours were explored to identify needs-based use cases, with community members specifying their needs and how green energy can address those needs. However, the use cases suggested were mundane and obvious, with lighting, gardening, charging and other rudimentary activities mentioned. Opposing the needs-based development approach, we initiate speculative design endeavours as a means to provoke and invoke alternative, unorthodox and plural use cases with the eventual aim of extending community agency and rural development beyond needs that are mundane and obvious. Following this process, as part of the wider project scope, co-design and implementation actions will be explored at a later stage.

3.1 ovaHimba

The ovaHimba are an indigenous group predominately living in Northwestern Namibia and Southwestern Angola [22]. They are a Bantu people believed to have originated from central Africa, settling in Southern Africa after decades of migration. They speak OtjiHerero and are a semi-nomadic, pastoral people who breed cattle and goats. Livestock forms a significant part of communal culture as the main basis of livelihood, providing nutritional and economical benefits, in addition to supplementary seasonal crop farming [29]. The ovaHimba believe in *Mukuru* as the divine God and have an immeasurable spiritual connection to their ancestors, revering and worshipping them on a regular basis through the holy fire and other traditional rituals. Ancestral lineage is central to the ovaHimba, with ancestors and family lineages prominent in everyday conversation, activities and rituals. Family lineage is preserved and strengthened through close-knit families relations, and in some instances extended family members live together in one homestead. Despite modern influence and a strong inclination towards contemporary lifestyles, the ovaHimba still significantly practice their culture and traditions, with women applying otjize, a red mixture of butterfat and ochre, which symbolises earth’s rich colour and abundant life [21]. Additionally, they proudly wear their traditional attires and jewellery made of leather and shells. They have also maintained some of their traditional practices, which are predominantly centered around the home, livestock and the community, with women and men assigned different tasks.

3.2 Otjisa Community

Otjisa is a remote ovaHimba village in Okangwati constituency in Kunene Region, located approximately 100km from the regional capital, Opuwo. There are 14 homesteads in Otjisa, each having between 9 to 19 family members, with a dynamic population demographic of young and old constituents. Homesteads (figure 2) are comprised of many huts that are built near each other belonging to one family. Most of the homesteads are traditionally and culturally connected, therefore sharing the same structures with a man as the head of the family. A significant number of livestock, cattle and goats is owned by one homestead. However, in recent years, owing to drought, the number of livestock has drastically reduced. As a result, homesteads receive supplementary food relief from the government.



Figure 2: Homestead in Otjisa

In addition to food relief, community members also receive social grants, such as pension and orphan payments as part of the

governments' social support programmes, and occasional support from Non-Governmental Organisations. For welfare and support services, community members travel to Ohandungu, which is 16 km away, and to Opuwo for medical care, and other services, such as education. Additionally, essential commodities are procured in Ohandungu and Opuwo. Also, community members travel to Ohandungu to charge their electronic devices, such as mobile phones and radios, as there is no electricity or adequate energy sources in Otjisa – as the only source of energy is firewood, which is used for cooking, heating, and lighting. Additionally, there is no mobile network broadband in Otjisa, therefore community members are dependent on the network connection in Ohandungu. However, community members have limited and restricted access to Ohandungu, due to mobility issues. Despite the above challenges, the community has shown great resilience and works with a local university in a collaboration over a decade long to preserve indigenous knowledge and practices through digital technology co-design.

3.3 Epupa Community

Similar to Otjisa, Epupa is a remote ovaHimba village in Kunene Region. It is located 180km north of Opuwo. It has 3800 inhabitants. The village is a popular tourist center, with the ovaHimba people showcasing their tradition, in addition to the Epupa Water falls and the Kunene river (figure 3) as primary tourist attractions. Besides tourism, community members are concerned with livestock, primarily farming and trading cattle and goats. The village is occasionally affected by drought, causing distraught and difficulties among community members. In addition, the village focuses on conservancy, with significant effort towards community based natural resource management endeavors.



Figure 3: Kunene river in full flow

A relative number of community members continue to practice their culture, however, there is considerable influence of modern lifestyle leading to a reduction of cultural heritage and active tradition. Unlike in Otjisa, there is mobile broadband with 2G coverage, a mobile clinic, a school. However, there is no connection to the national electrical grid, with electricity a luxury for a select few who have access to energy through solar systems, gas and other

decentralised means. Additionally, community members get support from the government in the form of grants such as old age pension and orphan allowances. The community has been involved in several research projects with local universities ranging from knowledge preservation to conservancy management technology design.

3.4 Research team and facilitation dynamics

The research team consists of local academics, community researcher and international researchers. The community researcher, a village elder, has been on the team since its inception in 2011. The majority of the academic team is local, native to or living in Namibia, with considerable acquaintance to the communities and the research context. The main author is Namibian and has worked with the two communities over an extended period in previous projects and collaborations. The community facilitator, a computer science graduate, is a Himba, with lineage relations and kinship to members of the two communities. Thus, providing valuable advice and coordination, guiding the researchers' interaction with the community, as well as asserting contextual meaning to discussions and questions.

4 METHODOLOGY

This study is grounded in futuring, with particular inclination to speculative design. The speculative approach enables researchers to invoke, prompt and provoke imagination of possibilities [6]. Specifically, it allows research participants to suspend the status quo and envision unorthodox alternatives that are distant from the mainstream and mundane. It is characterised as a “deliberative process where participants come together to evaluate and obtain a degree of consensus over a scenario that has been created” [53]. Considering participants usually limited capacity to influence and transcend the future, this is its core value proposition. In this sense, this study applies and considers speculative design as a base approach, offering participants agency to engender divergent possibilities, ensuring the design and development of appropriate and empowering alternative futures. Specifically, the study follows a flexible and adaptable speculative design process inspired by Heitlinger et al. [24]. Thus, allowing the researchers to tailor and focus the sessions based on the values and practices that the community considers important and relevant. This, as Heitlinger et al. [24] argues, is an essential part of co-creating an alternative future in a process that involves “doing” and reflecting, whilst negotiating and manoeuvring with the speculative.

4.1 Approach

Over a three-day period we held four sessions in Otjisa and Epupa. The sessions focused on the communities' perspective regarding the future, its significance and constructs. As well as initiate and explore speculative design endeavours in an effort to suspend the status quo, establish alternative futures and technological possibilities centered around green energy and emerging technology. The first three sessions were in Otjisa, with an additional and compact session in Epupa as a similar looking, yet relatively different context supplementing and substantiating the futuring endeavours in Otjisa.

The first session, inspired by Chopra et al. [12], was a focus group discussion centered on mapping the community's perspective, understanding and temporality of the future - offering insight about the community's interaction with and understanding of the future, and therefore grounding the speculation in local values and practices, and additionally encouraging the community to actively think about the future.

The second session was a futuring walk focusing on speculation and fictional scenarios inspired by locality and habitat, with Kanstrup et al. [30] highlighting the method's effectuality to initiate speculation and creativity. In addition to its ability to nurture embodied and situated imagination [24].

The third session was a showcase and trial of virtual reality (VR) in an effort to suspend the status quo, prompt speculation and imagination amongst community members and illustrate plausibility of the alternative, on the basis of VR as a tool for immersion into alternative spaces [45]. During the session, we had a focus group discussion to explore different VR possibilities, in addition to other future alternative possibilities that may have been inspired by the VR.

The fourth session, a focus group discussion in Epupa, was an extension of the mapping exercise from the first session with insight from a divergent ovaHimba community and context. This allowed for broader interpretation and substantiation of the insight from Otjisa, with particular emphasis on the community's culture and practices. Although limited in time and scope, we also discussed different technological possibilities and their integration as part of an alternative future.

4.2 Data capturing and analysis

At the beginning of each session, following cultural protocol and considering the communities' cultural attire and dress sensitivity, we sought permission to gather data. After consent was granted, we captured video footage and still imagery using a video recorder and digital camera, in addition to note taking during and after the sessions. The videos, with a duration of 7 hours, were transcribed, and underwent an iterative approach of identifying pertinent patterns and checking the accurateness of the text between translator and researchers (whom also speak Otjherero). This allowed the situated inquiry and field notes to be supported by recorded video and the verbal expressions as they transpired throughout all sessions and provided a good overview in the analysis.

5 RESULTS

This section is structured chronologically, per site with results presented per session, starting with the sessions in Otjisa, and thereafter, concluding with the session in Epupa. We highlight the different discussions and activities that occurred during the sessions, with particular emphasis on the participants' responses and reactions.

5.1 Results: Otjisa Community

Before the first session, there was an introductory meeting during which we reiterated previous activities and trips and outlined the purpose and structure of the sessions. Here, as is customary, community members and the researchers exchanged greetings and

pleasantry, with the community members informing the researchers about the different occurrences and activities in the village. 14 community members (8 male; 6 female), hereafter referred to as participants were in attendance. Participants, comprised of old, middle-aged and young community members, were informed prior about the sessions by the community researcher. Seating arrangements were structured circularly, with men and women seating on opposite ends, in addition to women seating on the ground as per cultural protocols.

5.1.1 Future perspective. Following the introductory meeting, the first session, 1 hour and 40 minutes long, took place under a tree next to a local elder's homestead during the morning hours to avoid the scorching heat with temperatures of over 30 degrees. At the beginning, we explained the purpose of the session, highlighting our interest in the participants' perspectives and understanding of the future. The discussion started with the definition and translation of the word future in Otjherero. However, there was no clear and defined translation, hence a brief dialogue regarding the exact local representation and meaning of the future. This led to discussions about the temporality within which the future exists from the community's perspective, specifically where and what exactly the future is. One of the elders, featuring prominently in the discussion, mentioned that the future is behind him. However, this is relative to the context in which the term, future, is applied.

Clarifying the above viewpoint, the Otjherero term *kombunda* was used to refer to the future. Participants explained that the word has two meanings, either "something at the back" or "something that you want to do, but later." Countering the narrative of the future as a forward looking construct, the participants emphasised that the future is something that they have not seen before, "something behind that is coming, because we cannot see it and what we see is in front." This formulation about the future revolves around their livelihood, with future plans primarily focused on livestock and other subsistence activities. However, whilst planning for the future, participants focus more on the immediate and current limitations and challenges than possibilities and opportunities. One of the participants, giving an example of growing their crop fields, explained that when they think and plan for the future they see limitations. In agreement, highlighting the extent of the limitations, another participant asserted that "we have future thoughts [to expand the fields] but there are many limitations [such as the lack of rain]."

Extending the discussion beyond limitations, we focused on the factors that are essential to future opportunities and possibilities. The participants, emphasising their prominence and centrality, explained the relevance and influence of the ancestors - stating that they "are providers of blessings and good fortune." They are appreciated and considered in all activities and engagements. Specifically, they are commemorated and prayed to annually, around June and July at the holy fire, a sacred and ancestral place. During this time community members connect to them and request for blessings such as rain. In preparation for the commemoration, community members would gather and slaughter a goat or sheep as part of their gratitude and sacrifice to the ancestors, believing that the ancestors will respond favourably to their future requests. There is no direct communication with the ancestors about the future, rather this is

done through intestine reading. The intestines indicate and predict the occurrence of something. The predictions are widespread, with focus on many occurrences, including rain, death and different types of incidents. Participants explained that they do not act on the predictions immediately, rather they wait for an incident to occur then take action. Also, they do not intervene and prevent something from happening, they only prepare for it by engaging the ancestors at the holy fire to get a better understanding and acceptance of what transpires in the future.

Elaborating on the frequency of the holy fire and the intestine reading, the participants explained that besides the annual commemoration, the holy fire is a daily constant and used for events and rituals. Whereas the intestines are read every time a goat or a cow is killed. To understand their temporality, we asked the participants the timescale of the future. After an extensive deliberation to determine a common time bound, they asserted that the future is long-term, however, there is no specific sense of time and duration. Rather it is based on weather seasons, with particular emphasis on the rainy season.

5.1.2 Future Walk - Situated imagination. After the first session, we had a 1 hour futuring walk session (figure 4) to identify situated green energy and emerging technology possibilities in Otjisa. The walk was led by one of the community elders, together with two other elders, allowing for active participation in the speculative process. The walk was set along a common walking path and at the beginning we explained the purpose of the session and encouraged different types of ideas, especially the unorthodox. During the walk participants referred to the prosperity of the past, highlighting how rich in vegetation Otjisa once was. Reminiscing the past, one of the participants mentioned that the past was rich and full of wildlife and big trees. This allowed them to undertake various practices and activities such as honey production and hunting. However, that is no longer the case with wildlife and trees moving and dying due to a myriad of factors such as the lack of rain, deforestation and government interventions. The participant expressed how he desires that lifestyle, indicating how such an ancient way of life is fulfilling and aligned with nature. Thus, as an alternative he suggested a wildlife-oriented future, with wildlife and practices such as honey production at the core. We saw this as an opening into the speculative, thus we encouraged extension of the idea or any other ideas, however, there were no further additions.

In an effort to stimulate and engage unorthodox and technological ideas, we encouraged participants to imagine technology-oriented possibilities that are relevant and meaningful to them. Initially, the participants were not sure what and how to imagine. To clarify, we explained that the purpose of the speculation and how it relates to imagining new possibilities with green energy and emerging technologies. In response, emphasising the difficulty of imagining unorthodox technology scenarios, one of the participants explained that imagination is difficult given their limited exposure, stating that “we don’t watch television and we don’t know what is happening on the outside world. So now we are trying to think on top of our own minds and all the new ideas are based on what we see and know.” Further adding that “some ideas are inherent and others ideas they see or hear from elsewhere, and sometimes we wish to bring them to Otjisa [but we first need to know them].”

At this point, the participants seemed less engaged in speculation and imagination, and rather dismissive of the approach. Intending to steer the participants into a speculative and imaginative space, we encouraged the participants to continue thinking about new possibilities that may arise as they think of previous interactions with technologies and projects. However, there were obvious limitations with participants giving subtle indications of extending the discussion to other matters that are more familiar to them.

Recognising the above, we continued to walk and stop at different locations to explore possible situated scenarios. However, there was little speculation and imagination with participants short of technological ideas. Rather, they talked about building a lodge in order to attract tourism to Otjisa. This was inspired by what they saw in other villages with booming tourism activities. Whilst acknowledging the idea and noting its potential, we explained to the participants that in this instance the ideas that we would like to explore are those aligned to green energy and emerging technologies. After a while of walking, we arrived at the relatively parched community well. With ideas lacking and considering the impact of drought on the community, we suggested, as a prompt to initiate speculation and imagination, a drought-resistant tree powered by renewable energy. This suggestion sparked interest, as one of the participants, in an astonished and disbelieved manner, asked whether such trees exist. We explained that it is fictional and that the exact purpose of the exercise is to think about what does not exist yet. He, and the other participants, indicated that they can try, “but it is kind of difficult.” Sensing elevated interest and engagement, we provided another prompt in the form of artificial clouds that provide rain. The participants resonated most with this prompt, showing intrigue and appeal towards it, yet simultaneously appearing doubtful, asking whether it can really happen. We explained that there have been initiatives and explorations around such an idea. With obvious interest, one of the participants asked how far wide the rain will be. We told him that it can cover his field and the village. After which, he and the other participants, acknowledging and favouring the idea, started pointing to the sky, demonstrating a rain making process. At this point participants were in a seemingly relaxed and receptive state.



Figure 4: Futuring walk in Otjisa

Noting and intending to take advantage of their receptive state, we prompted further by suggesting a drone that can hunt on their behalf and look after livestock. We hoped that the prompt would lead to the participants imagining their own unorthodox ideas. Initially, they were fascinated, enthused and invoked. However, similar

to the artificial clouds idea, with a sense of disbelief and scepticism, they asked whether it is possible and shared their concerns about a drone looking after the livestock. We explained how drones work. However, some of the participants, in a dismissive manner, equated it to fantasy and storytelling. One of the participants, partially embracing the idea, mentioned that he has seen a drone before, thus believes such technology can exist. Another participant, sceptical yet receptive, said “if that is the case then bring that robot first then I see”, insisting that he will only believe in the idea when he sees it. Thereafter, showing demur and pessimism towards the speculative, he asked “why did we go into this [speculation], and not continue with our usual co-design and technology discussions”, highlighting how speculative endeavours are still new to him and instead prefers a grounded design approach.

5.1.3 Immersed possibilities - VR. The third session, lasting one and a half hours, had 12 participants. For the first 30 minutes, we showcased virtual reality (VR) as a visual and immersive prompt to enable imagination of alternative possibilities. Several community members went through the VR space (figure 5), starting with one of the prominent elders. The purpose was for the community members to experience an emerging technology, immersing themselves in a virtual space so that they can imagine different types of possibilities based on their experience. The elder was at first questioning what the VR headset was about. He was a little hesitant since he had never used VR or experienced something similar before. Thereafter, he placed the VR headset on. We asked him what he saw, then he described the people and environment in the VR, specifying what they were wearing, the bows and arrows that he sees, as well as the trees. At this point, fully immersed in the VR, he used his hands to express what he saw, and at the same time turning in different directions to see the VR environment from different angles. We gave him instructions on what to do, which he followed accurately. Taking the VR headset off, he, in reference to the ingenious of the experience, jokingly remarked, “ovihina-ungu mbyo, imbo kovandu ko”, meaning “these people [who created the VR] are smart and have no siblings (no equals).” Thereafter, other elders and community members also tried the VR, providing different types of reactions, with some stating that they are in a new world and others flabbergasted. Although most of the participants were immersed in the VR, it seemed to have been a strange experience with many of them taking caution not to fall down or get dazed.

After the VR showcase, we had a focus group discussion (figure 1) to attain feedback about the VR experience and establish future alternatives based on the VR experience. One of the participants called the researchers ghosts. By this he means that they are doing wonders, “bringing something new to us which we did not expect a human being can do.” Further stating that “we are relating it [VR] to a ghost because what you are exposing us to is similar to a ghost whereby something is talking to you but you can’t see it physically.” Emphasising the eccentricity and novelty of VR, one of the participants mentioned that “when we see pictures in VR it is new to us [something that we have not experienced or expected].” Intending to invoke imagination of new ideas and possibilities, we asked the participants what other scenes and scenarios they can imagine in VR. They mentioned that cattle and their culture should be incorporated in order to showcase their day-to-day activities and

traditions, such as traditional dances, herding and milking livestock. We acknowledged the ideas mentioned, and thereafter opened up the discussion for additional ideas, encouraging participants to imagine different types of ideas, even if they were wild and extreme. However, there were no further contributions, with participants seemingly inarticulate.

In an effort to engender possibilities around VR, we asked the participants how VR can be used. We hoped that the participants would indicate use scenarios that enable speculation and imagination. However, that was not the case. Instead, they suggest for VR to be taken to other Himba villages to showcase their culture in a virtual space. In addition to that, they suggested that their culture should be showcased in faraway places such as the United States and Europe to raise awareness about the ovaHimba people and culture. Suggesting the opposite approach, we asked if they would like VR to present and introduce emerging technologies from outside as inspiration towards alternative possibilities. Responding indirectly and favourably to the question, one of the participants mentioned that he would like to see farming techniques from other places in the world to demonstrate how people in other countries and cultures farm. We queried if the farming demonstrations should be in a VR environment identical to their village or whether they want to travel to those countries in the VR. He mentioned that it should be separate so that he can experience travelling in VR and see other worlds. Specifically stating that “I wish to go to a different world, learn different cultural practices and apply that knowledge here in Otjisa”, thereby highlighting that the community is open to new knowledge and opportunities. Especially those in enabling and enhancing their livelihood.



Figure 5: Community elder experiencing VR

However, another participant, wary of strict cultural protocols, raised caution, stating that new knowledge, experiences and technologies are welcome, however, local taboos should be taken into account. She explained that there are certain practices and processes that need to be followed in the Himba, and failure to do so will result in negative consequences. There were indications that perhaps the non-adherence and disobedience to protocols may have caused current challenges and difficulties. Considering the above, it was recognised that VR has the potential to contribute to the community’s evaluation process by allowing community members to test different types of materials, farming techniques,

artefacts and technologies; thus avoiding negative consequences that technology may bring about.

5.2 Results: Epupa Community

This session was held close to the Kunene river several kilometers from the village center (figure 6). At the beginning of the session there was an introductory meeting during which we reiterated previous activities and trips and outlined the purpose and structure of the session. Lasting 3 hours, the session was a focus group discussion (figure 7) split into two parts. The first part focused on the influence and importance of culture and practices on the future. The second part focused on technological possibilities and their integration as part of an alternative future. There were 16 participants (9 female; 7 male), with a mix of old and young participants.



Figure 6: Location of the session in Epupa

5.2.1 Preservation of local practices. A female elder (known to be one of the oldest people in Epupa), talking about the transition into the future, said that “the community does not preserve the culture but I realise that researchers and outsiders are trying to do that on behalf of the community.” Further adding “if elders such as myself pass on (dies) the indigenous knowledge and practices I know will die with me. Thus, those with expertise and knowledge about the ovaHimba should join hands with researchers in order to preserve the culture.” To better understand her argument, we asked which parts of the culture they would like to take into the future. She gave examples of traditional practices such as sleeping on animal skin and traditional fruits from the wild. She argued that these practices are essential to being an Himba, as they are resonant, adapt and aligned to their environment. In an attempt to determine the way forward, we asked how such cultural practices can be taken into the future, and their roles.

In response, after an extended deliberation between older and younger participants, the elder mentioned that there is a gap between the older and younger generation. She gave examples of some of the practices and processes that were prominent when she was growing up. Further explaining that she tries to transfer those practices and knowledge. However, young people are resistant to the practices. One of the younger participants, defending the younger participants, mentioned that she has heard about some of the practices but has not seen them. Thus it is difficult for them to

accept such practices. Further adding that the younger generation has been raised in a different manner, with different practices and foods, and taking them back to older practices does not make sense. Regarding the way forward, another young participant mentioned that the old traditions and the modern can be combined, stating that “we can have a small taste of the old for the sake of the elders.” In response, the elder alluded how the younger generation always ends up coming back to traditional practices when they are limited and challenged by modern trends. Thus, she argues for self-dependency and orientation towards their indigenous culture.

5.2.2 Local possibilities. In an effort to initiate speculation and imagination, we queried how green energy and emerging technology such as drones and other machinery can be integrated in a culture-oriented future. Some participants, fearing the unknown, argued that the integration of technology may lead to negative consequences such as the loss of skills and the emergence of laziness since their work will be replaced by machines. Whilst others were a little less fearful and believe that technology can be valuable and useful. Realising this slight acceptance, with the intention to invoke speculation and imagination, we provided an example of a herding drone as a prompt. However, participants were repelled by the idea. One of the participants asked “how can goat that is herded by a robot be considered Himba goat”, further adding that “a robot herding goats does not make sense” and that goats should be herded by the ovaHimba, else they will not be considered as local or human goats. The elder, opposing the idea, said “we cannot bring machines which use materials that we do not use.” Placing emphasis on the human responsibilities and tasks, she argued that robots should not take care of goats, but rather young children should do it to learn about and upkeep traditional practices.

In an effort to determine the possibility of technological and cultural integration, we asked if the community can find a compromise, integrating emerging technologies, yet keeping culture in tact. In a less dismissive tone, the elder mentioned that if the younger generation can return back to tradition and culture then machines can be integrated. Conveying her fear, she said that “if we move forward with new technology while the people have lost their traditions then the future will not be good.” Further reiterating that “going forward with the technology should enhance the tradition [instead of it removing us from our culture].”



Figure 7: Community elder and other participants during focus group discussion in Epupa

Taking advantage of the elder's less dismissive tone, we suggested an artificial cloud making machine as a prompt to invoke imagination and thought about unorthodox possibilities centered around their livelihood. The elder said she will accept it, enthusiastically responding "yes, please bring it immediately." This prompt seemingly resonated with her. Particularly, she referred to how important such a machine would be. We hoped that her positive response would lead to additional ideas, thus we provided additional prompt examples of technologies that can be imagined, such as augmented glasses that allow her to see people wearing traditional Himba attire even when they are not. However, there were no additional contributions from the participants, with the majority indicating that they have no additional ideas at the moment. The elder, obstinate in her view and approach, said that the rain-making machine must come first before all other technologies are considered. Implying that she first has to see the technology and its benefits, however, not all technologies will be accepted.

6 DISCUSSION AND REFLECTION

In the following subsections, we discuss and reflect on the above sessions. We highlight the communities' perspective, meaning and temporality of the future, thereby contributing to futuring discourses from an indigenous community stance and context. Furthermore, we illuminate the outcome of our speculation endeavours, reflecting on the speculative design approach through two different, yet similar-looking contexts.

6.1 A back-looking ancestral future

Kozubaev et al. [31] asserts that futuring should not be premised on one central point of view. Rather, there should be multiple points and directions of progression from which we future. Howell et al. [27] argues for the necessary expansion of futuring temporalities, therefore enhancing the pluriverse and expanding divergent future possibilities. This study contributes to this stance, by highlighting a local indigenous future perspective, and its cultural and temporal underpinnings. The ovaHimba interpret the future as backwards facing. They assert that the future is behind, and therefore it cannot be seen. This temporality resonates with the work by Soro et al. [50] and Bendor et al. [9], who denote the possibility of a backwards-looking future. Albeit, the ovaHimba do not seek to influence the future. Rather, they place greater emphasis on the immediate and present, which is in front of them. This is contrast to the West, where the future is prioritised, influenced, and given considerable thought [15, 46]. The ovaHimba's temporal stance vividly highlights a diverse, often "other", perspective that indicates and contributes towards a truly plural world.

Despite inclination to the present, the communities indicated the prominence and influence of the ancestors on the future. The ancestors are a core ethos, offering favour and blessings, and should be engaged in matters that pertain to the future. There is also the occurrence and relevance of intestine reading as an instrument for predicting and providing details about the future. These practices are fundamental in the ovaHimba culture - highlighting and enabling the communities interaction with the future, and should

therefore be considered in futuring endeavours in an indigenous setting. However, it is not clear how to foster such integration in speculative design. This opens up questions for future investigations and consequences for design, namely how can backwards-looking futures be accommodated and how do we expand speculation within a cultural setting with diverse beliefs and practices?

6.2 Speculative design friction in an indigenous context

DiSalvo [14] accents that "to be truly provocative is to rouse to action", therefore encouraging provocative design endeavors. Speculative design positions itself as an appropriate approach towards such provocation through means of speculation and imagination [5]. This is imperative, as Gerber [20] argues, noting that "without the act of imagining alternatives, radical reform would not be possible." The central premise of this argument is to open up different types of possibilities, therefore providing alternative futures [17]. This stance informed the speculative endeavours in Otjisa and Epupa.

Our intention was to extend speculative design in a rural indigenous context through the speculation and imagination of alternative green energy and emerging technology use cases. Central to this approach were the prompts that we suggested throughout the future walk, and in other sessions, in an effort to suspend the status quo and provoke alternatives. Despite embrace for some of the ideas, the prompts, as gateways into these alternatives, were repudiated, with no speculative ideas engendered, an intermittent outcome in speculative design endeavours [12]. Rather, with little immersion into the speculative, participants were sceptical about the prompts and the speculation, calling into question the possibility and actuality of the prompts.

Instead, the participants maintained a pragmatic stance and mindset with an inclination towards a more grounded approach, leading to a complex collide with the speculative. This collide indicates the friction of speculative design in an indigenous context, highlighting the necessary appropriation of the approach. In this case, aligning it to a more accustomed and grounded design approach such as co-design. This is in line with Harrington and Dillahunt [23], who argue for the examination and alignment of speculative design to a broader and diverse audience. Moreover, imagination and speculation in our case was hindered by limited exposure to technology with participants rejecting unfamiliar fictional prompts and leaning towards what is familiar and feasible. Thus, the application of speculative design in such a context with limited technology and possibility exposure remains contentious. Therefore, we posit that broader community exposure to technology and alternative possibilities that expand their horizon beyond the mundane and obvious is necessary. This will enable diverse communities such as Otjisa and Epupa to actively and truly partake in speculative endeavours. Such participation is imperative, with Baumann et al. [8] and Mazé et al. [38] arguing that speculative processes and imagination enable new possibilities outside the contemporary as part of an active and critical consideration of the future and our visions of it, as much is at stake. Moreover, the wide and diverse application of speculative design in an indigenous non-Western context transcends it beyond its mostly elitist and

privileged Global North comfort zone and bias, which it may not be attentive to [31].

6.3 Speculative design enabling community agency and re-evaluation

With the showcase of VR, we aimed to extend the prompting through a virtual setting that provides visual stimulation. The participants in Otjisa found the VR experience captivating, with assertions that it, and its developers, are ghosts, and that the VR feels like a different world. This is in reference to its eccentricity - which we hoped would invoke imagination. However, similar to the initial prompts, there was little unorthodox speculation. Rather, the participants were able to think about their interaction with technologies in their community. Thus, allowing for the prudent evaluation of technology within an indigenous rural context. During this process they demonstrated a receptive, yet pragmatic approach. First trying VR, indicating possible use cases and then taking into account local values and taboos that need to be considered. This process relates to the 7 C model that Maasz et al. [36] outlines as an integrative framework, with local communities playing a critical and leading role in the implementation of technology.

Whilst, in Epupa, the participants indicated a more firm selection and scrutinisation of what should be in the future. They outlined core cultural practices and beliefs that should be considered in any alternative possibilities, given their prominence and relevance to the preservation of local culture and traditions. Similar to Otjisa, the prompts we provided did not lead to speculation or imagination. Rather, the participants, particularly the older ones, were reluctant and hesitant for the integration of technology fearing that the unfiltered adoption of technology would weaken their culture. This resonates with Hornbæk and Hertzum [26] and Lazem [33], who highlight the influence and consequences of technology. To alleviate such consequences, the participants were decisive that core community tasks and practices are done strictly by people, and other tasks can be offloaded to technology. Additionally, only technologies that provide direct and obvious relevance and benefit to the upkeep of their culture and practices should be considered. This indicates the community's intentional preservation of culture despite the extended possibilities offered by technology.

Thus, in this case, agency was not found in the speculative invocation of alternatives. Rather, it was found in the re-evaluation of cultural values and practices, which is a desirable outcome. This re-evaluation is critical in ensuring that future alternatives and possibilities are centered and premised on core, non-negotiable community values. Additional agency was provided by the ability to determine and dictate technology integration as part of an indigenous and plural future; and the deliberation on the role that such technology will have in the future - allowing for a conscious decision about the influence and utility of technology in an indigenous space. Thereby, positioning speculative design as a space for negotiation and reflection.

7 CONCLUSION

This paper contributes to speculative design in an indigenous context, demonstrating its application in two ovaHimba communities in northern Namibia as part of a green energy project. Opposing

the needs-based development approach, we, in a series of sessions, explored the communities' perspective and understanding about the future, as well as initiated speculative design endeavours in an effort to suspend the status quo, establish alternative futures and technological possibilities centered around green energy and emerging technology. Reflecting on the speculative design as a recognised method, we highlight the communities' back-looking future perspectives and relevance and influence of ancestry and culture over the future. We also indicate the friction towards speculative design, with a preference towards a grounded approach such as co-design, as well as the agency that it provides.

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