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# Deriving Engagement Protocols within Community-Based Co-Design Projects in Namibia

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**Abstract.** Indigenous Knowledge (IK) is used by community members for survival in the rural context and to sustain their way of living. The procedures on how community members share their knowledge amongst themselves and with others are unique. Cultural practices communication protocols differ from mainstream research and technology development procedures. Thus appropriate community engagement is instrumental towards the success of technology co-design with communities. Co-design endeavors should be framed in consistent and harmonized partnerships between community members and researchers for mutual learning and benefit. However, this has not been formulated as an objective of many ICT endeavors with communities in the past. With a raising number of interaction challenges reported we are reviewing our own community design experiences and promoting the development of an engagement protocol.

**Keywords:** Community Engagement. Co-Design. Mutual Learning. Protocols. Participatory Design. Reciprocity. Indigenous Knowledge.

## 1 Introduction

Engagements with rural communities have become a central theme in ICT4D, community technology design and related fields. It has been established that contributions from Communities is vital to develop relevant solutions and therefore researchers should partner and work cooperatively with community members [27, 31, 20]. However, researcher-community collaborations have reportedly faced numerous challenges which need urgent resolution at a conceptual and practical level, in order to ensure successful and sustainable co-operations.

Thus, the paper draws upon related work and our interaction efforts with rural communities to co-design technologies. The various projects with different communities throughout Namibia are clarified and challenges encountered described, as a starting point. We have further involved communities into focus group discussions to guide further steps in the development of engagement protocols. We argue that for a long-term collaboration, engagement protocols must be developed jointly and a commitment of engagement beyond singular projects should be strived for.

## **2 Background**

We have embarked in ICT research with a number of different rural communities in Namibia. Various ICT projects have taken off to explore the co-design of technologies with community members as an attempt to preserve traditional and indigenous knowledge. We describe the successful collaboration work to the fact that we involve community members in all activities of the research and development process, including later dissemination of results.

### **2.1 Theoretical and Methodological Grounding**

Our community collaborations in Namibia are theoretically framed in the concepts of Ubuntu and Afrocentricity [35]. Ubuntu stresses principles of humanness in interactions, while Afrocentricity frames research activities and ethics [16]. We have adopted a Community-Based Co-Design (CBCD) approach which is grounded in principles of participatory design and action research [34, 1]. CBCD takes place within a communal value system and opens up a new debate around the principles of participation and its benefits within HCI4D and ICTD projects [16]. The co-design methods allowed community members to be actively involved in design of tools and services. This promoted appropriate engagement and participation, creating trust between researchers and community members as a basis for a good continuous collaboration.

### **2.2 Engagement**

Our research visits to the rural communities were overseen by engagement protocols. This is the way we enter the community, communicate, requesting for permission to conduct research, and participation by the communities. During every research trip, our first encounter was to get the community members interested in the research activities. It was important as community members leave their daily activities to partake in the research endeavors.

Rural communities are defined by many community members so the briefing for the purpose of the visit was handled in a focus group. The focus group encouraged community members explore ideas to create a common understanding amongst themselves, as well as with the researchers. This created harmony between the community members and the researchers. The introduction was way back when the project started. Even when the project matured, this process never changed. It has been an instrument to get proper engagement. It was crucial as there were different agendas at every technology intervention. Once community members were comfortable, only then technology and co-design sessions started. This was determined by the acceptance of the introduction.

This establishment allowed researchers and community members to create a partnership of trust. Part of the process to get engagement, was to explain to the communities about their duty as co-designers. Even though the concept of co-designing was difficult to understand at earlier stages of project interventions, with many engagements it became a term familiar to them later on.

Once a mutual understanding was met, a platform for interactions opened up. It was important to get community members interact by practically being engaged. This ensured the voice of communities to be heard when involved in technological interventions with researchers. Technology developments and research was based on reciprocity and consensus thereby enriching the outcomes.

Furthermore, the native and external researchers had appropriate structures to follow, which supported a fruitful and successful collaboration with the communities. The native researchers bridged the gap between the community and the external researchers [16]. The native researcher used familiar analogies to get the underlying ideas across [35], as the culture was familiar.

During years of project work, a number of researchers have been part of the projects. Some leave a project, with new members joining, and some were continuously part of the project. This allowed community members to engage with old and new researchers. At times, they asked about the members who are no more part of the project. At every occasion, a native researcher always explained to the community members about the whereabouts of the others researchers in case they are not present. This was done to keep community members value their previous engagement sessions.

### **2.3 Challenges in Engagements**

Based on current community collaborations, we observed that many newly joining researchers first lack the skills and knowledge to be able to build, develop and maintain a good relationship with the communities [35]. Equally the community has not developed strong mechanisms of expressing their own set of rules and regulations of appropriate interactions. While on the one hand researchers often lacked an understanding of contextual factors such as culture, on the other hand communities have not expressed explicit codes of ethics. Moreover, current codes of ethics developed in the academic research context foster a researcher-community power relation which is unacceptable and undesirable in a co-design collaboration research project.

At one workshop, a teacher raised a concern during an IK content uploading session. Teachers pointed out that trust is one of their main worries when collecting knowledge from the community members, sometimes due to political reasons.

Furthermore, some international researchers visited the country and engaged community members without the awareness of a local researcher. During a research visit, they promised things to the rural communities, and then suddenly disappeared once they were done collecting their research data. This created frustration when the local team visited the communities, as there were unsolved expectations by the community members. It caused distrust in the engagement process.

### **2.4 Towards an Engagement Framework**

As our main aim is to co-design technologies with the community members, we strived to promote reciprocity. Communities are well informed on how their IK will be joining an information sharing society. And as such, our endeavors were influenced on how the community members participate in the co-design sessions. Thus, we

aimed to strengthen our collaboration through harmonized participation. This was important as it ensured the voice of the community members to be heard. The challenges allowed us to inquire solution on how best to integrate new researchers into a community, and how best the community members can win from the research being undertaken in the community. We seek to systematically analyze our lessons learnt over the years in order to formalize a community engagement framework to guide further technology co-design processes.

### **3 Literature on Related Work**

#### **3.1 Community Engagement**

Community engagement is the process of involving rural community members in active ICT research being conducted in their communities by researchers. It is a core element for researchers seeking for research output, to place themselves properly in the rural communities. [29] adds that an effective collaborative design entails designers and communities co-creating their own applicable tools. Thus, in order for strong community engagement to be built, [20] urge that ways be found to ensure all voices of the community are heard when involved in a research project. [33] states that to make sure that community members understand how ICT is effective in their local context their voices must be found and heard. The use of ICTs for community development opens possibilities for voices to be exercised [30]. If your voice is heard, it evaluates to a democratic communication which creates openness and recognition [7]. [34] urges researchers and communities to jointly define and negotiate their situated approach to participation and interaction around the technology co-design process.

#### **3.2 Community Values**

In a local context, values and protocols frame participation [36, 37]. [16] added that user interactions are driven by communal values. We consider humanness as a set of values guiding community-based interactions [16]. In order to comply with local ethics, humanness is practiced by involving community members in research agendas in a respectful manner [17]. Other collaboration values that have reoccurred in the literature are trust, respect, and reciprocity.

Trust is crucial, as [19] advised, with a community based project they had, the designs were determined by the community. [27] mentioned an example about a research project with an Arctic community that they have a common consensus in the process which developed from a mutual trust. When mutual understanding is achieved in the community based research, [19] stress that community members accept researchers easily into their setup. To have proper community collaboration, the AIATSIS (Australian institute of Aboriginal and Torres Strait Islander studies) [11] elaborates that during a research commitment session, the community members and researchers are equal partners

Furthermore, our relationship as researchers with any community is to strive for reciprocity [2]. [3] argue that the notion of reciprocity can lead to sustainable designs, valid research, and profound innovation (2014). This determination is based on re-

spect as communities can decide to participate in research if they feel like it [4]. [3] added that reciprocity constructs joint trust, commitment and benefit. Even the AIATSIS [11] comment that research is significant when there is reciprocity between the community members and researchers. To nurture collaboration values, [23] mentioned reciprocity between the researchers and participants based on an Afrocentric paradigm. Thus, [14] state that a partnership between the researchers and community members must be formed, and that mutual learning gets ensured when strategies are developed with the community partners [8].

### **3.3 Challenges**

Some researchers do not respect cultural norms due to the unknown rural community they are placed at. Even if it's intentional or not, the failure to respect cultural norms is a concern as it leads to conflict, and increases negativity in engagements [35]. Working with rural communities, challenges such as unmet expectation by the community members is visible especially when the agenda is not well explained at start of project.

In most cases researchers want to speak and think for community members especially new researchers embarking research in a community. [28] urge that community members should speak for themselves. If what they are expecting or thinking is not spoken, long term engagement will not be sustainable.

### **3.4 Formalizations of Collaboration**

[20] suggest that researchers and the community can share decision making when they develop a code of research ethics. According to [27] there is an ethical obligation by researchers to engage with the community members as they are part of the research focus. An MOU approach is a strategy proposed by [14] which addresses rules of engagement between researchers and community members. It is not an easy task to engage communities due to cultural differences which increases fear of participation by community members [8]. Another ethical challenge comes when responsibilities are being shared when all research partners are gathered together [12]. [20] emphasizes that community members must be protected, as well as researchers having guidelines, thus, all research requires ethical guidelines. Vulnerable community members should not be oppressed, and should get a chance to receive benefits of the research outcomes [5]. So this makes it vital to identify ethical goals by involving the communities in the approval [6]. If consensus is not met new ethical goals and guidelines need to be developed [4].

Once their voice is heard, freedom for the community members to claim their own IK is created. This ensures that their ideas and opinions raised is shared and protected. [21] best described that community ownership of data prevents potential misuse of the results during the research journey, or even after the research is finished. To identify protections ensuring the safety of the community members, consultation efforts should be designed and conducted [6].

In most research projects data is collected and kept by the researchers, and returned to the community members for getting permission on how the data is disseminated

[20]. Taking back the data is vital, as community members get informed about the status of the project, and can guarantee their results are correct [27]. [27] add that this creates a platform for feedback about the research by the community members. It also makes the community members share a common understanding about the aims of the research [11].

[19] founded an approach to facilitate the exchange of knowledge between rural communities and researchers using a participatory rural appraisal. [14] presented a structure for establishing effective community research partnerships which is useful when implemented prior to formulation of the research design. To test the relevance of the structures members facilitated the discussions [14]. [26] introduced a participatory poverty assessment method that they developed which showcased the participation of poor men and women. [14] conducted workshops for researchers and community as a tool for effectively establishing community research partnerships.

Hence, various attempts have been made to create frameworks which try to engage community members in research. For example, [9] developed a framework as a Canadian initiative, which allows decisions be made by communities involved in research partnership, in regards to what research will be conducted. Even though the framework allows for community engagement, [38] shared that the framework is limited to data and information governance. Therefore, [38] developed a structured Indigenous Knowledge Governance Framework (IKGF), which has a communication engagement layer. Indigenous people need to participate in decision making [13], and also influence policies and laws that support the safety of their knowledge [15], as such the part presented in the framework allows the process to establish collaboration between community members and researchers [38].

Academia has been identified to coordinate efforts between rural communities, governments and businesses to support ICT4D (research) projects [24]. [22] added that universities are in a position to solve community issues, and as such they endorse development of consistent university-community collaboration. The Academic Designer's point of reference with communities is made possible through continuous discussions and re-interpretations of engagements by the community themselves [16]. Therefore, strong university-community collaboration has been essential for fruitful community-based co-creations. While attempts were made to regulate the engagement much works still needs to be done and therefore we are investigating the derivation of engagement protocols alongside our projects.

## **4 Community Collaboration Approach**

At this point of time we have no formal collaboration framework in which we operate. Much of the interactions are guided by best practices, lessons learned from the past experiences as well as individual researchers' knowledge about local protocols.

Research studies towards IK protection is a significant focus in the developing Namibia. The presentation for the need to preserve IK reached the ears of local funders, government and other tertiary institutions in Namibia. The stakeholders have shown the need to partake in this exciting journey to protect the country's rich cultural belongings.

One of the national objectives is to develop local communities. Cases have been presented for the collection of IK to promote an information society. Local IK is derived by community members being engaged in the projects. Our focus is to allow the voices of the community members to be heard as well as promote reciprocity. This creates harmony, as community members feel appreciated as they can raise their opinions which is taken as a design construct.

As such researchers have various outcomes when executing research. Thus, their visit to the communities is based on this outcome. It is important for the researchers to be aware that even though they have their own agenda and expectations from a specific community, engagement protocols still needs to be followed. This allows projects to have a partnership between communities and stakeholders.

## **5 Engagement Challenges Exemplified**

In the following we first depict a number of various selected challenges that we have been facing in the different projects followed by community focus group sessions elaborating on community-researcher interactions.

### **5.1 Wikipedia and Motivation**

Wikipedia has become one of the most popular repository [10]. As such, we aimed to show school teachers and community members how to use the platform to upload content. The idea was highly welcomed and teachers participated in uploading content sessions held. We motivated teachers to continue uploading content while we are not there. One researcher kept monitoring the platform to see any uploaded content. We noted that nothing was done. We then tried the sessions with different communities. The same process happened. We concluded that teachers are not motivated enough to upload content in our absence.

We opted for another attempt by identifying a champion. The champion was someone who will be a leader to motivate others to upload content. Yet again the champion was not motivated enough to monitor and lead others.

[25] suggested the usage of a persuasive technique based on motivational factors as a worthy tool to improve the upload of content on Wikipedia. To keep the teachers aware, we created a Facebook page to keep them tagged to the idea. The researcher provided the teachers with reminders. Yet again teachers were not motivated enough. This has been our biggest challenge with our Wikipedia project.

### **5.2 Indigenous Communities Engaging with Teams of Local and International Researchers**

The project involved local and international researchers from different countries having various research outcomes. The international researchers were not based in Namibia, so the agreement was for them to engage with the communities upon arrival. At one encounter, various researchers visited a community to establish a partnership and agreement with the traditional leaders to conduct research. Some international



researchers did not understand the culture of the community members causing distrust and hindering the relationship to be established.

We established that the local team is the gatekeeper to the communities. Gatekeepers are researchers who have worked with rural communities for years and through that trust have been built [35]. Rules like how to behave and what to say was communicated to the international researchers, which was not well respected. Cases occurred where they raised insensitive questions. The local team had to constantly keep a close guard to the questions and replies by the international researchers. This also created conflict between local and international partners.

## 6 Discussions

We had regular discussions with the community members alongside the technology design sessions to ensure the community members can express concerns about processes. Recently we had a dedicated focus group session with community members from our two research sites namely Erindiroukambe and Otjisa. Community members who have been co-designers took part in the focus group discussions. Being involved in the project for a long time facilitated the conversation.

The elders from Erindiroukanbe reflected on how happy they are being part of the project. For them seeing researchers enter their community is a sign of learning something new. They learn about new technologies, how to co-design technology and services, understand the evolution of ICT and development. They also learn how to collect IK and preserve it. The community members repetitively insisted that researchers should come frequently. One of the native researchers is from the local research site making it easy for collaboration as community members felt comfortable. This resulted for the elders to welcome the researchers as being part of the community.

The elders from Otjisa mentioned that those who enter their community should humble themselves e.g. walking in a respectful manner. When the visitors approach the elders they should greet without stating their agenda. The elders will greet back which then the elder will ask what they are looking for and only then the visitors can proceed stating what brought them there. Once the elder feels comfortable and respected by the visitors, the elder warmly welcomed the visitors.

### 6.1 Ethical Questions

During one research trip in Otjisa, the researchers decided to accept a prior invitation by the elder to stay over for a couple of days. A focus group session was held to discuss how community members perceive researchers. The researchers asked a few questions (some listed in Table 1) to the community elders.

**Table 1.** – Some Ethical Questions with Elder in Otjisa

Researcher asked:	Elder Replies:
“Don’t you ever feel if there are researchers they are invading your space?”	“When you come to my homestead, we will find you a place to settle down. So none of us will have anything else to think about. It’s a place where you can

	sleep and freely walk around. You can come to me anytime you want to talk.”
“We came yesterday, and overnight at your homestead as you requested in an earlier trip. How do you feel about that?”	“I always say, if you overnight to teach each other, and spend the day together is the best as I can easily learn the things. It also becomes easy for me to come back in case there is something I didn’t understand.”
“How do you feel us calling your homestead also ours?”	“The person will be like your elder, or child, etc. So you do not have to make a difference from where you come from, and where you are. The only thing which will bring a difference is perhaps not able to do activities at the homestead.”
“How does it place you with others when we are at your homestead?”	“It all depends on the hearts of the people. The community members have heard that you are here at my homestead. So any person who wants to know will come here. To come find out who are the people and what is the purpose of your visit.”

## 6.2 Joint Engagement Protocol Development

Most literature suggests that engagement protocols should be settled before the project start, with elaborated informed consent. However, communities who have no experience with researchers would not be able to spell out those desirable rules. Also the process unfolds within the technology design space, so neither outcome nor negotiated methods are known at the beginning of the project only main agendas and underlying values are known. Thus, we suggest that it is an ongoing process of negotiation. In order to engage with the community members, it is best to develop the engagement protocol with them alongside the project. This elevates trust as they decide and agree on what is expected from them and are part of the outcome. Defining rules beforehand may result negatively depending on the take in by the community members. They do not want to sign anything as that gives the impression that we might have a bad intention.

It is also important to regularly inquire about dos’ and don’ts. The process allows the researchers to know when to do anything. Even though researcher might think they know what is best, it is important to always re-confirm whether they are doing anything right or wrong. This is something we established to make sure new researchers do not fall short by doing something wrong.

In order to affirm engagement, a research day at the local tertiary institution was held whereby our co-designer was invited to attend. One of our co-designer from Otjisa gave a talk about the project. He talked about how happy he is being a co-designer. He demonstrated a tool he uses on a tablet which he co-designed. We also discussed a written paper with the elder. As academic papers are in English, we had the paper translated into the elder traditional language. He appreciated the effort of the elder, as he can read the work being published. This engagement protocol allowed the elder to affirm his position in the research team, and showed appreciation that he was chosen.

### **6.3 Engagement beyond Projects**

Our co-designers regularly request for the research team to come longer and more frequent. The elders mentioned that researchers must just come even if there is no research agenda.

Engagement is a relationship established with all its responsibilities. Even though there are no research outcomes needed by the research team, the project still runs. Elders commented that they want the research team to come frequently even if there are no co-design expectations. For the sites which are new, at first encounter we create a partnership. This opens up space for the research team to sustain engagement. During a normal visit by the native researchers, researchers and elders gathered just sit to talk about normal things.

## **7 Future Work**

[14] urge that if a mutual understanding needs to be met by the researchers and communities, the aims and objectives should be clearly outlined. Therefore, we will analyze all engagements and technology sessions to initiate the co-design of the framework which will guide interactions between researchers and communities.

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