Article

Kitambaa: A Convivial Future-Oriented Framework for Kinangop's Learning Hub

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Abstract: The aim of this paper, and more generally, our project "Impact from the ground" (a multi-stage ongoing project), is to reimagine education so that it transcends the walls and harsh constraints of a "universal one size fits all" education. To achieve this, we propose a framework that will inform the design of a participatory approach to co-create a learning hub (an informal lifelong learning opportunity) with and within the community. To weave this framework, we explore the current landscape of education, looking at the challenges that youth from rural settings face to complete their studies in urban universities, and the difficulties they experience when looking for jobs after having done so. We briefly explain our research project and contextualize it in Kinangop, a small region in the Nyandarua County in Kenya, where we explored the enablers and constraints people face to engage in social innovation. We proceed to imagine an alternative education that is local and organic, with different principles and theories weaved into a fabric *kitambaa* (in Swahili) that serves as the ground for an education intervention that is meaningful, binding, and bonding for the community members. In so doing, we aim to center matters of knowledge production as multi-epistemic conversations, situating those at the margins of epistemic divisions at the center of productive and creative debates.

(…) a profusion of imaginative ideas can only be a first step in the necessary liberation from the confines of the contemporary limited thinking about the university (Barnett 2014, p. 24).

1. Introduction

Africa is far more than the sum of its diminishing stereotypes, which sadly tend to be inspired by flawed images of poverty, disaster, tribal genocides and civil wars, illness, and large lands of arid red soil, where nothing but misery and famine grows. As if these malaises only happen to occur in Africa. Africa is a vast continent of fifty-four countries, more than two thousand languages, and approximately 1.4 billion people, the globe's youngest population. "In reality Africa is a rich mosaic of experiences, of diverse communities and histories, and not a singular monolith of predetermined destinies. We sound different, laugh differently, craft the mundane in unique mundane ways, and our moral compasses do not always point in the same direction" [1] (p. 18).

There are different areas where such negative stereotypes seriously harm countries and their people, while benefiting foreign big corporations that, using the catastrophic scenario, make strategic and very profitable private–public partnerships [2]. A representative example of these initiatives is the so-called fintech revolution unfolding in Kenya, which has brought a troublesome new experience of debt to Kenyans. The fintech industry

envisions Kenyans as, first and foremost, borrowers and of course, a source of profit. Thus, they design their fintech ecosystem accordingly. The emergence of over-indebtedness in Kenya signals the intersection of a reliance on finance to ameliorate the lives of the poor and a recognition by techno-capitalists that these same lives are the source of shear profits.

Along the same lines, but in a different realm, the continent, despite its rich array of foods and food crops, is depicted as a vast, arid red soil desert, where only poverty and despair grow. As Baxter recognizes in her extraordinary culinary journey in Africa, "the rest of the world has pretty much ignored the culinary cultures of Africa, or else swallowed simplistic stereotypes about a constant continental food crisis and negative portrayals of African diets and eating habits" [3] (p. 9). This misrecognition is not neutral but political. We have witnessed how Africa's cuisines and foods have been threatened by the ever-growing push for industrial and corporate agriculture, benefiting neither small farmers nor local cuisine experts. Instead, big corporations, such as the G8's New Alliance for Food Security and Nutrition and Alliance for a Green Revolution in Africa (AGRA), to name but a few, are among the primary beneficiaries, as they have taken over Africa's food and farms through multi-billion-dollar initiatives [3].

These corporations profit from such stereotypes by using them to bring forward strategies such as free trade and the creation of infrastructures to facilitate multinational penetration into Africa, hiding in misleading initiative titles, such as the Green Revolution. Despite increasing crop production, these foreign initiatives are unsustainable as they damage the environment, produce dramatic biodiversity loss, and eschew traditional knowledge [4]. In addition, it generates uneven benefits, favoring farmers with financial resources of their own, with access to more land, and with some formal education, leaving those who are resource constrained excluded from public support for agriculture and, even worse, unable to afford fertilizer costs, patent-protected plant varieties, and genetically modified seeds [5].

What is paradoxically ignored in all this is the fact that peasants (the small-scale producers) are the main providers of more than 70% of the world's people, using as little as 25% of the agricultural resources. In contrast, the industrial food chain uses 70% of those resources and is a major source of greenhouse emissions, despite only producing food for less than 30% of the world's population [6]. Another curious paradox, this time regarding the realm of knowledge production, is the fact that the whole of Africa contains only about 2.6% of the world's geotagged Wikipedia articles, despite having 14% of the world's population and 20% of its land. In the global context of today's digital knowledge economies, such digital absences are likely to have negative material consequences. The Internet allows those with economic and cultural advantages to control a large part of the discourse, thus favoring the Global North and elite classes, as has already been noted by other scholars.

From the time of colonialism that damaged the continent so deeply to more recent initiatives that range from the fintech industry to the Green Revolution, Africa continues to be the target of relentless exploitation and neo-colonialism. We argue that we should be able to draw from another view of Africa that is more realistic and positive, one where African nature brings hope and inspiration for a more convivial form of multi-species existence: More than half of the world's unconverted arable land lies in Africa, indicating broad prospects for both food production and conservation [7]. In the early twenty-first century, as argued by Bollig [8], about 4.28 million square kilometers (14.2%) of the continent's terrestrial surface were demarcated as biodiversity preserves (cf. Europe 3.18 million square kilometers, or 11.4%). Across the continent, more than 8448 protected areas, including about 1100 national parks (of which 36 have been enshrined as World Heritage sites), have increased the chances of survival for many species, while significantly altering human–environment relations [8] (p. 113).

In this land of hope and inspiration is where our project, "building impact from the ground: The case of Kinangop's Learning Hub" unfolds. Kinangop is a small region in Nyandarua County, in Kenya and the Mkungi Urumwe community self-help group that

started in 2008 is located north of Kinangop Division. The group has thirty members, with seven affiliate schools serving at least a population of about two thousand people. Two of the authors of this framework are community leaders who are working in partnership with the other author, who works at an educational institution in England and has a long-lasting relationship with them. The area is an agricultural area with high potential. The main land use activities in the area are livestock and crop farming, agroforestry, and urban settlements. The dairy sector plays a vital role in achieving the development goals of Kenya's Vision 3030. Kenya's milk-based enterprises are crucial for rural communities, supporting over 2 million households. However, the marketing system is challenged by non-compliance with safety and quality standards, a fragmented market structure, limited product diversity resulting in low-value offerings, and the insufficient participation of small producers in policy formulation. The end goal of the project is to co-design an animal boarding farm to improve the production and quality of dairy products and their commercialization. Attached to the boarding farm is the "learning hub", where participants will learn new skillsets and knowledge so that they can engage in the boarding farm (this is being outlined in an upcoming publication we are working on at the moment, which is informed by a series of interviews we conducted with key stakeholders in the dairy value chain in Kenya). The learning hub is envisioned as an informal (at least at the start), adult and youth professional lifelong learning opportunity. We aim to involve community members, including smallholder farmers, women, and under/unemployed youth.

Holding up to this more realistic and human view, we think about problems that are not exclusive to Africa or Kenya in particular, but can be seen worldwide, e.g., the high rate of unemployment amongst youth. The total global number of unemployed youths is estimated to reach 73 million in 2022, a slight improvement from 2021 (75 million), but still six million above the pre-pandemic level of 2019 [9]. Kenya has been grappling with high unemployment rates, particularly among its youth. The overall unemployment rate was around 10% in 2020, with youth unemployment estimated at more than 20%. Most Kenyan workers are engaged in the informal sector, which includes self-employment, casual labor, and small-scale businesses. Agriculture remains a significant sector in Kenya, employing a substantial portion of the population. However, the sector faces challenges, such as limited access to credit, outdated farming techniques, and vulnerability to climate change. In addition, there is a mismatch between the skills demanded by employers and those that people possess. Graduates struggle to find employment due to a lack of relevant skills or limited job opportunities in their fields [9].

More generally, the 2021/22 United Nations Development (UNDP) report revealed that, for the first time ever, the Human Development Index (HDI) declined for two years in a row due to an "uncertainty complex", of which the COVID-19 pandemic is emblematic. The "uncertainty complex" is framed by three layers: Widespread intensifying societal polarization, thus delaying collective action; rapid technological change impacting prospects of human development; and the intertwined planetary pressures and inequalities of the Anthropocene shaping opportunities for human development well into the future. One thing that became clear during the pandemic was the failure of collective action [7]. The combination of Kenya's reality described above, and the general picture depicted in the UNDP report begs the question of what can be done to alleviate such a situation, in particular for the people?

In a recent report [10], UNESCO argues for a new contract for education, where its purpose is defined as a common good involving everyone coming together to repair a damaged planet. Moreover, it is widely known that having access to education can significantly benefit both individuals and societies, given that those well-educated have a higher income, but more than that, they have better health and report higher levels of well-being [11]. However, not everyone has the same opportunities to succeed or to meaningfully participate and learn. Multiple elements influence and shape the provision of equitable access to education. Studies that address the spatial dimension of knowledge, education, and science (cf. [12]) have shown that spatial disparities in knowledge and creativity are

not short-term transitional events, but rather, a fundamental structural element of society and the economy. Educational institutions (such as schools and universities) have been historically designed to fulfil the needs of a small elite (e.g., male, white, and people of economic means), with structures, values, and practices set up to support some students, while excluding and marginalizing others. There are a multiplicity of factors affecting the transition from students in rural areas to urban higher education (HE), including geography, financial resources, schooling, and language, adding another layer of exclusion for those living in rural communities [13,14]. Equitable societies call for more inclusive education systems, for learning environments that are designed to meet the needs of a more diverse student population, and for addressing barriers that may exclude some young people from education [15].

These factors partially explain why student representation in universities is highly unequal in terms of demographics and geography, with remote rural areas being particularly under-represented [16]. As stated before, acknowledging these challenges does not mean that there is nothing of value in those people living in these areas. On the contrary, a dynamic and generative understanding of rurality values the contribution of local actors in transforming their context [13]. Cultural practices and a grounded sense of responsibility are likely to nurture stronger community interrelatedness and identity [17,18]. This is what our learning hub is aiming at, including this myriad of local cultural practices and the inclusion of different actors from rural communities in the design of the learning experience. By this, we mean that our aim is to craft an education intervention that unfolds at the local level, in the community instead of outside, inviting people from the local community to participate in a local education experience instead of having to go to an urban setting to study, and inviting those who can contribute with more technical knowledge where needed. This initiative being envisioned from the bottom up, that is, it involves the community in its design together with other agents that can provide the community with more technical knowledge, is nevertheless aligned to UNESCO's principles of education for sustainability [19], as our framework aims to respond to the current pressing needs such as climate change and food insecurity. It is our vision to include some of the cross-key competencies for achieving some of the SDGs. We will expand on how we envision including some of these competencies when we describe the framework in the next section. With this bottom-up approach that takes some inspiration from international institutions such as UNESCO, we want to bring to the fore a set of social science methodologies placed in an out-of-the-lab context, as well as social issues or concerns raised by community members and the ways in which these produce new knowledge. Situating these social concerns at the center of research, and its public, has important implications in terms of the legitimacy of the research and of giving voice to under-represented or vulnerable groups.

How, then, can an equitable, inclusive, and meaningful education system/initiative be designed with and for deep rural communities, in this case, the community of Kinangop, that so often are excluded from broader education initiatives? This is the main question that this paper aims to address. To answer this question, we have come up with a framework that we call *kitambaa*: A convivial, future-oriented framework. *Kitambaa* means fabric or tapestry in Swahili, which serves as a metaphor to think about the framework, a fabric weaved using a loom and different threads. Each thread will allow the framework to achieve something that is not working well for the community, and hopefully, it can serve as an inspirational idea for other communities with similar social realities. The loom we are using to weave the *kitambaa* represents our philosophical umbrella, with which we guide our endeavor. In the next section, we explain and describe in detail the mechanisms of the loom and the threads chosen to weave the *kitambaa*.

2. *Kitambaa*: A Convivial Future Oriented Framework

Higher education in Africa has been biased towards Eurocentrism, which often overlooks legitimate knowledge claims in and about transformative change in the sector

[20,21]. Literature on higher education is plagued with claims about how a primary focus on mainly Eurocentric knowledge (re)constructions seems to undermine forms of authentic knowledges [20]. Like many universities on the African continent, loyalty to the hegemonic knowledge interests of a Global North seems to impair attempts on the part of higher education institutions to cultivate more democratically inclusive knowledge spaces. In this paper, we want to propose an alternative view on tertiary education that is locally developed, combining both local knowledges and ancestral wisdom with more technical and scientific knowledge generated in urban higher education institutions (HEIs). We wonder if the "learning hub" could be such a democratic, convivial, and inclusive knowledge space.

Hence, the framework we have envisioned is intended to (re)imagine an education that is aligned with local knowledges (plural) and values that are attuned to the culture of the place. It is weaved intentionally with an ethics of care and empathy [22], so that we create a strong, but flexible, tapestry that includes the local and the global, the indigenous and endogenous, the ancestral and contemporaneous, not in a binary relationship, but rather, in a dialectical and thus, generative one. An education in place rather than outside of it. As such, it cannot be a Western idea of education, even less a "Universal" understanding of education. Instead, we envision an education that is community based, relational, and participatory, thus being convivial [23]. We build on this in the next section.

We are inspired by Barnett's [24] idea of the "Ecological University" as it goes beyond the instrumental goals of generating increased revenue and secure markets, positionings in the world rankings, and student satisfaction ratings. A university, as he argues, that is interconnected with a number of ecosystems: Knowledge—plural, we argue—social institutions, persons, the economy, learning, culture, and the natural environment. An institution that opens new possibilities for better futures for all entities on Earth, human (individuals and collectives) and non-human, organic, and non-organic. This is particularly important for the African continent, which must grapple with unforeseeable weather conditions given the uneven distribution of the consequences of climate crisis. We believe that education's mission should be to contribute to human development and wellbeing. Hence, any education initiative ought to actively engage with the myriad challenges society is facing nowadays regarding humanity's well-being and development, e.g., social injustice, food security, the environmental crisis, abuses, and a lack of respect for human rights. However, these human rights need to be redefined by the local people who are enduring those abuses [25].

We are not the only ones who are reimagining a more humane education UNESCO [10], as we do, recognizes the transformational potential of education as a route for sustainable collective futures. It argues that to achieve this, a new social contract "grounded in human rights and based on principles of non-discrimination, social justice, respect for life, human dignity, and cultural diversity is needed. It must encompass an ethic of care, reciprocity, and solidarity. It must strengthen education as a public endeavor and a common good" [10] (p. iii). This reimagined vision of education is human centric and, thus, in tune with the human development capability approach (CA), which is one of the threads we have used to weave the *kitambaa*.

This framework sets out to enable people and communities to start thinking about a convivial, more honest, local, meaningful, and holistic approach to re-envision education with the community and, thus, their own development. The *kitambaa* offers an alternative model for thinking about how an educational intervention can be co-designed by different stakeholders, some of whom will be local practitioners from Kinangop, others will be scholars from urban HEIs, while others will be actors of the dairy value chain, including farmers and lay community members who would like to make a meaningful epistemic contribution to the common pull of knowledge. In the next section, we describe the mechanisms of the loom, with which we have weaved the *kitambaa* and the different threads we have chosen.

2.1. The Loom

The loom, the structure with which we have weaved the *kitambaa*, represents the underlying philosophy that guides our work. For this, we have chosen critical realism (CR), a philosophy of social science that proposes a stratified ontology of the social world, that is, the world is much more than what we can observe at the surface. Hence, we need to delve deeper to uncover the invisible and pervasive social structures that are responsible for much of what we have described so far. The social world is understood as multi-determined and, thus, conceptualized as a causal network of interacting forces, which we cannot predict but only attempt to unpack and understand so that change can be fostered [26], and with that, an improved livelihood.

CR is a philosophical approach that acknowledges the interplay of structure, culture, and agency [27], arguing that structures are transformed or reproduced by agents, which in turn, transform themselves (individuals or collectives) in that process. It, therefore, considers the reciprocal impact that society and technologies have on each other and the people who use them. A preoccupation is, thus, to think about which tools correspond to and promote a certain kind of society and what the role of the people is in that shaping. For CR, the most fundamental task in social science is to uncover the properties of social and cultural structures that produce the events upon which our experiences are based. It offers conceptual tools to grasp and explain the effects of the often invisible social and cultural structures that cause so much of the illness experienced in our societies, e.g., the increasing social injustice faced by those who live at the margins and the unequal distribution of the consequences of the climate crisis, to name but a few.

Epistemologically speaking, CR proponents believe that knowledge is subjective and relative to the knower, who is qualified to specify the relevant parts, relationships, and mechanisms pertinent to problems in their area of expertise. Therefore, any knowledge claim is not universal, but rather, local, historical, and contingent. Any knowledge claim is open to revision and refutation in the light of new and different evidence and theories. This opens the space to think about knowledge as something local, organic, and always open to change. And last, for a theory or a knowledge claim to be adequate, the person(s) who is(are) constructing the knowledge needs to consider the particularities of the reality described by scrutinizing whether the social reality is accurately described and therefore has a greater explanatory potential with useful application to practice, which in turn, will provide emancipatory power. This makes realists tolerant of theoretical differences, and thus, it opens the space for different knowledges to come to the fore. This is, of course, a simplification of a philosophical approach to social science, but the scope of this paper does not allow for a more extensive description. For the interested reader, I refer you to [26], which is a good start.

CR also suggests that any social change should be studied and explored in terms of layers or strata. Accordingly, [26] proposed a model of a four-planar social being. That is, in the model, four different levels of interactions are considered: Interactions with the material world, the social world of relations, or the intersubjective level; interactions at the level of structures; and the intrasubjective level, which is that of the person and their values, beliefs, culture, and other predispositions that shape them. This means that change is not something that happens at the surface but rather at different levels, aiding in the exploration of some of the root causes of community social problems.

2.2. The Threads

These threads represent different theories and ways of thinking that will be used to weave the *kitambaa* so that the education delivered is different from the so-damaging "Universal and Western" imaginaries of education. The five threads we initially chose are the capability approach, decolonial thinking, conviviality, critical pedagogy, and futures literacy. Each of them is explained in detail in the next section.

2.2.1. The Human Development Capability Approach

The capability approach (CA) was introduced by Amartya Sen. He defined it as "an intellectual discipline that gives a central role to the evaluation of a person's achievements and freedoms in terms of his or her actual ability to do the different things he or she has reasons to value doing or being" [28] (p. 19). The approach critically interrogates the meaning of human progress, development, and wellbeing. Its core values are agency and justice, thus, dignity. It attaches central importance to human capabilities, which are conceived as the effective opportunities people have to lead the kind of life they have reasons to value, while considering the critical role of social and cultural structures as enablers and/or constraints that people encounter when pursuing what they value. In short, capabilities are the opportunities to pursue a life people value, together with the resources and support embedded in the context. Once the capabilities have been achieved, they transform into functionings; that is, what people are now able to be and do.

The CA acknowledges the importance of people participating in meaningful ways as agents in their own development practices [29,30]. Therefore, enabling individuals to be participants in their own development is one aim of education, and thus, we suggest, one of the goals of our education initiative. Meaningful participation in communities is, among other things, about making meaningful epistemic contributions to the shared pool of knowledge, which Fricker [31,32] argues is fundamental to human wellbeing, a dignified life, and expansive freedoms. Such contributions, the corresponding capabilities, and concomitant functionings can and should be fostered in and through education. Nussbaum, for example, advocates a higher education that develops the capacity of individuals to be "fully human" [33] (p. 209), but importantly for us, what fully human means will be defined by the community. Walker argues that "the university can be re-imagined in terms of its commitment to individual freedoms, social citizenship formation and social change. The university should have an active role, engaged in local and global spaces, to foster and support a just and sustainable society" [34] (Para. 1). These are, undoubtedly, the socio-cultural objectives of HE that are overlooked in the neoliberal agenda of higher education, in which the university has been forced to monetize higher education, functioning like a private corporation with an orientation to profit making by maximizing outputs at the expense of human capital. Hence, we aim to take these socio-cultural objectives into account.

The CA commits itself to respecting people's power of self-definition and self-realization. Capabilities, thus, have value as spheres of freedom and choice, or as Sen suggests, they are valuable zones of freedom [29]. Therefore, we suggest that the functionings of those at the center of the education endeavor cannot just be defined by others, as this would contradict the human development capability approach ethos, where the choices are made by the individual who is aware of the social reality they are embedded in. However, making choices is not a matter of free will, but rather, a tough confrontation with social reality and its enablers and constraints. Hence, part of what is needed is to become aware of these contextual forces that are shaping how education is understood and realized so that together we can come up with local and meaningful strategies to overcome them. It seems clear to us that the interrelated set of choices and actions, the potential (capabilities) and actual (functionings: being able to materialize the set of valued choices), are important [35,36] in the light of epistemic justice [31]. Using the CA will allow the community and other actors to have center stage in defining what is missed and achieved in terms of particular perspectives of the world. This will, thus, be a key goal when designing our education intervention.

We are aware that individual agency, social arrangements, and social conditions are intertwined in the achievement of the chosen capabilities. Thus, setting the capabilities wanted to be achieved does not tell us enough about the fairness of the process involved in the transformation of choices into functionings. This process of transforming capabilities into functionings is affected by different conversion factors (the external factors that shape the process of achieving the functionings). Therefore, if we aim for a more just and fair approach to education, we need to pay attention to the social conditions needed for

the uptake of these capabilities. This will be guided by our philosophy of CR and by the second thread, i.e., critical pedagogy.

2.2.2. Critical Pedagogy

This strand of the *kitambaa* will allow us to design an education that is rooted in the community and aims at developing critical consciousness [37,38], such that people that participate are able to critically think about what capabilities they wish to develop, what the social constraints are that they need to overcome, and the enablers they can harness to achieve these capabilities. This critical reflection, in turn, will be geared towards social action. We are convinced that a critical aspect of any approach to education is ensuring that people are not passive objects of history, but rather, active subjects capable, where possible, of changing history. This dialectic between critical analysis and action will be addressed through praxis. In short, we conceive education as a historical–cultural and political project to transform people and the collective into a historical subject/collective through emancipatory educational–pedagogical praxis. In short, education is rooted in community work, which is located in the essence of people's lives.

One of the main goals of this initiative is finding ways in which local knowledges and technical ones can be merged so that people in the community are capable of making meaningful epistemic contributions to the pull of knowledge, which Fricker [31,32] has shown is of vital importance for the well-being of people and the community more generally. To pave the way so this can be possible, people should start by recognizing global power imbalances in relation to the production of knowledge, recognizing whose and what knowledges count [39]. As Adams argues, "Decolonial theories emerged in contestation with the universalisation of Euro-centric frameworks of human values" [40] (p. 68). We will chart imaginative paths towards alternative and local realities by critically diagnosing the conditions of the present. This is why our *kitambaa* also uses decolonial theory as one of its threads, which we describe in what follows.

2.2.3. Decoloniality and the Geopolitics of Knowledge

Decolonial studies or decoloniality [41–43] will be critical to dismantling geo-political hierarchies that, as Adams has argued, have found new and more powerful forms of expression in the modern/colonial world [40]. We are particularly concerned with the politics of knowledge production in rural communities and the epistemic hegemony of higher education institutions, Western ones in particular, as the main valid source of knowledge production and dissemination [20,21]. Decoloniality will guide us in building a bridge between rural/local and urban/global education, as we believe that education based on neoliberal values is not what is "universally" needed [20]. Instead, and as highlighted throughout the paper, we believe that an in-place and more local approach to education, where technical expertise and scientific knowledge are complemented with local knowledges on site, is what is needed to advance social change and improve local livelihood. In doing so, we are fostering one of the cross-cutting key competencies suggested by UNESCO [19] (p. 10), i.e., self-awareness competency, which is the ability to reflect on one's own role in the local community and broader society; to continually evaluate one's actions.

Decoloniality is defined as "the dismantling of relations of power and conceptions of knowledge that foment the reproduction of racial, gender, and geopolitical hierarchies that came into being or found new and more powerful forms of expression in the modern/colonial world" [41] (p. 440). Thus, decoloniality is concerned with the process of dismantling colonial legacies. In this project, one of the aims is to remove the colonial legacies embedded in traditional understandings of education and elaborate new local structures that emerge from the community and are, thus, meaningful and transformative for the community.

The three main concepts of decoloniality are coloniality: Of power, of knowledge, and of being. Coloniality of knowledge refers to knowledge production and hegemonies

that exist around the politics of knowledge production. This dimension will be important for us because the future of African farmers is shaped by international research in agriculture and development actors [44,45]. Furthermore, during the 2021 UN Food System Summit, it was recognized that food systems need urgent transformation as a catalyst to achieving the goals set out in the 2030 Agenda for Sustainable Development. Mutyasira shows how the post summit conversations have been at a high level, focusing on the country's macro-level strategies and thus, leaving outside of the discussion smallholder views and understandings of what it takes and what is implied in the transformative agenda for more sustainable methods of production.

The question that is critical to ask in light of this reality is "who generates which knowledge and for what?" [46] (p. 490). For the "learning hub" we envision a dimension of knowledge generation that answers questions about what do community members, including smallholder farmers, women, and under/unemployed youth, already know and still need to know, to engage in the boarding farm through the learning hub? What do women and their husbands need to know and understand so that they are ready to embrace different and maybe new roles of women in the community and their households, e.g., women managing money, making business decisions, where to re-invest the money, and the like? That knowledge will be crowdsourced from the community, including men and youth that have recently graduated, but are currently under/unemployed. We are hoping to invite them to co-design, organize, and run some of the workshops. We also will involve conservationist experts from the community to generate the knowledge needed for farmers to learn what is required to increase, in a sustainable fashion, the use of their land, thus being active participants in co-designing their food system transformation agenda.

We believe that this is one way to contribute to producing diverse and rich knowledge to make sense of the world people are embedded in. In so doing, we will bring indigenous/rural and local knowledge to the center. The coloniality of power will also be addressed, in particular, the global hierarchy of epistemic domination of HEIs. That is, they are the recognized and most prominent institutions of knowledge production. We aim to break this hierarchy through inviting universities and other knowledge experts to join us in the process of local knowledge production and dissemination. We are particularly curious as to how this will unfold and aim to explore it in the next phase of this project.

To dismantle colonial legacies and stop reproducing those old patterns, we also need to decolonize the future, reimagining alternative ones so that we can envision the road ahead, making room for ignored worldviews and historically marginalized cultural identities. For this, we will use futures literacy, in particular, the UNESCO framework [47], complemented by a broader imaginary inspired by African scholars (Kwamou Eva Feukeu and Geci Karuri-Sebina. You can explore more of their work in this interview with Nicklas Larsen. https://medium.com/copenhagen-institute-for-futures-studies/african-futures-with-geci-eva-28d6064e3629; accessed on 6 June 2023), who are active in decolonizing future initiatives (https://en.unesco.org/imagine-africa-futures; accessed on 6 June 2023) [48] (cf. C2D—Capacity to decolonize (http://foresightfordevelopment.org/c2d/; accessed on 19 June 2023), and the work done by Barnett [49], who has done extensive research reimagining HE as an ecology university.

2.2.4. Futures Literacy

In an increasingly complex, fractured, and uncertain world, it is becoming critical for communities to build their capacities to imagine and ultimately own their futures—even more so in a post-colonial context. Fiction and imagination are fantastic, shared tools that afford people to create new identities and ideas about what they value most. As Hoffman [50] claims, all nations, cities, and communities are the product of shared fictions, as they fundamentally shape the directions people choose to take. It is said that when more people feel empowered to envision their own hoped/imagined futures, they are better equipped

to advocate for their wants and needs. She [50] argues that speculative futures cultivate self-determination, thus making communities more likely to work for all.

Futures literacy [47], a core capability for expanding imagination, choice, and agency to decolonize the future, serves as a tool to significantly enhance the capacity to conceive and to use the future to improve the present. It consists of harnessing the natural capacity of humans to anticipate, developing people's anticipatory competency as suggested by UNESCO [19]. Anticipation occurs when the future is used in action, for example, we know that there is going to be a storm and we decide not to go out on a boat. The anticipatory processes allow the future to become part of actions in the present. While becoming "futures literate", people start understanding how they refer to different kinds of futures in the present world as different forms of anticipation. They also acquire the capability to "use these futures" to deploy tools and methodologies to work on particular challenges. "Collective Intelligence Knowledge Creation" is a very powerful instrument for futures literacy, especially through the so-called Futures Literacy Laboratories (https://unesdoc.unesco.org/ark:/48223/pf0000385485/PDF/385485eng.pdf.multi; accessed on 3 June 2023). These are methodically designed learning-by-doing workshops, during which participants can collectively test a wide range of hypotheses and invent new solutions to improve their world.

By thinking about the future, people can have new conversations and challenge existing norms and structures that no longer serve their original purpose. This is particularly true for communities that have been marginalized by new social imaginaries that tend to belong in urban, neoliberal-infused contexts. Futures studies [47,50,51] examine why and how we use our imagination, which deals with the ability of the mind to form and hold images, concepts, descriptions, and representations that do not exist or have not been physically experienced yet [52,53]. Talking about the future affords people thinking about and (re)inventing their futures as spaces of possibility [29] or sensing and making sense of novelty [47].

The capability is about being able to find answers to questions, such as, how to identify changes and imagine alternatives to foster change? How to integrate the future into what we see and do? What images of the future do we have, and where do they come from? What frameworks, tools, and processes enable us to better understand the origins and implications of our images of the imagined future? The idea with this activity is to gather different stakeholders in the community and use the collective intelligence knowledge creation tool (a tool envisioned by the futures literacy UNESCO framework) to assess the probable and desirable futures of life and work in Kinangop. To hold this workshop, we will seek support from one of the futures literacy centers that were setup by UNESCO as part of the Imagining Africa's Future project (https://en.unesco.org/imagine-africa-futures; accessed on 4 May 2023) as this requires specialist knowledge that we do not have at this moment. We trust this will be a generative exercise for the community to imagine and make sense of what it is they need and want to change and how they can get there. We rely on Poli's argument that "as soon as the future is understood and an active force that is able to influence the present, it becomes one of the most relevant values generating, sense-making force" [51] (p. xx).

Part of what we envision in a decolonial, more local, and meaningful understanding of education and development is the role of technology and how it should be used in the "learning hub". This is critical because we know the crucial role that science and technology play in shaping norms, knowledge, and visions that cement relations of power [52]. For this, we want to engage with tools for conviviality as they align with the ethos and philosophy of the people in the community and the project's ethos. In the next section, we explain the concept of conviviality and the role that tools for it play in such an approach. For this, we draw upon the work of Ivan Illich [23] and the Convivialist Manifesto: A Declaration of Interdependence (Convivialist Manifesto. A declaration of interdependence (Global Dialogues 3). Duisburg 2014: Käte Hamburger Kolleg/Centre for Global Cooperation Research (KHK/GCR21). Doi:10.14282/2198-0411-GD-3. Licence: Creative Commons

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2.2.5. Convivial Thinking

What are the tools that will suit the nature of our initiative, that is, which tools will foster freedom, creativity, relationality, play, and cooperation? Our answer is guided by the idea of conviviality and, in particular, tools for conviviality [23] that can disrupt instrumentalization. Conviviality is well aligned with our project, which aims to foster a more relational approach to education and work that moves away from questions of technical implementation of technology to questions of value driven use of technology. Convivial ideas have also been applied to development [54] and are already being practised in Africa. In this regard, Scoones states that "convivial development—one that is responsible, social, shared and led by a political community, not experts or managers—is an approach that truly embraces uncertainty—outside the mainstream, in the margins and already being practised across Africa" [54] (p. 101). He argues that the colonization project of aid-led development has been deficient because simplistic technocratic impositions and the Western or Chinese model of development have failed. Therefore, including conviviality as a way of thinking about the use of technology is contextually sound for us.

We take the concept from Illich [23], who focuses his work on tools, which refers to a fairly broad concept that includes both concrete artefacts (e.g., tools) and institutional arrangements (e.g., educational institutions), along with the rest of the rules they define. Illich [23] recognizes the reciprocal impact that society and technology have on each other and addresses one specific aspect of technologies' non-instrumentality related to power imbalances. For us, these power imbalances are directly connected with the primacy of the Western and Universal imaginaries of education we have described so far and that we aim to address through the decolonial thinking described above.

A convivial society is one "in which modern technologies serve politically interrelated individuals rather than managers" [23] (p. 12). The community ethos so present in Africa (generally speaking) relates well to the idea of politically interrelated individuals, and it is something that our initiative wants to strengthen even more. Illich argues that people need first and foremost "the freedom to make things among which they can live or give shape to them according to their own tastes, and to put them to use in caring for and about others" [23] (p. 24). In short, conviviality is "individual freedom realised in personal interdependence and as such it is considered [by Illich] an intrinsically ethical value" [23] (p. 24). A society is convivial if people have the chance to shape the things they—jointly—have to deal with, in mutual interdependency and relatedness, both to each other, and to nature. This definition has implications for the politics of technology, precisely because technologies, beyond their instrumental capacities, have a significant impact on human practices and social relations; their design is of political relevance and needs to be democratized. Otherwise, if a technological elite monopolizes the design of socio-technical systems (with its concomitant tools), it obtains the capacity to impose certain practices and power relations on society. An illustrative example of this practice is the one that occurred in India through the digital identity initiative called Aadhaar, which consequently led to the introduction of demonetization that prioritized automated payment systems in ways that were discriminatory to the poor, as they had the least access to mobile phones, formal savings, and bank systems [55–57]. The technology served managerial elites in very instrumental ways to portray India to their international "clients" as a modern and progressive society, which is of high value in a neoliberal market economy.

Since tools are intrinsic to social relationships, "con-vivere, living together, implies the capacity to shape interpersonal relationships by shaping the artefacts and institutions that matter in those relationships" [58] (p. 135). Thus, tools for conviviality are shaped individually and collectively.

To evaluate which tools can be used in a convivial fashion, we will use Illich's criteria:

- Can everyone use it? (For example, knowledge databases are almost only accessible to members of higher education institutions.
- Can the tool be used as often or as seldom as desired? This relates to the issue of whether there is an imposition to use tools or not. (For example, do people have autonomy of choices regarding engagement with technologies?) (For the interested reader, this point can be expanded by reading [55] listed in the reference list).
- Can the user determine the purpose of the accomplishment for which it is used? (Does it enable the user to realize their ideas?).

Illich [23] is of the view that convivial tools foster self-realization, in that people can pursue their own goals in their own unique way, which is aligned with self-determination, which is so important in the CA. It is, thus, salient to revise the concept of ownership of tools in light of Illich's ideas. He argues that to own a tool is to be able to control it, instead of the tool/technology controlling you. A patent and very present problem society is dealing with through technologies, such as artificial intelligence and all its applications in our daily lives, with education being no exception. There is more to say, but for the scope of this paper, this will suffice.

3. Next Steps

We should avoid falling into the trap of believing in the doom scenarios we have described in the introduction. Instead, and as we have also described in this paper, we should embrace Africa as a generative, rich, and hopeful place with successes and failures. It is precisely here in this beautiful landscape where our project unfolds, and part of it is a local, in-place education initiative that aims at reimagining an education that is relational, pluralistic, and meaningful to the community that speaks to their social reality. The initiative will be designed using *kitambaa,* a convivial, future-oriented framework. The tapestry is weaved using a loom that is built on critical realist's pillars, and the threads we used provide the *kitambaa* with a flexible, but robust nature so that it can adapt to the fluid social reality of the place, providing strong pillars to base the intervention upon. We have used the CA, because it enables individuals to be participants in their development, supporting them to make meaningful epistemic contributions to their shared pull of knowledge. This we consider as being fundamental to a dignified life, where freedoms are to be expanded in people's own terms. To generate meaningful contributions, we are using Freire's idea of critical consciousness to guide our educational praxis. To honor and strengthen the value of the local, we infuse our praxis with decolonial thinking so that the hegemony of Universal and Western knowledge is challenged, and we can craft an education that is based on local culture and values. To approach technology in a way that is consistent with the above, we will embrace convivial tools, as Illich [23] thought about them. This will involve paying attention to the interplay between people and technology and the concomitant practices. But we are convinced that in Kinangop we need to imagine a future that is different from that shaped by doomed scenarios of poor land and starving people. Therefore, we are developing an intervention—Futures Literacy Lab—as explained above, which will consist of a two-day workshop organized by experts in futures literacy where people will learn about futures literacy, expanding their capability to reimagine a community vision of their desired future of the dairy industry, the agricultural practices, and sustainable business models that will support them in developing different approaches to commercialization. We believe that notions of futures literacies nurture an approach towards a convivial in-place education approach. The more pragmatic next step will be to brainstorm with the project leaders and the different stakeholders to find out the best way to implement this framework and start co-designing the education intervention.

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