



The sweet spot of modern and traditional beekeeping

Building resilience in apiculture to improve the livelihoods of local communities



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The Chyullu Development Foundation works to improve farmer livelihoods while protecting local ecosystems and strengthening human-nature relationships in Makueni County, southeastern Kenya. Agriculture is one of the key drivers of the county's economy, contributing to around 78% of household income¹. In Kenya, small-scale farmers produce 65% of the marketed agricultural output, employing various sales strategies, including direct sales from their homes and local markets, or relying on intermediaries to

distribute their products to regional traders^{2,3}. Agricultural cooperatives play a significant role in agricultural production and trade, with Kenya having over 14,000 agricultural cooperatives². Kenya faces challenges, including reliance on rain-fed agriculture in arid and semi-arid regions, and limited access to markets for some small-scale farmers²⁻⁴. Other challenges include rising temperatures and the increasing frequency of extreme weather events, such as floods and droughts, which are becoming more difficult to predict^{2,5}. These changes make it increasingly difficult for farmers to plan and adapt their practices. Weather extremes also contribute to decreased yields and on-farm losses, highlighting the need for stronger support to adapt to the new realities shaped by climate change^{2,6,7}.

The Chyullu Development Foundation collaborates with smallholder rural farmers alongside the Chyullu and Tsavo conservation areas of Makueni. The area is considered part of the arid and semi-arid lands (ASAL) region of Kenya. People living in the area face challenges such as degraded soil health, loss of biodiversity, human-wildlife conflicts, and the impacts of climate change. In the ASAL region of Kenya, beekeeping has long been a vital source of people's livelihoods^{3,5,8}, contributing to ecosystem health and reducing poverty levels^{9,10}. Around 80% of Kenya's land is suitable for apiculture. In the 1950s, the colonial government promoted beekeeping through the establishment of honey collection offices as a means to increase exports and improve farmers' livelihoods^{10,11}. As the honey collection offices' primary focus was on collecting honey rather than the practices of producing or caring for the honeybees, it resulted in a destructive mode of honey collection, and many beehives were damaged, leading to a decline in availability¹¹. However, in 1971, following Kenya's independence in 1963, a new national plan was established to improve and make apiculture more sustainable^{8,10,11}. This led to the establishment of government support for training, research, extension officers, new technology, and the promotion of modern beehives^{8,10,11}. Starting during that period, most of the honey-producing industries and locations have been established



Implementing Organisation:

Chyullu Development Foundation
C.B.O

Project name: Ukulima Bora, Mazingira
Bora Initiative

Location: Makueni, Kenya

Stage: Pilot

Food system focus: Apiculture

Goal: Improve the livelihoods of Chyullu community by supporting the community towards the attainment of sustainable farming and capacity enhancement.

Key words: Apiculture, youth, solar, bio-waste recycling, capacity building



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in the Makueni, Baringo, Samburu, and Kitui Counties¹². However, longer dry seasons, challenges with engaging communities, low adoption of sustainable apiculture practices, difficulties in attaining a fair price for the honey produced, and high costs of modern beehives have hindered an adoption of apiculture that reflects its actual potential^{5,13}. In Makueni County, the local government has set the goal of increasing honey production as one of the targets in its Value Chain Development Plan, aiming to enhance agricultural productivity and engage an additional 1,200 farmers in apiculture¹⁴.

Traditional beekeeping is relatively easy to engage in, as it requires limited inputs and time, is suitable for different generations and genders, contributes to ecosystem services, and can be easily combined with other agricultural activities⁸. Broadly categorised, there are three different types of beehives commonly used in Kenya^{5,8,11}. The traditional log hive, made from hollowed-out tree logs that can be hung from trees, is the most common type of hive used (about 73%)^{5,8,13}. Between the traditional and modern hives are transitional hives, specifically the Kenyan Top Bar Hive and the Tanzanian Top Bar Hive, which can be easily constructed using wood and allow farmers to more efficiently harvest honey and honeycomb without disturbing bee populations^{8,11,15}. Finally, modern beehives, such as the Langstroth hive, are designed to cause minimal disturbance to the bees, allowing for smoother harvests and higher yields, but they require technical skills and inputs^{10,11,15}. Given the potential in apiculture, the modern hive has been promoted in government programs, by NGOs, and in various development initiatives⁸. However, the implementation of modern hives has had mixed

success, and the cost and technical knowledge required have been identified as barriers to their adoption¹⁵. Research has also shown barriers to the use of traditional hives. These barriers are shown to be especially prevalent for women and include a lack of skills, fears of bee stings and falling from trees while harvesting honey, as well as restrictive cultural norms¹⁶. To increase the adoption of sustainable apiculture, including modern beehives, research has argued that increasing access to training programs to improve technical skills and knowledge, access to markets and innovative value addition activities, as well as gender inclusion, would be steps that can improve the uptake and spread of apiculture^{5,10,12,16}.

The issues mentioned above have also been present in Makueni and in areas where the Chyullu Development Foundation operates, where deforestation for charcoal and timber has been extensive, but the adoption of apiculture as an alternative has been growing^{5,10,12}. Brokers have been exploiting the lack of farmer structures by buying honey directly from individual farmers at very low prices and selling it at much higher prices, thereby capturing the largest share of the profits. This issue could be prevented if a market organisation for the area were in place to protect the farmers and negotiate fairer prices for the honey produced on their behalf. Chyullu aims to provide such a structure for farmers and plans to form a marketing group that retains profits within the community, improves market access, and offers a means for farmers to organise. Alongside this, they work to improve access to the resources and support needed to employ sustainable agri- and apiculture, aiming to pave the way for climate-resilient farming, restored ecosystems, and the well-being and livelihoods of farmers.



About the Ukulima Bora, Mazingira Bora Initiative

The Ukulima Bora, Mazingira Bora Initiative (translates into Better Farming, Better Environment), is a specific initiative led by the Chyullu Development Foundation, C.B.O., that focuses on supporting rural small-scale farmers who live along the Chyullu and Tsavo conservation areas. The initiative collaborates with 400 beekeepers, focusing on apiculture and local food systems, particularly through capacity building in regenerative and climate-resilient agriculture. It helps small-scale farmers transition from conventional to holistic farming practices by incorporating various water conservation strategies, such as zai pits for soil rehabilitation and seedball broadcasting, to restore degraded land.

Looking ahead, the initiative plans to incorporate further actions, including the establishment of two demonstration farms and the implementation of grass reseeded and afforestation on 72 acres of degraded rangeland. Another objective is to have local farmer champions who can perform Training of Trainers (ToT). The initiative is interested in the value-added products of the farm, such as fruit and honey, by aggregating products from multiple farmers or beekeepers to create a larger group of marketable goods. The aggregation of products can help farmers get fair prices and access to larger markets. Lastly, the initiative wants to invest in the processing of raw materials to produce other products, thereby increasing their value. They also intend to develop a more efficient and interconnected cooperative structure for apiculture, allowing farmers to access support and resources while expanding into more diverse markets.

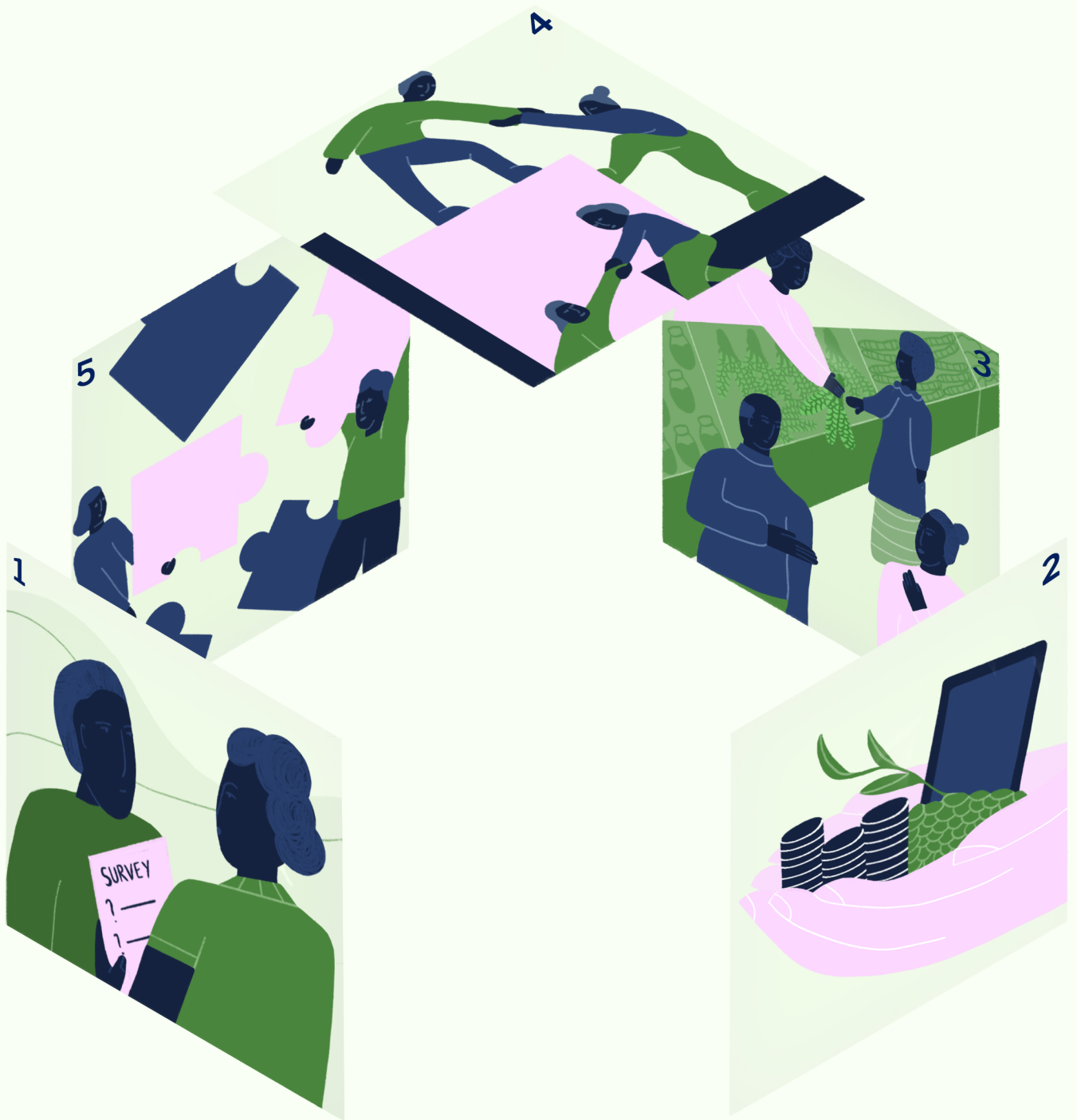
How does the Ukulima Bora, Mazingira Bora Initiative contribute to transformative change?

The initiative has contributed to several dimensions recognised as enabling transformative potential. However, this is manifested to varying degrees as their work focuses more on some dimensions than others. Importantly, the five dimensions of transformative potential we use in this analysis are not static,

and actions that fall within one dimension can support others and even be prerequisites for them. This is reflected in how various factors can drive transformations¹⁷⁻²¹. Through the Ukulima bora, Mazingira Bora Initiative, the Chyullu Development Foundation focuses on challenging existing power structures and norms in the agriculture sector while fostering and building community relationships and collaborations needed to support the work. The following sections will explore how the initiative takes action in the context that it is trying to change and how its activities might contribute (or not) to the five dimensions of transformative potential.



Fig 1 Framework: Seeds transformative potential



Navigating a context that can enable or constrain the initiative's action

1. Aligns with local and broader contexts

The Mazingira Bora Initiative aligns with the local context, as beekeeping is already a livelihood for many communities in Makeni County. After conducting an assessment of needs, they identified some of the main challenges of the community, both in terms of a lack of alternative livelihood options and unsustainable practices that lead to deforestation and ecosystem degradation. The initiative's approach to these challenges has been to build on knowledge and activities that are already embedded in the local context and familiar to the community, and then develop hybrid approaches where "old" methods can be complemented and improved by more modern techniques. One of the traditional beekeeping methods in this region involves creating log beehives by cutting a section from a dead or living tree, hollowing out the trunk, and closing the sides to form a beehive. These hives are low-cost, constructed from easily accessible materials, resilient to the semi-arid climate, and help preserve indigenous knowledge. One challenge associated with this method is that, although dead trees are often utilised for this process, in some instances, live trees are felled too, which contributes to deforestation. With transitional and modern beekeeping methods and practices becoming more popular and effective, the Mazingira Bora Initiative has identified an opportunity to integrate traditional forms of beekeeping with newer methods with the intent to increase productivity, reduce environmental harm, and build the capacity of beekeepers within the region. The initiative provides training, new research, and introduces new forms of technology to farmers. They assess existing beekeeping practices to create programs that align with people's needs while preserving traditional methods.

In addition to promoting new hybrid approaches to apiculture, the Chyullu Development Foundation recognised an opportunity to incentivise the return to regenerative agricultural practices by identifying human-wildlife conflict as one specific barrier to agriculture in this local context. The community they serve is situated near two National Parks, where, for many years, a lack of fencing would allow animals to easily move between the park boundaries and into the

village. Animals would trample crops or consume them, causing significant frustration and damage. On the other hand, community members would sometimes enter the park to hunt for meat or tusks and to cut down trees, practices that are unsustainable for wildlife populations and harmful to the ecosystem. This also caused dangerous encounters for community members and animals alike. The initiative identified these issues and engaged in advocacy to install fencing around the park, effectively restricting animal movement into the community and human movement into the park. With the animals now kept at bay, residents could return to agriculture without fearing crop destruction and loss of harvest and income. The initiative has therefore promoted the return to agricultural practices as an important livelihood source. As agriculture is an activity the community has practised for a long time, there was little resistance from community members to reintroducing this activity.

On a broader level, the initiative acknowledges the expanding scope of national governance and international systems, as well as a growing



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“...what our people used to do is that they get a big tree with a big trunk, they cut it down, maybe a dry tree or a green one, and then they make a hollow piece from the trunk, and then they enclose the trunk, and then that is where all the bees are that's what you call a beehive in the traditional aspect. Now, these days, that is also degrading the environment, because you have to cut down trees and make hives... So currently, there is a new technology of making hives that does not degrade the environment, and that gives the farmer better ways of harvesting and also handling the hives.”

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interest in sustainable agriculture. The Kenyan government, along with international partners, are advocating for beekeeping as a key element of rural development policies, which has led to a rise in apiculture-focused civil society organisations within the country. More private companies are emerging with a specialisation in apiculture, facilitating access to modern equipment and technologies. These broader movements create opportunities for the initiative to enhance collaboration, leverage local and international policies, and access vital resources.

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“There was tree cutting, which was the main source of livelihood for the people because trees were available. And there was poaching. Rampant poaching, both wild meat and elephant tusks, sometimes the rhino tusks. There was serious bad interaction between the humans and the ecosystem. And we were actually basically losing it, from my understanding, as a change agent.”
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2. Is enabled by resources and support

The Mazingira Bora Initiative is supported by various external resources, including both monetary and human resources, as well as support networks. This support is closely tied to building and fostering relationships and collaborations. By connecting to Regional Leadership Centres in East Africa, they have secured funding from large international organisations. However, the dependence on external funding is something that the initiative aims to be short term; the broader ambition for the initiative is that households engaging in beekeeping will eventually be able to generate an income for themselves from the honey produced, thereby creating a secure source of livelihood for those households involved. Along with other local organisations, they have established a Civil Society Organisation (CSO) forum. This forum brings together different organisations to co-create learning and action agendas and develop action plans to approach the government for support in various ways.

This is particularly useful, as obtaining resources or support from the government is often seen as especially challenging. The initiative recognised that the government tends to be slow in offering support unless there's a political advantage for them, or when there is pressure from the bottom up. Given this dynamic, the initiative has identified the need to develop strategies that will

enable it to stand out on the government's list of priorities. This involves aligning its objectives with those of other local organisations to provide a foundation of evidence for why government support is essential and gather around a joint voice to advocate for their needs. They also garner significant support and resources from their relationships and broader networks.

The initiative also provides resources and support. As part of its core activities, the initiative provides bee farmers with training and skills development in alternative forms of beekeeping techniques, introducing new technologies and aligning these innovative farming methods with traditional practices and tools. Due to the numerous challenges communities face, the initiative realised that community actors are interested in starting similar projects or advocacy efforts. This led to the start of a mentorship program, where the initiative supports individuals or CSOs in becoming local champions and potentially launching similar initiatives on topics they deem critical for themselves and their community. This allows the initiative to scale and expand their focus, and could potentially



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“We actually have a CSOs forum, where we co-create and meet our agendas together and discuss on the best way out. And with the possibility of resource mobilisation, we are also thinking of in future doing consortiums that can also give us a bigger budget. And that's also giving us a platform when we're engaging the government. When we engage the other bigger stakeholders, we also get a voice, [as we] sometimes [have to take on the]... social action part.”
Chyullu Development Foundation C.B.O

create more opportunities for bee farmers across several communities. Moreover, this may open up avenues for larger networks to form organisations centred on apiculture and improving rural livelihoods.

In the communities where the initiative operates, opportunities to acquire new knowledge on beekeeping, particularly incorporating modern, environmentally friendly technologies and practices, are limited. The initiative recognised that many individuals, specifically the youth, from rural areas seek higher education in larger cities to improve their livelihoods, as they often have limited options to do so in their villages. Although these individuals prefer to stay in their communities, where they have a strong sense of community, the lack of local opportunities forces them to relocate elsewhere. On top of this, there are few chances for them to return, share the skills and knowledge they have gained, and have a solid livelihood in their villages. To address this issue, the initiative created job opportunities for those who have left to pursue higher education to return and incorporate their newfound knowledge into traditional beekeeping practices. This approach not only offers an alternative career path for the youth but also enhances local expertise; it is a way that they give and generate new resources.

Actions employed by the initiative

3. Builds and fosters relationships and collaborations

As mentioned in the previous section, the Mazingira Bora Initiative actively builds and fosters relationships and collaborations among various actors. These collaborations span multiple scales and sectors, including partnerships with leadership centres, international NGOs, local governments, and CSOs. The Initiative benefits from and builds on previous experience and relationships, including the personal connections held by its members to seek and secure support for their activities. For example, it has utilised its connections to local leadership centres to foster further relationships with international NGOs for securing funding. The establishment of a CSO forum, described in the section above, is another example of how they are fostering key relationships and partnerships.

The initiative has emphasised the importance and value of building and fostering strong relationships. Through their long-term



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commitment to a community, they aim to establish trust and develop a deeper understanding of the local social and ecological systems at play. This sustained presence allows them to adapt and refine their initiative to better meet the specific needs of the community they engage with. It also nurtures trust with local government actors, who can observe the positive changes within the community. This trust and credibility also extend to international funders, who appreciate the value of the initiative’s grounded relationships. The initiative has formed a network of stakeholders who can provide resources and support to their activities, which includes CSOs, international NGOs, and, at times, the local government.

4. Enables changes in power structures and norms

Most of the actions conducted by the Mazingira Bora Initiative do not directly change existing power structures and norms, but they navigate these challenges as they arise in various ways. One such example is how the initiative navigates

the difficulties of working with and getting support from the local government. It has been observed that the government only shows interest in local-scale initiatives if there is a political angle that benefits them. Involving them in projects often presents drawbacks, as they may seek to modify the initiative to align with their own agendas, potentially conflicting with the initiative's original intentions or objectives. On the other hand, excluding the government from projects poses a risk that they might attempt to undermine the initiative, especially if communities develop favourable associations with the project that do not include the government. This stems from the observation that the government often does not favour local social and economic empowerment, viewing it as a direct threat to its institutional supremacy. This contradicts the core idea of the Mazingira Bora Initiative, which is to empower households to achieve self-sufficiency. To navigate this tension, the initiative has aligned itself with specific allies, including one trusted individual within the local government who respects the objectives of the initiative. This individual has a vested interest in both the government and the community, making them a valuable ally in balancing the tension of interests.

There are also individuals or groups within and around the community in which the initiative operates who act as gatekeepers, controlling who is allowed to enter or work with the community members. Clan leaders, often regarded as the elders of a community, hold significant power in



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“We don't fear them [gatekeepers], even when we go to new areas. We don't fear them, but we involve them.”
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decision-making. Some clan leaders are more focused on maintaining a higher status within the community hierarchy than on prioritising the best interests of their clan members. This poses a challenge for the initiative, as these leaders have sometimes resisted the efforts promoted by the initiative. Therefore, various strategies need to be implemented to engage gatekeepers while ensuring they are not using the initiative to only serve their own interests. One approach the initiative uses involves offering these leaders the chance to become part of the initiative and access its potential benefits while clearly emphasising that leaders who choose not to join will not be able to influence the initiative in any way. In this way, they prevent the appropriation of the initiative's benefits and control from local leaders to their own interests.

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“A kilo in the village is 10 shillings. A kilo in the city is 1,200 shillings. So by the broker being able to convince the farmer to sell at that low price, the broker is making almost 1,000 shillings”

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The beekeepers face the challenge of intermediaries who act as middlemen between them and customers wishing to purchase honey. The problem arises when the intermediary becomes the sole connection for the beekeeper to reach a market, as they then have the advantage of buying the honey from the beekeeper at a low price and selling it at a much higher price in the market. Consequently, beekeepers receive lower profits from this transaction. The initiative aims to affect this power dynamic by facilitating farmers' direct access to markets, which enables farmers to secure control over the production and price of their honey. The initiative aims to achieve this by connecting farmers with agricultural cooperatives. In these agricultural cooperatives, farmers can gain access to shared resources and training and receive fairer prices for their honey.

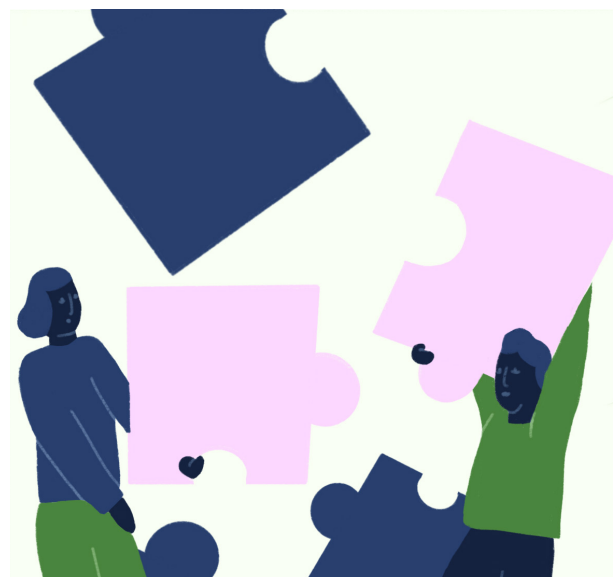
Lastly, the initiative faces challenges related to gender dynamics. In the region where the initiative operates, men hold significant power over communities and within individual households. Although women comprise the majority of participants in the initiative and are primarily involved in the training programs, they are often prevented from applying what they have learned without first obtaining permission from men in their households. This challenge is further complicated since men seldom attend the

training themselves, and therefore, they might not fully understand or support the changes proposed by the women. If men are not included, women's participation might therefore end at the training level. The initiative employs a strategy to address this dynamic by encouraging the whole household to participate in the training programs, emphasising the benefits the initiative offers to the entire household when both women and men take part.

5. Supports learning and systems understanding

The initiative conducts an assessment of farmers' needs before engaging individuals in the project. This assessment is conducted to evaluate farmers' knowledge of beekeeping and agriculture, as well as to identify their primary concerns and successes. In this way, the initiative aligns with traditional and existing forms of apiculture and agriculture, enabling them to tailor their approach to be more context-specific and aligned with farmers' needs. While this is a way of ensuring alignment with the local context (described above), this process also allows the initiative to gain a deeper understanding of the community's openness to the initiative and provides better insight into potential resistance to the initiative or any of its actions. This is also a space for mutual trust-building. The farmers gain a deeper understanding of the initiative and its intentions, while the initiative gains a more comprehensive understanding of the farmers, their intentions, challenges, opportunities, and interests. Additionally, the initiative focuses on enhancing traditional farming methods by providing farmers with training on integrating novel techniques and introducing new technologies into their agricultural practices, with the ultimate goal of increasing farmers' productivity.

The Mazingira Bora Initiative has learned, from past failures, including the importance of having a thorough and robust understanding of the problem it aims to address, and the factors contributing to that problem. To avoid unintended consequences or overlook root causes, the initiative recognised that addressing the lack of sustainable livelihoods also required focusing on ecosystem degradation. This insight led to their dual focus on both social and ecological issues. There is a recognition of the interconnected and interdependent relationship that exists between social and ecological systems, where changes in one affect the other. Due to this, the initiative



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“And so we do a baseline knowledge [assessment] to understand the community that we are working in. And from that, we are able to build on what is there, to incorporate what is new, with the teaching [building onto the] knowledge that the farmers have.”

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has carefully designed its actions to address existing harms while implementing actions which bring about both social and ecological benefits. The earlier-mentioned addressing of local human-wildlife conflicts and the hybrid approaches to beekeeping (where traditional and modern methods are mixed) are good examples of the importance of this awareness. Another important aspect of their holistic systems understanding was the observation that most similar development projects have a short-term mindset and are then handed over to communities with no plans for long-term support. Due to this, the Mazingira Bora Initiative acknowledged the importance of designing projects that can sustain themselves within a community, even in the absence of continued funding or external support. While this is not yet achieved, it is something they are actively striving for.

Transformative potential of the initiative...

1. Aligns with local and broader contexts

Aligning with the local context

- Conducted an assessment of needs to ground their understanding of the farmers' needs, challenges, and opportunities
- Led an advocacy movement to fence the wildlife park to mitigate the existing human-wildlife conflict. People were bearing the brunt of animals eating or destroying their crops/livelihoods, and individuals were engaging in unsustainable practices such as poaching.
- Integrated their work with existing practices, as people were already involved in agriculture and beekeeping.

- Encouraged the integration of traditional and modern beekeeping methods to increase productivity, reduce environmental harm, and build beekeepers' capacity. For example, postharvest losses could be minimised by incorporating new technologies or traditional beekeeping practices that involve reducing deforestation practices.

Aligning with broader policy and social trends

- Aligns with broader national and international interest in sustainable api and agriculture information, raise awareness, and connect with key audiences

2. Is enabled by resources and support

External resources and support

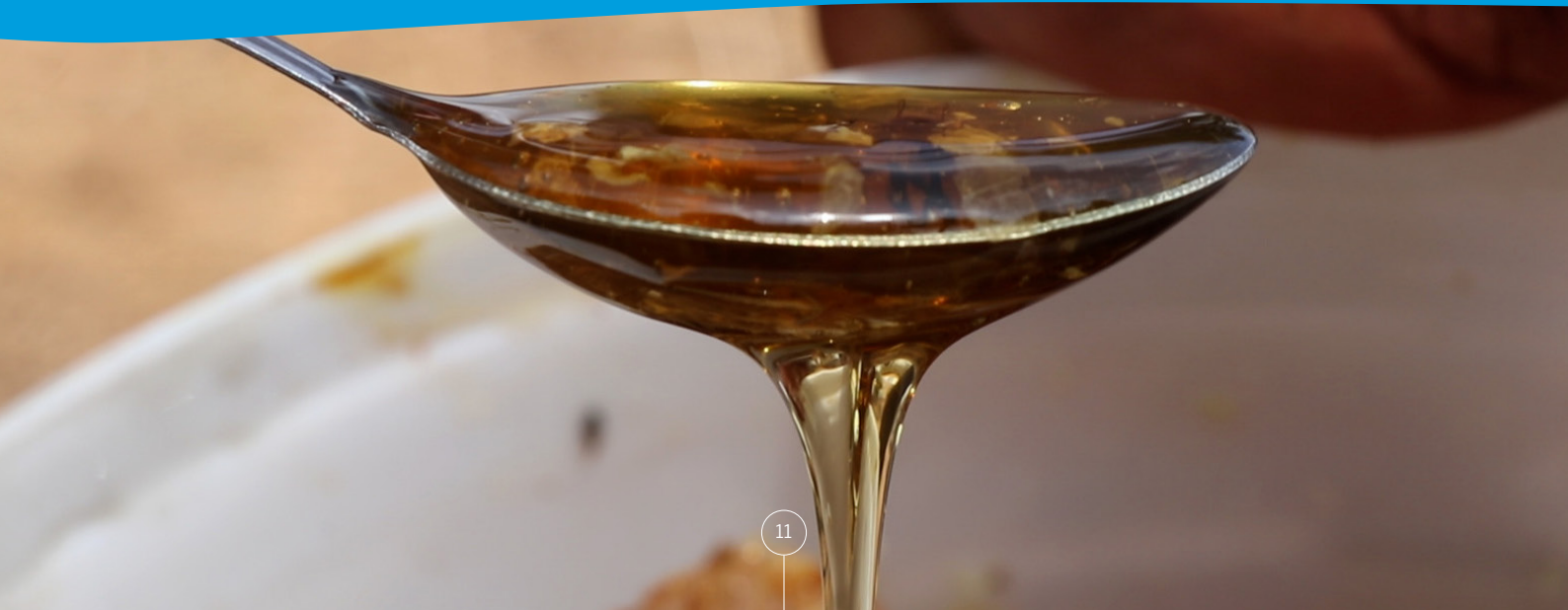
- Regional leadership centres provide networks to other like-minded actors who can potentially hold collaborative opportunities
- Large international funders support the initiative

Internal resources and support

- Team members have a deep local knowledge (human resources)

Resources and support provided by the initiative

- Created job opportunities for tertiary-educated youth to return and apply their skills within their villages/communities.
- Offer training and capacity building in new techniques, methods, or technologies for beekeeping
- Mentor other CSOs operating in Akwene County who have similar objectives



Transformative potential of the initiative...

3. Builds and fosters relationships and collaborations

Peer-to-peer relationships and collaborations

Has established a network of stakeholders with whom they collaborate and that provide assistance to the initiative, including:

- Bee Farmers, community members
- Clan leaders/Community leaders
- Local leadership centres
- Civil Society Organisations

Cross-scale relationships and collaborations

- Punctual collaborations with the local government

Cross-sector relationships and collaborations

- Collaborates and receives funding and support from international NGOs

4. Enables change in power structures & norms

Navigating power structures and norms

- They acknowledge the negative role of some gatekeepers (clan leaders, elders, community leaders) who are often in control of communities visibility, agenda, and resources often prioritising their own personal interest above the communities. The initiative addresses this power dynamic by allowing gatekeepers to participate in the initiative on the same terms as the farmers.
- The initiative try to involve the entire household in the project to increase the representation of women. While women make up the majority of the farmers who participate in the initiative's trainings, men still hold decision-making power within the household eventhough they are further removed from the farming needs and activities.
- Increases direct access to markets, by getting rid of the need for intermediaries, and empower farmers to set fair prices for their products.



Transformative potential of the initiative...

5. Supports learning & systems understanding

Community-centered understanding

- Throughout the duration of the initiative they use an assessment of needs to ground their understanding of farmer needs, challenges, and opportunities and to inform their approach
- Focuses on training, building on the community's traditional methods and mixing them with new techniques and technologies

Enabling collaboration and learning

- Hosts Baraza for meeting and learning across groups
- Organises and participates on a Civil Society Organisations Forum to interact with other organisations, co-create learning and action agendas and mobilise joint action.



Pathways forward

The Chyullu Development Foundation C.B.O has gradually built a strong network of local organisations and individuals committed to sustainable and ecologically grounded community development. The initiative's long-term commitment has created a foundation of trust between them and the communities they serve. They have built this trust through projects such as the Ukulima Bora Mazingira Bora Initiative, which addresses difficult conflicts between local livelihood sources and environmental sustainability and aligns their efforts with traditional forms of beekeeping already present in the community. These projects also offer a pathway for youth who have left the community to pursue higher education, enabling them to return and work with the activities supported by the initiative, applying their new knowledge and skills. This firm foundation has attracted attention and interest from often hard-to-engage institutions, such as the government and international funders. Chyullu's approach and methods have garnered significant interest to the point that other local CSOs seek their mentoring and guidance to adopt similar approaches. All these factors position the initiative as a possible catalyst for broader systemic influence.

While the initiative has built a strong network of organisations and actors within the community and region, there have been limited connections to broader-scale actors. Research suggests that developing connections to key individuals or organisations within different sectors and across broader scales can strengthen transformative potential^{22,23} and lead to increased impact. These cross-scale relationships can help secure resources, including finance and knowledge exchange, and provide key sources of resilience during crises. Research suggests that initiatives could map their existing connections to gain a nuanced understanding of their current relationship landscape and identify gaps or opportunities²⁴. This could be one potential approach to the Ukulima Bora, Mazingira Bora Initiative to identify both mutually supportive and strained relationships. It could also help identify areas where new relationships are needed and provide insights on where those potential partners might be located. Since other local organisations already look to the initiative for mentorship and coordination, they are well-placed to identify where new relationships could be formed and where existing ones could be strengthened.

Another important aspect of the initiative's work involves addressing a gendered dynamic where women, although actively participating in the initiative, often are hindered from applying what they have learned due to household power imbalances, as men hold decision-making authority. To support women's participation, the Ukulima Bora, Mazingira Bora Initiative invites men to join the programme as a way to include them in the process and build a shared understanding of the benefits the initiative brings not only to women but to the entire household. While these actions provide a valuable ground, we suggest that the initiative could go a step further. Several studies emphasise the need to address or challenge these underlying power and norms, as they often undermine transformative change by reinforcing the status quo²⁵. One suggested method to do so is to engage people in a dialogue-based process. This can foster mutual understanding, power sharing, and potentially open up possibilities for shifting harmful norms²⁵. This would include intentionally creating transformative spaces that are safe, inclusive, and co-designed, enabling the negotiation of different values and co-imagining alternative futures²⁶. Such space could be developed from the existing Barazas hosted by Chyullu, allowing both men and women to engage in joint visioning and reconsider household roles and responsibilities in a way that supports collaboration. These “transformative spaces” could also be extended to address other power dynamics, including those between the older and younger generations, where the elders often hold more influence and can act as gatekeepers. Within these intergenerational spaces, youth members who return to the community could share the knowledge and skills they gained through tertiary education, while the elders could pass on traditional local knowledge and wisdom. Research shows that true innovation comes from the weaving of “old” and “new” knowledge and through dialogue²⁷, these diverse knowledge systems could be integrated, potentially leading to the co-production of new innovative practices which are both locally relevant, sustainable, and practically implementable.

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