

## **Beekeeping in Kenya: Local Economies, Policy, & Environmental Justice**

As Kenya faces population growth<sup>1</sup> and climate change's unpredictable effects, smallholder farmers face income and food insecurity. Development programs focusing on apiculture, or bee keeping, have been instituted to address these issues. With Kenya having a substantial honey production as the third highest producer in Africa (taping 25,000 metric tons of honey annually<sup>2</sup>), beekeeping provides economic opportunities to the poorest socio-economic group throughout rural Kenya. Many honey supporters are located within the "Base of Pyramid" (BoP) – the largest but poorest socio-economic group living in rural areas without infrastructure, market & supply chain links, or access to formal employment opportunities.<sup>3</sup> Many of the BoP areas are located in arid and semi-arid lands which have low rainfall and high temperatures making it highly suitable for beekeeping.<sup>4</sup> This venture has attracted smallholder farms because of the practice's low initial investments and minimal land requirements, averaging 91,000 employees and 547,440 other Kenyans directly supporting the beekeeping industry.<sup>5</sup> This paper examines Kenya's apiary policies & development, its economic impacts, and ecological effects for smallholder farmers in Kenya.

### **Beekeeping Development**

Kenyan government's beekeeping initiatives date back to its colonial era<sup>6</sup> with additional organizations assisting the practice throughout the country. Kenyans adopted regulations to facilitate beekeeping within the country and its beekeeping sector is regulated by diverse legal statutes and mandates implemented by local governments. Foreign assistance organizations have also implemented programs that assist Kenyan beekeeping efforts.

### **Regulations**

Kenya has a dual federalism structure, a national body and a decentralized regional power structure where regional leaders hold power over counties. Kenya's national government has a body to oversee the nations' beekeeping practices and has made national attempts at regulating beekeeping. These attempts have been largely unsuccessful compared to the localized regional efforts in its counties.

The Kenya Ministry of Agriculture provides policy review and implementation for beekeeping.<sup>7</sup> The Kenyan government enacted the "Agriculture and Food Authority Act" in 2013 which regulated beekeeping as a part of crop farming, export, marketing and honey production. This act recognized beekeeping as a major agricultural activity. The Kenyan national government

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<sup>1</sup> USAID from the American People, "Kenya Nutrition Profile" [Kenya-Nutrition-Profile-Mar2018-508.pdf](#)

<sup>2</sup> The Kenyan Institute for Public Policy Research and Analysis, "Bee Bulking and Farmer Capacity Building in Bee Keeping: An Opportunity for Increasing Youth Employment and Food Security in Rural Areas" [bee-bulking-and-farmer-capacity-building-in-bee-keeping-an-opportunity-for-increasing-youth-employment-and-food-security-in-rural-areas](#)

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Kathila A: "Factors Influencing the Uptake of Beekeeping as an Economic Activity in Kenya: A Case of Farmers in Makueni County"

<sup>6</sup> Affognon et al., 2015

<sup>7</sup> (Rachlin, 2013) (2 pg 16)

introduced the Livestock Bill in 2021 which attempted to incentivize livestock farmers and regulate production & manufacturing by requiring beekeepers to register for a license to commercially operate.<sup>8</sup> The bill lacked public support because 1) beekeepers were located in drought stricken areas without the financial resources to pay for licenses and 2) beekeepers in these drought stricken areas relied on this economic mainstay to pay for basic needs.<sup>9</sup> The resulting public outcry had the measure withdrawn<sup>10</sup> and left beekeeping regulations up to local governments.

Kenya's decentralized government allows governors to separately implement policies<sup>11</sup> and have local zoning laws and health regulations requiring individuals to contact local authorities for compliance. The County government of Nyeri funded a beekeeping program providing \$1.8 million KSHS (approximately \$13,926 US dollars) for apiary kits. The kits included 10 beehives, aprons, smokers, and centrifugal pumps for extracting honey. These kits provided increased production for farmers in the amount of \$3.1 million KSHS (approximately \$22,740 US dollars) in the first two years. The program has received significant praise from the area's constituents as it has brought together the community and allowed the group to continue to diversify its income.<sup>12</sup>

### ***Global Partnerships & Funding: Honey Production and Environment Awareness***

Several foreign organizations have assisted the implementation and continuance of beekeeping by providing funding to Kenyans. The United States Agency for International Development (USAID) and global partnerships financially contributed to beekeeping programs and provided advanced training to increase honey yields. Other organizations have worked with local Kenyans to provide education on bees and honey in order to facilitate biodiversity.

USAID organizational goals include addressing global food insecurity and the global economy and has funded several beekeeping initiatives and environmental protection programs as part of its mission<sup>13</sup> and include the following programs:

- In 2020, USAID funded the *World Food Program* (WFP) and *Feed the Future Kenya Livestock Market System Activity* (LMS) which provided grants to beekeepers. These grants were used in Northern Kenya to expand honey production, acquire supplies, modernize their apiaries, provide access to workshops for new and advanced beekeeping, and provide support for centralization processing & packaging plants. As a result of these programs, families had the financial freedom and a pathway to sustainable retirement.<sup>14</sup>

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<sup>8</sup> The Standard [livestock-bill-to-sting-beekeepers](#)

<sup>9</sup> "Beekeepers Raise Concern Over Proposed Livestock Bill 2021" [beekeepers-are-raising-concern-over-proposed-livestock-bill-2021](#)

<sup>10</sup> Kenyans.Co.Ke, "Amos Kimunya Withdraws Controversial Bill After Uproar" [65706-amos-kimunya-withdraws-livestock-bill-after-uproar](#)

<sup>11</sup> IDEA, "State of Local Democratic Governance in Kenya" [state-of-local-democratic-governance-in-kenya-abridged-report.pdf](#)

<sup>12</sup> Nyeri County Weekly Review, "Nyeri beekeeping Farmers Earn Kshs 3.1 million" [ISSUE\\_43\\_-\\_NYERI\\_COUNTY\\_WEEKLY\\_REVIEW.pdf](#)

<sup>13</sup> USAID, "Pollinators: A Key Piece of the Development Puzzle" [Pollinators-key-piece-development-puzzle](#)

<sup>14</sup> ACIDI VOCA: Expanding Opportunities Worldwide, "A Beekeeping Venture Brings Hope to Pastoralist Families in Northeastern Kenya" [a-beekeeping-venture-brings-hope-to-pastoralist-families-in-northeastern-kenya](#)

The training provided to the beekeepers resulted in participants feeling empowered which consequently increased the quantity of their honey harvesting.<sup>15</sup>

- In 2021, the WFP provided grants and beekeeping supplies to Kenyans in arid and semi-arid areas. Seven men and five women were selected to strengthen the economic resilience of smallholder farms to withstand climate change. The grants encouraged smallholder farmers to invest in multiple sources of income through activities including beekeeping to cope with economic shocks<sup>16</sup> and additionally distributed around 9,000 beehives to smallholder farms in 12 arid and semi-arid areas within Kenya.<sup>17</sup>

Other organizations worked with Kenya's smallholder beekeeping farmers focusing on Kenya's biodiversity:

- In 2023, *Project Beehive* was funded by Corkees, a Netherlands based investment company, which provided the distribution of 1,000 beehives and beekeeping training to farming communities. This initiative, much like LMS and WFP, aimed to provide farmers with supplemental sources of income. However, *Project Beehive* additionally promoted the sale of honey wax and propolis to diversify honey commodities to benefit local communities and enhance pollination to a larger radius which supported biodiversity.<sup>18</sup>
- In 2024, Washington State University developed a collaborative community development program with the Maasai community to understand their existing beekeeping issues e.g. dealing with clever predators who ruin hives consequently threatening the community's sources of income. The program additionally partners with other villagers and brings everyone together to support World Bee Day, an internationally observed day established by the United Nations, to raise awareness of the importance of bees. The intent of this World Bee Day event is to 1) raise the awareness of the villagers' relationships between bees, hive health, and biodiversity and 2) promote economic possibilities and provide information and guidance to Maasai beekeepers.<sup>19</sup>

## Economic Impact

Kenya's growing population and issues with poverty create chronic food insecurity which contributes to its agriculture and marketing shocks.<sup>20</sup> Kenya's beekeeping has mitigated these effects by creating income generation opportunities among women. Kenya's smallholder honey

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<sup>15</sup> <https://www.acdivoca.org/2023/11/northern-kenya-youth-groups-fruitful-journey-from-drought-to-beekeeping/>

<sup>16</sup> World Food Programme, "World bee day: The honey collective abuzz with plans in Kenya" [world-bee-day-honey-collective-abuzz-plans-kenya](https://www.wfp.org/stories/world-bee-day-honey-collective-abuzz-plans-kenya)

<sup>17</sup> Ibid.

<sup>18</sup> DGB Group, "Corekees' Project Beehive: saving bees and supporting farmers in Kenya" [corekees-project-beehive-saving-bees-and-supporting-farmers-in-kenya](https://www.corekees.com/project-beehive-saving-bees-and-supporting-farmers-in-kenya)

<sup>19</sup> WSU Foundation, "Partnership with Maasai in Kenya through beekeeping" [partnership-with-the-maasai-in-kenya-through-beekeeping](https://www.wsu.edu/foundation/partnership-with-the-maasai-in-kenya-through-beekeeping)

<sup>20</sup> Springer Open, "Determinants of the competitiveness of smallholder African indigenous vegetable farmers in high-value agro-food chains in Kenya: A multivariate probit regression analysis Evans Ngenoh et. al." <https://agrifoodecon.springeropen.com/articles/10.1186/s40100-019-0122-z>

farmers also have the opportunity to expand their market income if they are able to overcome and navigate market barriers.

### ***Women and Beekeeping***

Women are shifting into the traditionally male dominated field<sup>21</sup> of beekeeping as locals discover its quicker return on investment than traditional cattle sales. Organizations have taken this opportunity to work with women and children to successfully integrate them into apiary practices.

Kenya is making incremental strides for Kenyan women to make a footprint in beekeeping opportunities.<sup>22</sup> The practice was initially seen as taboo and contrary to Kenya's customs and traditions.<sup>23</sup> However, the practice gained prominence throughout Kenya, but cultural barriers prevented women and children from beekeeping with their participation relegated to the value chain stages of stocking, packaging and transportation beekeeping products.<sup>24</sup> Two organizations, Honey Care Africa and Africa People and Wildlife have taken this opportunity to work and promote apiary practices which have provided a myriad of benefits to women.

Honey Care Africa's (HCA) beekeeping programs have largely contributed to women emerging into the field of apiculture. The beekeeping programs have provided women with income generating opportunities that benefit their children and families. These programs include beekeeping training, access to resources such as beehives, trucks, extraction equipment, motorbikes, and beehive management services to beekeepers. The HCA additionally provides guaranteed access to markets and competitive pricing. Many of the HCA beekeepers have used their additional apiary income to pay for their children's education, nutrition and healthcare access.<sup>25</sup> Due to women's increased income, children from the ages of 1-5 benefit greatly from the health and immunity boosting properties of the honey. Honey is known to be a super food in Kenya and is provided to young children to prevent illness. The most profound impact on children ages 0-8 stems from the increased ability for women to financially support their children from honey production.

Africa People and Wildlife's Woman's Beekeeping Initiative empowers women to develop and grow their beekeeping businesses. This program supports over 1,900 female entrepreneurs by providing seminars to learn business skills that are environmentally friendly and provides grants to the women after the completion of the courses. Rural women feel as though they have a sense of financial freedom and security due to the HCA empowering the woman to embrace self-determination in project choice. Many of the women HCA worked with chose the business

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<sup>21</sup> Firstpost Africa: "Kenya: Beekeeping Becomes Climate Change Lifeline For Maasai People" [watch](#)

<sup>22</sup> Dr. Matthew Muma, "Bee Bulking and Farmer Capacity Building in Bee Keeping: An Opportunity for Increasing Youth Employment and Food Security in Rural Areas" [Bee-bulking-and-farmer-capacity-building-in-bee-keeping-an-opportunity-for-increasing-youth-employment-and-food-security-in-rural-areas](#)

<sup>23</sup> AGDEV RESEARCH, "Cultural Barriers Toward Women and Youth Entry to Apiculture Production in Maara Sub-County, Kenya" <https://agdevresearch.org/index.php/aad/article/download/113/83/1435>

<sup>24</sup> Ibid.

<sup>25</sup> William Davidson Institute, "Diversified farm income, market facilitation, and their impact on children: an exploration of Honey Care Africa" [Child-Impact-Case-Study-3-Diversified-Farm-Income-Honey-Care-Africa.pdf](#)

venture of beekeeping working to create an environmentally friendly space which became their philosophy<sup>26</sup>

### **Market Potential**

Kenya's honey production, like other smallholder farmers in high value agricultural food chains, face issues participating in market competition. Enhancing Kenya's competitiveness in smallholder farmers to conduct complementary and integrated investments can serve as a means of reducing overall poverty in the nation<sup>27</sup> and diversifying income by selling by-products like beeswax, royal jelly, propolis and bee venom for producers of skincare, cosmetic, health, and medical products.<sup>28</sup>

Kenya's quality and manufacturing issues include low productivity, prior product quality, lack of compliance with standards, high transaction costs and lack of networks of agricultural products<sup>29</sup> and is exemplified through Kenya leaving 80% or 100,000 metric tons of honey untapped.<sup>30</sup>

Addressing these problems requires many interventions and includes multiplying honey bees, organizing marketing strategies, enhancing the product sustainability, advocating and partnering with local governments to support opportunity, and incorporating beekeeping in the primary and secondary education system.<sup>31</sup> Other studies suggest that fixing the access to information and promoting a mobile phone-based program to access real-time information and banking services can overcome information and resource restraints. Fixing information access would improve competitiveness, shift production technologies into market-oriented production to diversify farm enterprises, and ultimately obtain high returns to reduce production costs and improve the quality of products.<sup>32</sup> Improving conditions for beekeeping farmers in Kenya has the potential to scale production beyond local demand, address quality barriers, and meet the acceptable standards in Europe and the Middle East to sell internationally.<sup>33</sup>

### **Ecological Impact**

As discussed, climate change, marked by prolonged droughts, unpredictable rainfall and extreme weather events, has compelled farmers to adopt diverse beekeeping methods to enhance food security and support their livelihoods.<sup>34</sup> These apiary efforts have provided indirect benefits to pastoral lands including increased food security through crop production.

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<sup>26</sup> Africa people and Wildlife, "Woman's Beekeeping Initiative" [womens-beekeeping-initiative](https://www.womens-beekeeping-initiative.org/)

<sup>27</sup> "Determinants of the competitiveness of smallholder African indigenous vegetable farmers in high-value agro-food chains in Kenya: A multivariate probit regression analysis Evans Ngenoh et. al." <https://agrifoodecon.springeropen.com/articles/10.1186/s40100-019-0122-z>

<sup>28</sup> George Mulinga Kathila A: "Factors Influencing the Uptake of Beekeeping as an Economic Activity in Kenya: A Case of Farmers in Makueni County" [6453/george%20final%20mapp%20project%20report.pdf?sequence=1&isAllowed=y](https://www.researchgate.net/publication/345374533_Factors_Influencing_the_Uptake_of_Beekeeping_as_an_Economic_Activity_in_Kenya_A_Case_of_Farmers_in_Makueni_County)

<sup>29</sup> "Determinants of the competitiveness of smallholder African indigenous vegetable farmers in high-value agro-food chains in Kenya: A multivariate probit regression analysis Evans Ngenoh et. al." <https://agrifoodecon.springeropen.com/articles/10.1186/s40100-019-0122-z>

<sup>30</sup> BBC, "The Untapped Potential of Honeybees" <https://www.bbc.com/future/article/20190507-honey-bees-africas-untapped-resource>

<sup>31</sup> Firstpost Africa: "Kenya: Beekeeping Becomes Climate Change Lifeline For Maasai People" [watch](https://www.firstpost.com/kenya/kenya-beekeeping-becomes-climate-change-lifeline-for-masai-people-20190507/)

<sup>32</sup> "Determinants of the competitiveness of smallholder African indigenous vegetable farmers in high-value agro-food chains in Kenya: A multivariate probit regression analysis Evans Ngenoh et. al." <https://agrifoodecon.springeropen.com/articles/10.1186/s40100-019-0122-z>

<sup>33</sup> George Mulinga Kathila A: "Factors Influencing the Uptake of Beekeeping as an Economic Activity in Kenya: A Case of Farmers in Makueni County" [6453/george%20final%20mapp%20project%20report.pdf?sequence=1&isAllowed=y](https://www.researchgate.net/publication/345374533_Factors_Influencing_the_Uptake_of_Beekeeping_as_an_Economic_Activity_in_Kenya_A_Case_of_Farmers_in_Makueni_County)

<sup>34</sup> Firstpost Africa: "Kenya: Beekeeping Becomes Climate Change Lifeline For Maasai People" [watch](https://www.firstpost.com/kenya/kenya-beekeeping-becomes-climate-change-lifeline-for-masai-people-20190507/)

Using bees as protection and for pollination has increased crop production for smallholder farmers. Beekeepers in arid areas face the threat of pests destroying their crops and have placed beehive fences to deter these pests. According to a nine-year study conducted by the University of Oxford, the bee fences deterred elephants, who would eat and stomp crops, from destroying an annual average of 86.3% of crops.<sup>35</sup> In addition to crop protection, the use of beekeeping facilitates crop pollination and increases a farmer's crop revenue to 40%. The decreased demand for alternative income sources like wood and reduces the need for farmers to cut trees down which prevents deforestation in these areas and preserves its forest inhabitants.<sup>36</sup>

## Conclusion

Kenya's adoption of beekeeping demonstrates the population's innovative way to adapt to climate change and provide a sustainable future for individuals. Smallholder farmers are embracing beekeeping as a strategy to diversify their income as well as developing innovative ways to utilize honey and its byproducts. In a historically male dominated field, women are now entering the apiary business and creating opportunities to benefit their children and families. Programs designed for women have empowered them through self determination to create sustainable income that provides a myriad of benefits. Kenya's environmental and socioeconomic conditions for beekeeping additionally benefits Kenyans land and has encouraged the introduction of several beekeeping programs funded by external organizations within Kenya's farmland and forested areas. These beekeeping programs have helped to address food insecurity and income gap issues in Kenya. The introduction and continuance of Kenya's beekeeping programs provide additional ecological benefits such as improved pollination, which boosts crop production for smallholder farmers and crop protection. By incorporating beekeeping into agricultural practices, smallholder farmers are fostering economic resilience, environmental conservation, and gender empowerment.

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<sup>35</sup> University of Oxford: "New study confirms beehive fences are highly effective in reducing human-elephant conflict" [2024-10-30-new-study-confirms-beehive-fences-are-highly-effective-reducing-human-elephant](#)

<sup>36</sup> Equator Initiative, "Honey Care Africa" [https://www.equatorinitiative.org/wp-content/uploads/2017/05/case\\_1348161137.pdf](https://www.equatorinitiative.org/wp-content/uploads/2017/05/case_1348161137.pdf)