



2020

Green Business Market Study

Opportunities for Green Business in
Makueni, Kajiado and Vihiga Counties

S U M M A R Y R E P O R T



Welthungerhilfe (WHH) aims to improve people's lives sustainably in the long term, using the principle of "empowering people to help themselves". WHH, a German non-governmental organization with a presence in Kenya, has over three decades of experience supporting Kenyan development organizations to improve livelihoods through the promotion of sustainable and resilient agriculture, access to clean water, environmentally friendly energy supplies and improving health and education. WHH has supported organizations and communities across Kenya, with their main intervention areas in Kenya being mainly in arid and semi-arid lands (ASALs).

WHH is in the process of designing a TVET project that will contribute to local and economic development in Kajiado, Kakamega, and Makueni counties by focusing on green skills growth and enterprise development in areas such as organic agriculture, safe food, green trade and renewable energy. The initial concept is to establish and grow Green Businesses and Eco-Entrepreneurship which will connect different functions of green value chains and eventually increase employability opportunities for women and youth in these three rural counties in Kenya.

In order to assess the viability of the proposed project, a feasibility study was carried out in May/June 2019 in Kakamega, Kitui, Vihiga, Makueni and Kajiado counties in Kenya. At the county level, Breinscope Consultants Limited carried out a mapping and capacity analysis of civil society organisations and social enterprises with experience in green skills, which were suitable as training facilities and later as "green colleges." In addition, interviews were conducted with women and youth groups, local agripreneurs/practitioners and representatives of relevant actors in the education sector at the national and regional level. Key recommendations for the successful implementation and sustainability of the project are:

1. Support the strengthening of curricula for selected private training facilities for green skills especially in courses such as post-harvest loss reduction, nutrition and food security, and value addition. The trainings should also include financial literacy, social life skills and group dynamics. This will reduce skills mismatch and ensure graduates are employable in marketable trades.
2. Enhance training to cover financial literacy and business management for the employees of the identified training facilities to be able to pass on the corresponding competences to the young people and women during their education.
3. Map all successful local agripreneurs/practitioners as mentors to support the training and establishment of youth- and women-led green businesses.
4. Connect with the experienced local agripreneurs/practitioners to engage them to train apprentices in their green businesses.
5. Establish networks and partnerships with governmental structures, training institutions and private stakeholders for training support to leverage additional interest and investment from the private sector to make the intervention cost-efficient and sustainable.

The results of the feasibility study confirmed that there is a huge unemployed youth population that, given the right opportunities, could be the drivers for Kenya's economic development. The agriculture sector is fast growing as a source of employment even as productivity is constrained by lack of skills. Even so, there are very few young people involved in farming as an occupation/business. This is mainly because the youth lack access to social networks, entrepreneurship skills and mentorship opportunities. The majority of TVET institutions found in the counties provide low quality skills training leading to a mismatch between the supply and demand of the skills provided.





In order to deepen our understanding of Green Businesses in the three project counties, two research efforts that complement each other were carried out before the project implementation. The first was a market evaluation whose objective was to confirm the opportunities for green business in the project counties and to understand the value chain. The second was a baseline survey to assess the capacity of select TVET institutions to support green skills development and the capacity of community members (particularly women and youth groups) to engage in green businesses.

The main goal of the study was to investigate the attractiveness and dynamics of green agribusinesses in Makueni, Kajiado and Vihiga counties and the value addition required in the food industry for women and youth. In order to achieve the above goal, the study was to realize the following objectives:

- To understand the existing skill gaps in the value chain that prevent youth and women from starting their own agri-enterprises along green business value chains
- To evaluate the readiness and capacity of TVET institutions to offer green courses
- To analyse the strengths, weaknesses, opportunities and threats (SWOT Analysis) that exist and can have an impact on green businesses

The study used a mixed methods approach that combines qualitative and quantitative data viewpoints, data collection and analysis. This approach was selected because of its ability to give a voice to participants and ensure that study findings are grounded in participants' experiences. By mixing the two approaches, triangulation of information was possible, thereby enhancing data integrity. In addition, the research was carried out using the survey research design because of its ability to capture the complexities of the issues being investigated using relatively small samples. In order to identify successful agripreneurs who could act as mentors, the survey also conducted a few case studies. The following are the specific tasks that were undertaken:

- Available evidence and insights generated within WHH projects was reviewed. Projects with potential for scale up were also reviewed.
- Desk review of the existing models and approaches for agribusinesses in Kenya with youth and gender lenses. The literature reviewed covered agribusinesses at national and county level.
- Identified potential agribusinesses that can offer attachment to students undertaking courses in green businesses. The study also analyzed the challenges and risks associated with the identified agribusinesses.
- Analyzed the value chain from inputs such as seed, to growing the crops and everything added before the product is sold.
- Based on the evidence and need, prioritized the most important skills that green jobs require.
- Addressed feedback received from WHH, ADS and the government.

For the market survey, key informants included:

1. Anglican Development Services (ADS) field officers
2. Youth (18–35 years with a minimum primary education) not in education, employment and training (NEET)
3. Successful youth agripreneurs (individuals and groups)
4. Successful women and men agripreneurs (individuals and groups)
5. Respective County Directors of Agriculture

In total, 399 respondents (214 female and 185 male) participated in the survey and 138 interviews were carried out. The findings from the study are summarized in the following sections.

Research Findings

Main Agricultural Activities

The survey sought to establish the main agricultural activities carried out by the residents of Kajiado, Makueni and Vihiga counties. Table 1 shows the distribution of main agricultural activities carried out by the residents of Kajiado, Makueni and Vihiga counties. Farmers identified more than one agricultural activity taking place in their counties hence the grouping of activities based on the number of times an activity was mentioned.

Table 1: Main Agricultural Activities Carried Out by the Residents of Target Counties

	Main Agricultural Activity by County	Percentage (%)
Kajiado	Livestock	22.2
	Fruit trees (oranges, mangoes)	3.7
	Kales, spinach, maize, beans, sweet potatoes, bananas, pumpkin, watermelons and sugarcane	37.0
	Tomatoes and onions	20.7
	Varied agricultural activities	16.4
	Total	100.0
Makueni	Cowpeas, green grams, maize and sorghum, peas, vegetables, tomatoes, finger millet, njahi (black beans) and pepper	32.5
	Fruit trees mangoes	20.5
	Poultry and livestock	15.5
	Varied agricultural activities	31.5
	Total	100.0
Vihiga	Sweet potatoes, soya beans, cassava, groundnuts and avocado	38.8
	Tea tomatoes, vegetables, maize, beans and bananas	23.0
	Livestock keeping, fish farming, bee keeping and poultry	17.3
	Varied agricultural activities	20.9
	Total	100.0

In all the counties, farmers planted crops and also kept animals. With regard to crop farming, farmers in Vihiga and Kajiado planted similar crops. They planted vegetables like tomatoes, indigenous vegetables, potatoes, etc. Makueni planted more legumes than any of the other counties (njahi or black beans, cow peas, green grams, etc). Maize and beans were planted in all the counties. Ground nuts were only planted in Vihiga. All the three counties kept poultry and livestock. Fish farming and beekeeping were agricultural activities predominantly carried out in Vihiga County.



Reasons for Selection of Type of Agribusiness & Untapped Opportunities

The study sought to establish the reason as to why the respondents were engaged in a particular type of agribusiness. A third (33.3%) of the respondents in Kajiado, 29.5% of respondents from Makueni and 22.8% respondents from Vihiga counties chose the particular types of agribusiness because they could sell the products and also consume the produce at the family level. This was followed by 29.6% of the respondents from Kajiado, 23.0% of respondents from Makueni and 11.4% of respondents from Vihiga counties who indicated that they chose that particular type of agribusiness as the profits from the sales were good. It is worth noting that 22.9% respondents from Vihiga, 22.2% of respondents from Kajiado and 7.5% of the respondents from Makueni were not sure why they are carrying out that particular type of agribusiness. One of the reasons could be because they simply copy what the other farmers are doing.

The respondents were further asked to identify other agribusiness opportunities in their villages in addition to growing crops and selling them directly from the farms. Slightly more than a third (38.3%) of respondents from Kajiado, 26.2% of respondents from Makueni and 9.6% of respondents from Vihiga County identified dairy farming as one of the agribusinesses available in their villages. Greenhouse farming came second with 23.4% of the respondents from Kajiado, 5.3% of respondents from Makueni and 12.4% of respondents from Vihiga identifying this type of agribusiness. A considerable percentage of the respondents also felt that beekeeping, poultry keeping, fruits farming, fish farming were among other agribusinesses that existed in their villages in addition to growing crops and selling them directly from the farms. When finally selecting the type of agribusiness to support, the project should have these types in mind.

The respondents were further asked to indicate the reasons as to why many farmers are not seizing existing agribusiness opportunities in their villages. 22.2% of respondents from Kajiado, 13.1% of respondents from Makueni and 20.1% of respondents from Vihiga counties indicated that lack of skills and knowledge was the major reason as to why there were not many people in their villages taking up those opportunities. 18.5% of respondents from Kajiado, 7.8% respondents from Makueni and 11.5% respondents from Vihiga counties indicated that capital – and not knowledge and skills – was the main challenge. A considerable percentage of the respondents from Kajiado (29.6%) and Makueni (34.1%) felt that inadequate rainfall was the main challenge preventing farmers from taking up the agribusiness opportunities in their villages. Other challenges include small sizes of land (Kajiado 3.7%, Makueni 5.2% and Vihiga 5.7% of respondents), lack of a common market, and pests and diseases among others.



Existing Skill Gaps For Agri-preneurs In The Green Business Value Chain

The study sought to identify from the respondents gaps that exist in the value chain (from selection of seeds to sale of the farm produce) that prevent women and youth from starting their own agribusinesses. Post-harvest loss has been identified as one of the gaps in the value chain. In order to better understand post-harvest loss, the respondents were asked to explain what they did with the crops once they were harvested.

When asked what happens to the produce from harvesting to sale or consumption, 66.6% of the respondents from Kajiado, 29.0% respondents from Makueni and 37.2% from Vihiga counties indicated that they dry, treat and store for consumption. This was followed by 45.6% of respondents from Vihiga, 36.9% from Makueni and 29.7% of respondents from Kajiado who indicated that they produce the crops for direct consumption. This is not surprising as most of the farmers are subsistence farmers due to the small sizes of farms. Only 28.9% of respondents from Makueni and 8.6% of respondents from Vihiga indicated that they preserve their produce waiting for prices to improve before selling. The project needs to take note of this and invest in training farmers to increase their produce by introducing better farming methods, ensure farmers access quality seeds, financial literacy to equip farmers to budget their money and constantly save as a way of economic empowerment.

In this study, only 11.1% of the respondents from Kajiado, 10.5% from Makueni and 25.7% from Vihiga counties indicated that they only lose 10% of their produce. At the design stage, the project may seek to establish the methodologies such farmers are using and incorporate their practices into the training. Traditional methods of preservation if in use should also be incorporated in the project.

In Kajiado, farmers talked of losing their animals between July and December due to drought. Over the last couple of years, drought has been persisting for over two years at a time and many animals have been dying. Drying and packing hay into bales without losing nutrients would ensure few animals died because well-packaged hay can stay for years. However, this is not a popular method of preserving grass in Kajiado.

The study also sought to establish why farmers lose their produce. Table 2 presents their responses.

Table 2: Reasons for Post-Harvest Losses

	Kajiado	Makueni	Vihiga
Pests and diseases	25.9	39.5	22.9
Poor storage	3.7	15.7	34.4
Late harvesting	11.1	5.3	2.9
Lack of capital	29.6	7.9	-
Lack of market	-	-	14.3
Heavy rains during harvesting	-	-	8.6
Undecided	29.7	31.6	16.9
Total	100.0	100.0	100.0

Additionally, the respondents were asked to explain gaps that exist in the agricultural value chain, from seeds to sale, that prevent women and youth from starting or engaging in agribusinesses. Pests and diseases are the main gaps that prevent youth and women from starting agribusiness across the three counties (28.6% of respondents from Vihiga, 15.6% from Makueni and 14.8% from Kajiado counties). This was followed by 23.7% from Makueni, 20.2% from Vihiga and 5.2% from Kajiado who cited lack of agribusiness skills. Other gaps that exist in the value chain (from seeds to sale) that prevent women and youth from starting or engaging in agribusinesses included high cost of farm inputs, lack of capital, inadequate rainfall, high cost of labour, poor means of transport, inadequate land, among others.

The respondents were probed to indicate whether the gaps in the value chain were an issue of quality of products, reliable supply and demand, reliable markets or credit for financing. 22.2% of the respondents from Kajiado, 28.9% from Makueni and 22.9% from Vihiga counties felt that the major gap was an issue of cheap prices. This was followed by 14.8%, 18.4% and 31.6% from Kajiado, Makueni and Vihiga counties respectively who felt that it was an issue of credit for financing. On average, the majority of the respondents across the three counties (24.7%) felt that cheap prices are the major gap that prevent youth and women from starting agribusiness.

The respondents were further asked to indicate the kind of support they required to improve their type of agribusiness. 28.6% of respondents from Vihiga, 11.1% of respondents from Kajiado and 10.0% of the respondents from Makueni counties indicated that they needed agribusiness skills in order for them to improve their agribusinesses. Other supports identified were market access, certified seeds, irrigation schemes, pesticides, financial support, good infrastructure, farm machinery, soil testing, and high breed cattle.

Prior Training on Agri-preneurship

When the respondents were asked whether they had received prior training on agripreneurship, 44.7% of the respondents from Makueni, 28.6% from Vihiga and 7.4% from Kajiado counties indicated that they had received prior training. However, about 70% of all the respondents could not remember the year they were trained or how long the training was. The majority (88.9%) of the respondents from Kajiado were not sure whether they had attended such training or not. This may be because they were either not familiar with the terminology or most likely had not. The majority of respondents (60.0%) from Vihiga, 28.9% from Makueni and 3.7% from Kajiado counties indicated that they had no prior training on agribusiness. The courses will therefore need to be designed to start at the beginner's level. With regard to a suitable time to attend the proposed training, the responses were varied and generally covered the entire year. Without a preferred time when training can happen, the project should be at liberty to select the most convenient time to schedule training. However, many of the target farmers are women who may not have adequate time to attend long training so this should be considered during the program design.

Mentorship

When asked if they would allow their farms to be used as a demonstration farm for mentoring young people, a vast majority (91.4%) of the respondents from Vihiga, 65.8% from Makueni and 55.6% from Kajiado counties would allow their farms to be used as demonstration farms where the youth could go for mentorship. 44.4% of respondents from Kajiado, 28.9% from Makueni and 8.6% from Vihiga counties indicated that they were undecided on the idea. The above responses indicated that the project already has a ready pool from which it could select mentors.

Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

The study sought to analyse the strengths, weaknesses, opportunities and threats that existed and that could have an impact on green businesses in the three counties. Table 3 presents the SWOT analysis.

Table 3: SWOT Analysis of Green Business

Strengths	Weaknesses
<ul style="list-style-type: none"> Field presence of ADS Kenya staff in the counties Other ongoing WHH projects in the counties Numerous agribusiness practitioners willing to partner and mentor the TVET graduates Ideal climate for agribusiness in the counties Counties' Directorates of Agriculture willing to collaborate for success of the project 	<ul style="list-style-type: none"> Youths believe that agribusiness is a last resort Lack of county-based initiatives that directly promote youths in agribusiness Lack of requisite agribusiness knowledge and skills Failure to get startup capital for agribusiness Small pieces of land or failure to access land owned by elderly men due to cultural norms Poor transport infrastructure in rural areas
Opportunities	Threats
<ul style="list-style-type: none"> Availability of markets for agricultural-based produce Link agribusiness to county-based cooperatives for issuance of growth credit Job creation for majority of unemployed youth and women Agricultural finance and insurance Reduction of post-harvest loss Value addition of agribusiness produce to fetch more for practitioners 	<ul style="list-style-type: none"> Lack of enough rainfall leading to prolonged droughts Too much rainfall leading to floods Insecurity in some areas leading to theft of the produce Unforeseen diseases and pests including desert locusts

In the three focus counties of Kajiado, Makueni and Vihiga, the presence of ADS Kenya staff coupled with ongoing WHH projects is a key strength in regard to project monitoring. The perception by young people that agriculture is a career of last resort, one of hard work and low returns in terms of monetary benefits is a major weakness which should be addressed appropriately. Opportunities exist in availability of markets for agricultural produce while unpredictable weather patterns due to reliance on conventional rain is a major threat.

Readiness and Capacity of TVET Institutions: Baseline Survey

The purpose of the baseline survey was to identify and establish Technical and Vocational Training Institutions (TVETs) that offered agribusiness-related courses. During this exercise, a total of 21 TVETs (5 in Vihiga, 1 in Kakamega, 1 in Kitale, 2 in Kiambu, 1 in Nakuru, 5 in Makueni and 6 in Kajiado) were surveyed. It is worth noting that six (6) of the surveyed TVETs had also been visited during the project feasibility study. These 6 TVETs are:

1. Bukura Agricultural Training
2. Manor House Agricultural Centre
3. College of Sustainable Agriculture
4. Latia Agripreneurship Institute
5. Miramar International College
6. Baraka Agricultural College

The six institutions have agriculture-related courses as their flagship courses. They offer lunch to their students. Apart from Latia Agripreneurship Institute, the other five colleges provide accommodation for their students. Beside the College of Sustainable Agriculture which is relatively new, the remaining five colleges were ideal for mentors' training and TVETs networking.

All the institutions visited were willing and open to partnership in delivery of Green Business project. The baseline survey, confirmed that the six institutions identified during the feasibility study are appropriate for offering green skills curricula and TVETs networking. In addition, they are open for any form of partnership including partnering with WHH to develop courses that meet the project's objectives.

In Makueni County, two of the institutions visited claimed that they offered Agribusiness-related courses. However, there was no indication that this was the case. However, Makueni Agricultural Training College may be considered for possible collaboration.

In Vihiga County, the project may consider the following institutions for collaboration. They include (in order of merit):

1. Kaimosi Friends Vocational Training Centre
2. Maseno Vocational Training Centre
3. Lotego Friends Vocational Training Centre

Bukura Agricultural Training Centre in Kakamega County which neighbors Vihiga was rated as the best for possible collaboration in Vihiga County.

In Kajiado County, Latia Agripreneurship Institute was rated as the best for possible collaboration. Beacon of Hope Training Institute was also ideal. The only disadvantage was that it was far from the targeted beneficiaries.



Recommendations

Agriculture remains in the hands of old people of about 55 years old with more women than men in the sector despite having the greatest potential for employing the youth. On the other hand, youth feel that agriculture is a last resort, is labour intensive with low yield. A lot of work needs to be done to change this perspective.

There exists untapped agribusiness potential in all the three counties. Beekeeping, poultry keeping, rabbit keeping, fruits farming, and fish farming were among other agribusinesses that existed in villages in addition to growing crops and selling them directly from the farms. However, lack of skills and knowledge, lack of capital, small pieces of land, inadequate rainfall, lack of a common market, pests and diseases, infertile soils and theft are a hindrance to farmers. The following set of recommendations aim to help unlock this potential:

- Train farmers on agribusiness skills. These skills include marketing, financial literacy, costing, laws of supply and demand, and entrepreneurship. Capacity-building initiatives should also involve training of the graduates in developing bankable proposals for improving their resource mobilization capacities.
- Training and mentorship of farmers in modern methods of farming. A curriculum that offers innovative and effective farming methods should be developed and delivered in an inclusive way. Part of the curriculum may include: selection of high-quality seeds and animal breeds; use of organic farming and if pesticides must be used, farmers should be trained on the best type of pesticides and how to use them; irrigation methods or hydroponics and how to store crops post harvest. The project may consider selecting mentors from the list of respondents who indicated that they would wish to become mentors. They would mentor the first crop of farmers who would in turn mentor others, making the project more sustainable.
- Link farmers to financial services as many cited lack of capital as a major challenge to their ability to tap into existing agripreneurship. The other option is to support the farmers with initial capital to establish a revolving fund. A revolving fund is preferred as interest charged would be low and is more sustainable. However, more data need to be collected on existing models to learn from them. Explore possible linkages with NETFUND to leverage on funding from innovative green businesses and support in terms of networking and knowledge exchange.
- Take advantage of existing networks to form cooperatives that would market their produce directly so as to fetch better prices. Farmers can collect their produce at a central point from where the middlemen would buy the produce as opposed to at the farm gate in order to increase prices.
- Link farmers to markets. Organizing farmers into networks is not enough. WHH and ADC may consider connecting organized farmers to markets which is one of the weak links in the value chain.
- Focus energy of a select set of crops and animals. The project should work with farmers to select the types of crops and animals that would be the center of focus. Spreading too thin by selecting a wide array of farming activities will make the project ineffective. In addition, there will not be enough mentors to take responsibility for too many activities.
- Address negative perception by the youth towards farming is impeding them from taking up agribusiness. The project needs to develop a robust advocacy plan to counter this. Radio and barazas were identified as the most effective channel for communicating to the youth, the most popular radio station and the most popular presenters should be used for maximum effect.
- Involve the private sector in the planning, development and implementation of green business projects such as the market players, traders and established social entrepreneurs.
- Conduct sensitization and advocacy campaign on green business opportunities for financial institutions to advocate for green business-sensitive financial products development.
- Leverage on ongoing initiatives like soil rehabilitation and conservation in Western Kenya, entrepreneurial development of the dairy value chain in Vihiga County and strengthening resilience of agro-pastoralists to expose TVET graduates to modern low-cost technologies for green business growth.



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