

ANALYSIS OF PROMISING MARKETS AND IDENTIFICATION OF INCOME OPPORTUNITIES FOR WOMEN IN THE KERICHO COUNTY

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1. CONTEXT OF THE STUDY

Women in Rural and Agricultural Kenya

Kenya is the largest economy in the East African Community (EAC), with an estimated Gross Domestic Product (GDP) of **USD 101.01 billion, accounting for 40% of the GDP of the region** (World Bank, 2020). It is also the only EAC country classified as middle-income. The Vision 2030 development strategy, established in 2008 to meet long-term and sustainable development challenges, has enabled it to achieve this ranking and to raise the growth rate from 3.7% in the 2000 decade to an average of 5.9% in the 2010 decade (WB). This performance results from massive public investment in infrastructure, particularly transport and energy, designed to accelerate the country's integration into world trade. Despite the progress made - lowering the poverty rate and developing digital, banking, and financial services - underemployment and unemployment have increased considerably since 2016 (from 2.8% in 2016 to 5.7% of the unemployed/working population in 2021, WB), the share of informal employment is very high, not to mention the chronic food insecurity and nutritional problems.

Kenya is a service economy; the tertiary sector is predominant and represents more than 53.6% of the national GDP (WB, 2020), while the agricultural sector (23% of the GDP in 2020, WB) concentrates two-thirds of the active population and 80% of the rural population (International Fund for Agricultural Development). The country has a well-developed agricultural sector (cereals, pulses, tubers, fruits, and vegetables) and agribusiness (milk, tea, floriculture, sugar, etc.). In addition to providing livelihoods - employment, income, and food security needs - **the agricultural sector accounts for 65% of exports** (IFAD). Kenya's main exports are tea (the world's largest exporter by volume), horticultural products, and coffee. But **Kenyan agriculture is now threatened by global warming**. Almost all agricultural production is rain-fed. The increasing incidence of drought and irregular rainfall could significantly impact the sector. Natural resources are being degraded; combined with high population growth, poverty remains high and mainly affects women who are responsible in this patriarchal society for providing food, water, and wood for their families.

Women play a vital role in the agricultural value chain in Kenya, but they do not benefit to the same extent as their male counterparts. The agricultural value chain often perpetuates gender stereotypes that confine women to precarious, low-paying jobs. Women often face less favorable employment conditions than men; they are commonly hired as temporary or casual workers, while men predominate in permanent positions. They are mainly hired for labor-intensive, relatively unskilled manual tasks, while men's jobs often involve machines. Most women focus on agricultural production to the detriment of other stages of the value chain, which are often more profitable and occupied by men. In addition, women often work in the food sector, while men work in export crops. As a result, women are underrepresented in skilled jobs and perform routine activities. This division of labor almost systematically results in higher wages for men and "legitimizes" lower wages for women.



As a result, women have limited opportunities to learn new technical and entrepreneurial skills, which increases the risk of layoffs if their jobs are automated or if men are favored in technical training. Beyond lack of training, Kenyan women almost always have less access than men to assets, credit, services, markets, and information about new technologies, consumer preferences, and export requirements. This lack of access reduces their chances of investing in profitable income-generating activities that provide a stable and sustainable income. In addition, women face constraints determined by competing demands on their time. Their long and busy days must be divided between household chores, childcare, fetching water and wood, and agricultural activities. Weak rural infrastructure (roads, transportation, water, electricity, sanitation) disproportionately burdens women with unpaid domestic and childcare tasks. These inadequate infrastructures reduce the time they can devote to paid work/earning activities outside the home. Women's access to the market is often limited due to the lack of childcare or sanitation facilities in the markets and because of cultural restrictions on their movement outside their communities.

Unequal power relations within the household may also affect the benefits and incentives for women to enter value chains if this involves providing unpaid labor on family farms run by husbands or male relatives. Opportunities to grow their crops for sale or to have wage employment in an agribusiness may improve their bargaining position so that they can reduce the time spent doing this unpaid family work or provide part of the household income.

FOCUS ON KERICHO COUNTY

Kericho County is one of the 47 counties of the Republic of Kenya. It is located in the southern rift of the Great Rift Valley, about 256 km from Nairobi, the capital of Kenya. The county occupies a total area of 2,479 km² and forms a hilly plateau between the Mau Escarpment and the lowlands of Kisumu County.

Geographical and Geological Features:

- Kericho County is located in the **Lake Victoria** basin, and **volcanic rocks** characterize its geology.
- Several rivers drain the county: Chemosit, Kiptaret, Kipsonoi, Timbillil, Maramara, Itare, Nyando, Kipchorian, and Malaget. Some have rapids and waterfalls that could be exploited for hydroelectric power generation.

- Parts of the county are hilly, which promotes soil erosion. But this disadvantage is minimized by the dense vegetation cover except for a few areas, such as Sigowet in the Soin-Sigowet sub-county, Chilchila in western Kipkelion, and partially the low areas covering Koitaburot in the Ainamoi sub-county.
- The county enjoys a favorable climate and receives relief precipitation, with moderate temperatures of 17°C and low evaporation rates. **Temperatures range from 10°C to 29°C.**
- The rainfall pattern is such that the central part of the county, where tea is grown, receives the highest rainfall of **about 2,125 mm per year**, while the lower parts of Soin and parts of Kipkelion receive the lowest rainfall of 1,400 mm per year.
- The county is well positioned to benefit from the various markets provided by neighboring counties, as it has robust state and county roads that connect it to the rest of the counties.

Agricultural work

- The average farm size in the county is 0.9 ha for smallholders and 14 ha for large holders. The large farmers are mainly multinationals who use the land for tea and flower cultivation. The smallholders are engaged in subsistence farming and animal husbandry.
- **A large percentage of people work in multinational companies** such as tea factories and flower farms.
- Self-employment accounts for over 50% of employment in the county. The county's leading contributors to this type of employment are people working on their farms, kiosks, and wholesale trade. These people spend most of their time plowing, harvesting, and raising livestock for their livelihood.
- 53.4% of the county's population is economically inactive.
- **The primary income source for Kericho County people is agricultural products such** as tea, pineapples, coffee, sugarcane, potatoes, corn, and horticultural crops (employment in 33 multinational companies).

Gender Equality

Like the rest of Kenya, the county experiences gender-related disadvantages in three dimensions: reproductive health, empowerment, and the labor market. The Kenya Human Development Report (2009) indicates that **the county's overall Gender Inequality Index (GII) was 0.451**. The GII for the Rift Valley is 0.4943. However, it is not equal everywhere, as the region has disparities between counties and sub-counties. Kericho County acknowledges this in its report entitled "Improving gender equity and reducing gender disparities will benefit all sectors and thus contribute to sustainable economic growth, poverty reduction and social injustice."



2. REMINDER OF THE OBJECTIVES

General Objective

This mission aims to **identify and collect information on entrepreneurship opportunities for women in the agricultural and agribusiness sector**, particularly by researching data on promising sectors and markets, business opportunities, and from examples of profitable business models.

Specific Objectives

Specifically, the information research was organized around the following questions:

- a. What are the value chains with high market potential (local/regional, national or international), with strong job creation and income generation opportunities?
- b. In terms of accessibility in relation to cultural norms, technical barriers (training, technical knowledge, access to means of production, access to information, etc.), and financing possibilities, what are the accessible and profitable sectors for women who want to develop their activities?
- c. What are the specific barriers and needs for women's empowerment in these sectors?

3. METHODOLOGY OF THE STUDY



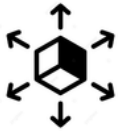





The methodology used was **mainly based on a literature search and the study of recent publications**. After having exchanged with several local actors (NGOs, cooperatives, smallholders, etc.) and after having used the Kericho County document entitled: "Second Generation County Integrated Development Plan 2018-2022", we identified a certain number of promising sectors with high employment potential. Then, based on our own knowledge of the area and our desk research, we added some sectors. We identified the following sectors: coffee, tea, aquaculture, beekeeping, poultry, tree nursery, forest products, dairy, horticulture, tourism and wildlife, and commercial businesses to guide our information search.









We therefore sought documents on these sectors from the Ministry of Agriculture, inter-professions in the sector, grassroots organizations in the sector, as well as NGOs that intervene to support these sectors.

We were thus able to exploit different categories of documents, in particular commodity chain studies, strategic commodity chain development plans and documents from commodity chain stakeholder organizations.

On the basis of these documents, we studied each commodity chain according to **four main criteria: market access and profitability, commodity chain structure, entrepreneurial opportunities for women, and constraints and obstacles**. By completing this grid with other criteria, this study compares the value chains and produces a ranking. Finally, it concludes with our key findings, elements that we would like to highlight in order to shed light on this ranking and to deepen it.

3. RANKING

	Potential Benefit	Launch costs	Ease of distribution	Global market	Climate smart	Little need for training	Access for women	Chance of success
								
Poultry	++	++	+++	--	+++	++	+++	+++
Dairy farming	++	++	+++	--	+++	++	+++	+++
Tree nursery	++	++	++	--	+++	-	++	+++
Beekeeping	++	+	+++	--	+++	-	++	+++
Cereals, fruits & vegetables	++	++	+++	+	++	++	++	++
Commercial Businesses	++	-	+++	--	++	+	+++	++
Agroforestry & forest products	++	++	++	--	+++	-	-	++

	Potential Benefit	Launch costs	Ease of distribution	Global market	Climate smart	Little need for training	Access for women	Chance of success
								
Tourism & Wildlife	+	++	+	+++	++	+	++	++
Fish farming	++	--	++	-	++	--	-	+
Coffee Chain	++	+	+++	+++	-	-	-	+
Tea Chain	++	+	+++	+++	-	-	-	-



5. IDENTIFIED SECTORS

The Tea Chain

Market and Job Creation Potential

Kenya is said to be the 3rd largest supplier of black tea in the world behind China and India and by far the largest tea producer in Africa. Kenyan tea is renowned worldwide for its quality and safety due to the industry's adherence to good agricultural practices (no pesticides or agrochemicals), good breeding practices and selection of high-quality varieties, skillful processing practices (no additives, preservatives, and artificial colors), continuous improvements due to investments in modern technology and R&D, commitment to global and national food safety standards (ISO, HACCP, KS1927) as well as compliance with environmental and social market requirements (FTE, fair trade, etc.).

Tea has become a pillar of the Kenyan economy: Tea is one of the primary sources of foreign exchange, contributing to about 23% of total foreign exchange earnings and 2% of agricultural GDP. Each year the country produces over 450 million kg of tea, earning over KSh120 billion in exports and KSh22 billion in local sales. The industry, directly and indirectly, supports about 5 million people, while 650,000 tea farmers depend on tea, making it one of the country's major sources of income. Tea is grown mainly in the highlands west and east of the Rift Valley, at an altitude of between 1,500 and 2,700 meters above sea level, in 19 counties, including Nakuru, Narok, Kericho, Bomet, Nyamira, Kisii, Kakamega, Bungoma, Vihiga, Nandi, Elgeyo Marakwet, Trans-Nzoia, Kiambu, Murang'a, Nyeri, Kirinyaga, Embu, Tharaka-Nithi and Meru. In these regions, the crop enjoys 80% favorable weather conditions, such as well-distributed rainfall of 1200 mm to 1400 mm per year, in addition to its tropical volcanic soils.

Unlike other countries, Kenya produces tea all year round with minimal seasonal variations in quantity due to its location along the equator. Specialized in producing industrial black tea, the country produces mainly very basic tea, packed in bags and made using the so-called CTC (crush, tear, curl) method, which allows for the blending of varying qualities of tea and the production of little waste. The CTC method has made the fortune of some Kenyan producers, but today it no longer corresponds to market demand. As a result, prices for this tea have collapsed, and black tea is overproduced: Kenya produced 493,000 metric tons in 2018, a national record amidst declining demand; it produced nearly 540,000 metric tons of tea in 2021. The country is now called upon to diversify its production to meet a change in demand.

Organization and Actors

Production is shared between multinationals and small-scale producers. Both sectors have benefited from many scientific advances in tea cultivation. However, average yields in the small-scale sector are lower than those in the plantation sector, which stand at about 1800 kg ha⁻¹. Despite the disparities in yields, the small-scale sector has achieved higher quality standards, resulting in consistently higher auction prices. The industry is the largest private sector employer, with over 80,000 people working in the estates and approximately 3 million people deriving their livelihoods from the sector. The Kenya Tea Development Agency (KTDA) has a membership of 600,000 smallholders and manages 68 tea processing plants.

Constraints, Obstacles, and Needs

Several adverse forces currently threaten the tea industry. The first threat comes from the weak trend in the export price of tea. This export price problem is a consequence of the increase in global tea exports, which has occurred faster than global consumption. Over the past decade, there has been a steady oversupply of tea on the world market, resulting in lower auction prices. The imbalance between world supply and demand is in the range of 1-2%; with a small domestic market of about 1,000-2,000 tons, it is not easy for Kenya to absorb 2% of its exports (5,000 tons).

The most worrisome problem is the danger of rising production costs. Labor costs in Kericho are twice as high as in Uganda. The daily rates paid by small producers in rural areas are half those offered on the plantations. Some low-yielding tea areas are already in severe deficit, and it is only a matter of time before they are taken out of production. In other words, there could be a loss of production and employment.

Although tea-growing districts receive adequate amounts of rainfall, periods of drought affect production, resulting in large fluctuations in production. Fluctuations in production can range from 285 million kilograms to 300 million kilograms. Fluctuations in production contribute to the decline in real income from tea.

The lack of credit facilities is also a significant concern for small-scale producers. Poor infrastructure, unreliable electricity, and high costs of fuel and packaging materials further increase production costs. The ban has hardest hit Mills on obtaining fuelwood from the forest. They depend on firewood for tea processing. Since the ban was enacted three years ago, factories have been forced to obtain fuel from farms where trees are scarce and sold at exorbitant prices.

In addition, negative publicity by some churches is a challenge the tea industry must overcome. Brokerage companies also contribute to the loss of income for farmers. In Kenya, there are 11 tea brokerage companies. Most growers wonder why brokers are allowed to get more than growers when they are only involved in selling the finished product. The recent tax reduction on soda, soft drinks, and mineral water makes these beverages preferable to tea. If local consumption were to be doubled, it would mean that an additional 5% would be taken off the world market, and the price would undoubtedly improve.

Coffee sector

Market and job creation potential

Among African countries, Kenya is the 5th largest producer of coffee behind Ethiopia, Uganda, Ivory Coast, and Tanzania. According to data from the International Coffee Organization, the country produced about 775,000 60 kg bags in 2020.

Kenyan coffee is grown in 33 counties in Kenya, with the central growing regions including; Nairobi, Kiambu, Muranga, Nyeri, Kirinyaga, Embu, Meru, Machakos, Makueni, Taita Taveta, Kajiado, Nakuru Kericho, Nandi, Uasin Gishu, Elgeyo Marakwet, Baringo, Trans Nzoia, West Pokot, Narok, Bomet, Kisii, Nyamira, Migori, Homa Bay, Kisumu, Siaya, Busia and Bungoma. The estimated area of coffee production in Kenya is 119,617 HA (2019), and the number of trees at nearly 204 million (2019). Most of them are grown at altitudes around 1,400 to 2,000 meters above sea level on volcanic soils whose land is rich in minerals and nutrients. In this regard, Kericho County offers optimal conditions for coffee cultivation.

Kenya exports about 95% of its coffee to many international markets, with the US and Germany accounting for the most significant volumes. Its coffee is world-renowned for its quality; it is one of the only countries to produce 99% Arabica coffee and the second largest producer of African Arabica coffee behind its neighbor, Ethiopia. The main coffees grown are Bourbon, SL 28, SL 34, K7, Ruiru 11, and Batian. Kenya's AA-grade coffee beans - the largest beans with more aromatic oils - are considered some of the best specialty coffees in the world and are grown at altitudes above 2,000 meters. The remaining 5% of Kenya's coffee production is consumed domestically. And while tea consumption remains high in Kenya, the number of people drinking coffee is increasing.

According to Statista, Kenyans consumed about 500 tons of coffee in 2009. However, by 2020, that number will have more than tripled to over 1,500 tons. The U.S. Department of Agriculture (USDA) estimates domestic coffee consumption in Kenya will reach 43,000 60 kg bags by the end of 2022. The growth of the Kenyan middle class in urban areas is believed to be driving coffee consumption, most likely due to their increased disposable income. Just like in the classic European coffee culture, Kenyans prefer to spend several hours in coffee shops to socialize.



Organization and Actors

70% of Kenyan coffee producers are smallholder farmers organized into cooperatives and factories to which they deliver their coffee cherries. They are usually paid after the purchase is completed, based on weight and quality, and after deducting the cost of inputs they may use during the year to run their farms. Cooperatives own the wet processing plants and handle the entire process (usually washing) from pulping to drying. They can also facilitate access to inputs, fertilizers, and chemicals and organize training sessions for farmers. The coffees are then graded by the Kenya Coffee Producers and Traders Association (KCPTA) before being traded through a central auction managed by the Nairobi Coffee Exchange.

Women's Empowerment Opportunity

The coffee industry in Kenya includes many small farms and cooperatives as well as large estates. In total, 6 million Kenyans are involved in the country's coffee industry, with farms that include between 50 and 500 trees. The coffee sector is traditionally and historically dominated by men who inherit the land. Within the coffee value chain, women are confined to the most time-consuming and arduous production tasks (picking, weeding), often without pay. Women could benefit significantly from coffee production if they started planting coffee plants on their own land. They could then grow their own coffee and belong to cooperatives that would allow them to get a fair price.

Constraints, Obstacles, and Needs

In general, the coffee sector is experiencing several difficulties. It is now an aging sector that no longer attracts the new urbanized generations. Soils are being depleted, especially since coffee is a high demand for nutrients. Climate change leads to insufficient and unreliable rainfall, which reduces the quality and quantity of yields. Pests and diseases such as leaf rust, coffee fruit disease, and root rot destroy crops and reduce yields. Available land faces competition from other well-paying crops offered by the horticultural sector, so expansion of coffee farms is limited. Farmers may also be discouraged by fluctuating world market prices, high prices for agricultural inputs that reduce their profit margins, or a weak domestic market.

Women also lack access to essential resources: time, land, finance, training, and self-confidence. These elements were developed in the "gender analysis" deliverable.

Fish Farming

Market and job creation potential

Fish is consumed everywhere in Kenya: in homes, hotels, restaurants, and roadside eateries... The demand is thus very high while the fish reserves of Lake Victoria are depleting; Kenyans then turn to Uganda and China to buy Tilapia fish, the most sold species. As a result, Kenya imported 22,362 tons of fish in 2018 for 1.7 billion shillings from China. Beyond fish, lobster is shipped to China and is increasingly in demand in the Kenyan market, as more and more Chinese in Kenya eat it in restaurants.

Kenya sees aquaculture as a real economic opportunity. The current annual fish production in Kenya is 400,000 tons, while the annual demand is 600,000 tons. With a minimal supply of fish farming in sub-Saharan Africa, Kenya could take advantage of favorable climatic conditions and untapped land and water resources. Current fish production in Kenya is 400,000 tons, while annual demand is 600,000 tons.

Due to their relatively low cost, Kenyan aquaculture production is mainly based on ponds. Intensive fish farming technologies such as cage culture, recirculating culture systems, and aquaponics are uncommon due to the high infrastructure cost and complex knowledge required to operate them. The main species grown in freshwater systems in Kenya are Nile tilapia, which accounts for about 80% of production, followed by African catfish (*C. gariepinus*), which contributes about 14%. These species are fast-growing, found in virtually all aquatic systems, suitable for the cage, tank, and pond aquaculture systems, and high demand in local and regional markets.

Kericho County believes it has excellent potential for development in aquaculture. Semi-intensive systems make up the bulk of Kericho's aquaculture production. There are 1,100 individual fish farmers with 800 fish ponds occupying an area of 240,000 square meters. Its climatic diversity and natural features would favor the cultivation of a wide variety of species, but it is trout farming that the county wishes to focus on.

Women's Empowerment Opportunity

Until then, fishing was the prerogative of men, but marketing was left to women. Women are investing in processing, retailing, and local trading: small-scale processing and trading in local markets require relatively little investment, generally have low operating costs, do not require great physical strength, and can be done without specialized training. These activities provide employment opportunities for a large number of women. Many of these women are from the lower classes of society, often illiterate, lacking work experience, and lacking the capital to engage in other activities.

Constraints, Obstacles, and Needs

The development of aquaculture may require considerable investments in terms of infrastructure but also feeding, and training. The development of fish farming is mainly supported by Kenya, which has been launching projects for several years to boost the sector (September 2019, \$135 million project).

Tourism and Wildlife

Kericho County has several notable tourist attractions: Forternan Museum, Chebulu Conservation, Reresik Caves, Tulwap Kipsigis, Bagao Caves, Chagaik Arboretum, Kapkatet Kipsigis Cultural Museum, Mau Forest, Agro-tourism (tea plantation areas), Tagabi Monkey Sanctuary and other private farms offering camping facilities, such as Chesumot Farm. The county can also attract visitors for its wildlife: a variety of butterflies, reptiles, monkeys, antelopes, elephants, and birds. It also has conservation areas: the Tagabi Monkey Sanctuary, Mau Forest, and the Fort Ternan Museum. A total of 800 tourists visit the attractions each year, 300 local and 500 foreign tourists. According to Kericho County data, tourists come from Asia, North and South America, Europe, and parts of East, North, and South Africa. Many activities can also be enjoyed in the forests, including forest walks, hiking, bird and butterfly watching, cycling, running, and picnicking. From the capital, there are various means of transportation to Kericho, including the North Rift shuttle bus that connects Nairobi to Kericho in about 4 hours.

Agroforestry and Forest Products

The county has agricultural forests that provide various products, from honey to lumber, firewood, building materials, medicinal herbs, pottery clay, pine gum, fruits, resins, and game. Agroforestry and farm forests are IGAs: farm forestry involves the promotion of commercial trees that grow with crops and livestock on farms. In the county, farmers engage in commercial tree planting, particularly as a source of income. Exotic trees include eucalyptus, gravellia, Nandi flame, Mexican green ash, pine, Hekea saligna, D.caffra, Acrocarpus fraxinifolia, Cupressus lustanica, and cypress. Eucalyptus is used as an energy source by tea factories and electric poles, while cypress has various uses, such as construction, furniture making, etc. The native species are Dombeya geotzenii, Olea Africana, Sizygium spp, Croton spp, Markhamia lutea, and Prunus Africana. The market demand for tree products is high, which has motivated farmers to engage in it.

It should also be noted that agroforestry and farm forests benefit crops. Tree litter decomposition and pruning can contribute substantially to the maintenance of soil fertility. Agroforestry can also control water runoff and soil erosion, reducing water losses, soil materials, organic matter, and nutrients. Fruit trees are also encouraged to improve nutrition and canopy cover.

Commercial Businesses

Women now develop other commercial activities to increase the family budget. Some are allowed to run a kiosk or a small store to make purchases/resales; others become hairdressers or tailors. These micro-businesses are an essential source of income for women because they are the ones who manage the business most of the time.

Demand is high as most basic consumer goods are sold in small stores. The prevalence of a particular type of business is a good sign of high demand. Popular kiosks sell food: women buy grains and legumes (beans, peas, and green seeds) in bulk at wholesale prices, then sell small quantities to their neighbors. Others sell charcoal, a popular source of cooking fuel, buy wood in bulk and sell small quantities. Finally, some women cook and sell snacks such as chips, chapati, mandazi, cakes, and popcorn.

These activities require little capital and are therefore easy to start, which explains a large number of outlets today. Although the law requires anyone engaged in business activity to obtain a business license, the very small-scale nature of home-based businesses means that they do not attract much attention from the authorities.

The main risk is bad credit. Sellers sometimes have no choice but to sell their goods on credit and may be forced to dip into their funds or borrow from relatives when customers are slow to pay their bills.

Cereals, Fruits & Vegetables

In Kericho County, fruits and vegetables are grown on a small scale for home use and sale. Fruit production for sale has increased in the county since the 2010s. Most farmers grow at least ten fruit trees on their farms. The fruits grown are high-yielding, such as mangoes, avocados, passion fruit, and bananas.

Maize, beans, and tomatoes are also widely grown during the long rainy season. In Kenya, maize is the main staple. In the country, cereal supply fluctuates with the weather due to the dependence on rainfall and the low level of irrigation. The cultivation of maize as a rainfed crop is now under threat. For several years now, the maize sector has been underperforming in recent years due to low and erratic rainfall. Sorghum, millet, and peanut crops can take over because they do not require irrigation.

Crop rotation allows for conservation agriculture, which ensures soil protection. In addition, intercropping of legumes with cereals is encouraged.

Tree Nursery

Market and Job Creation Potential

The demand for seedlings is high in Kenya and saves many farmers time and money. Nurseries thus have a high potential for profitability.

Fodder tree seedlings are particularly sought after. These trees are more nutritious and drought resistant and can supplement grass during the dry season when farmers import fodder from neighboring counties (especially Nakuru). High market demand has motivated farmers to engage in this activity.

Nurseries tend to diversify the seedlings to be planted and adapt them to the seasons. Trees are part of this and are in demand to develop agroforestry and curb soil erosion. Eucalyptus, gravellia, Nandi flame, Mexican green ash, pinus, Hekea saligna, D.caffra, Acrocarpus fraxinifolia, Cupressus Lusitania, and cypress are among the trees planted. Eucalyptus is used as an energy source by tea factories and electric poles, while cypress has various uses, including construction and furniture making. Vegetable and fruit seedlings (cabbage, tomatoes, etc.) are also grown.

Women's Empowerment Opportunity

Women and youth run some nurseries, and they offer to mentor and teach skill-building in agriculture to make it an income-generating activity. Training is a prerequisite to ensure quality seedlings: pest and disease detection and management, watering of seedlings using drip technology and thinning and hardening of plants.



Beekeeping

Market and Job Creation Potential

Beekeeping is already practiced in Kenya, but its exploitation remains largely traditional. The country produces about 100,000 tons of honey, which is only 20% of its potential. Kenya has great potential for beekeeping in several ways. 80% of Kenya's land is arid and semi-arid, which provides a perfect climate for beekeeping due to abundant flora, such as acacia trees. The demand for pure natural honey is increasing in Kenya, making beekeeping a good investment opportunity. In addition, beekeeping requires little labor, and many products can be derived from beekeeping, such as honey, beeswax, propolis, bee venom, and royal jelly. Honey has a very long shelf life, and bees also help farmers by pollinating plants and crops, thus increasing yields. Beekeeping has the potential to improve the livelihoods of not only the producers but also other local people, in addition to the beekeepers themselves, who make and repair the necessary equipment locally.

Organization and Actors

Several organizations support beekeeping development, such as the Apiculture Platform of Kenya. A group of stakeholders came together in 2003 to form the Kenya Honey Council, a private non-profit intermediary organization. Its main objective is to promote and facilitate the growth and expansion of the Kenyan beekeeping sector to foster economic growth and poverty reduction. It also promotes awareness and education on beekeeping and bee products. The Ministry of Agriculture and Livestock in Kenya has helped strengthen the economic status of Kenyan beekeepers by working on the regulation of the beekeeping industry (controlling cross-border trade in honey, protecting bees from health hazards, and providing funds that will help research beekeeping production to improve the quality of honey produced and meet international standards for quality honey)

Constraints, Obstacles, and Needs

Inputs can be expensive, especially hives, but these can be self-made from salvaged materials and cost very little. The major challenge is the lack of start-up capital and training. Beekeepers without the capital to expand their businesses are limited to small-scale production. This results in them selling raw honey and thus getting meager prices in the market, which hurts their livelihoods.

Dairy Farming

Market and Job Creation Potential

In Kenya, the dairy industry is one of the pillars of the rural economy. The authorities are betting heavily on this sector. According to Margaret Kibogy, Chief Executive Officer of the Kenya Dairy Board (KDB), the government plans to increase annual raw milk production to 12 billion liters by 2030. This would double the current supply of between 5.5 and 5.8 billion liters.

The sector is growing dynamically at a sustained rate of 5% per year thanks to new investments by private companies. For the government, the increase in production is mainly aimed at meeting the rising demand in the country, which is the leading African consumer of milk per capita with an annual volume of 120 liters per capita, or triple the continental average (37 liters). To meet its needs, the country obtains milk from other suppliers in the East African region, such as Uganda, a surplus producer.

Organization and Actors

More than 80 percent of milk production is carried out by smallholders, mainly cattle, camels, and goats. According to WTO data, Kenya's dairy industry provides livelihoods to 1.8 million rural households and generates 700,000 jobs in the value chain.

Growth in milk production is encouraging the development of the dairy value chain. While men mostly own animals, women can reclaim ownership of milk and be allowed to explore the added value of milk for their business activities. More and more women are starting to produce yogurt, for example. Women can manage their yogurt production because the milk belongs to them, and men cannot infringe on these rights either. Women can thus defend the cultural acceptance of their IGA. It should be noted; however, that young rural women are often disadvantaged in dairy marketing processes due to prohibitive standards and practices.

Constraints, Obstacles, and Needs

Several challenges lie ahead. First, the performance of dairy production depends on the effects of climate change-increasing the risk of droughts and floods-on grazing dairy farms. Periods of intense heat have already reduced the amount of forage available in many production areas over the past five years, increasing its price. Other constraints include high post-harvest losses, low yields of current breeds, high feed costs, and a lack of marketing infrastructure.

Poultry Farming

Market and Job Creation Potential

Poultry farming is widespread in Kenya: chickens mainly, but ducks, turkeys, geese, guinea fowl, and quail are the types of poultry raised. Poultry farming is a key component of economic growth, accounting for 6.1% of the livestock GDP. But it plays a vital role in food security, primarily used on a small scale and mainly for domestic use.

Chickens are raised for eggs (layers), meat (broilers), or both. The best types of laying hens are Kenchic layers, shavers star cross, Isa brown, and Ross breeds. The best broilers are Kenchic, Arbo Acres, Hybro, Cobb, and Hypeco. Kenya's best native chicken species are Rhode Island Red, Light Sussex, New Hampshire Red, Black Australorps, White Leghorns, Plymouth Rock, Barred Rock, and Buff Rock.

Organization and Actors

This industry employs about 3 million people and is, therefore, a vital source of food, employment, and income and is linked to other sectors of the economy, such as hotels and tourism. Kenyan farmers practice poultry farming either on a small or large scale. Choosing the scale of farming depends primarily on one's level of investment and knowledge of poultry farming.

The advantage of commercial poultry farming is that it reduces the incidence of disease in poultry. Therefore, Kenya does not need to import chickens to meet high demand. The benefits accrue solely to Kenyans. Commercial farms export to Uganda, Tanzania, Ghana, Rwanda, Ethiopia, and Somalia.

Setting up a poultry farm requires special equipment and costs: land, baby chickens, construction of a unit, vaccination, and feeding. Maintaining small-scale poultry farming (1 to 1,000 birds) is strongly encouraged, especially for women, as it fits into daily life without requiring much investment. It is an affordable activity to start and maintain. On the other hand, large-scale poultry farming (more than 10,000 birds) requires considerable investment and an organized management system.

Organic poultry farming would be suitable for women to start a farm because it does not require keeping the birds in cages all day. It takes about Ksh 3,000 to 25,000 to start a small or medium-sized poultry farm.

Constraints, Obstacles, and Needs

The main uncertainties in poultry farming are disease outbreaks such as avian flu, which kills large numbers of poultry and creates a significant loss for farmers. In addition, the means of transportation are not always well developed. Poultry feed and medicines can be expensive.

6. KEY FINDINGS

Key Finding #1

The cash crops currently the most profitable are also the least accessible to women, who will find it easier to engage in small-scale farming.

Tea, coffee, and corn are Kericho County's land-use, export, and income-generating cash crops. As such, they are seen as economic opportunities. However, women face many barriers to entry. First, they do not own land, yet the farm area must be significant to improve yields. Second, the patriarchal culture that permeates attitudes and gender norms often exclude women from these traditionally male activities. Thirdly, the structuring of the sectors is such that women are confronted with cooperatives that set complex criteria for their integration. They are confined to complex tasks that are poorly paid or even unpaid (harvesting, weeding). Finally, women are excluded from these value chains because they are poorly trained and do not have access to the necessary financing to consolidate their activities.

The observation is that rural women choose enterprises closely linked to their traditional gender roles.

They tend to choose businesses and farms that are often informal and require basic management skills and affordable capital. Similarly, if they develop an activity in a sector that is accessible to them, such as dairy or poultry farming, they find it challenging to intensify and commercialize in these sectors. They tend to disenfranchise women because they require adopting specific technologies and practices that usually involve renegotiating, reallocating, or reinforcing roles and responsibilities within the household.



Key Finding #2

Climate change and soil erosion are pushing for crop diversification and frugal innovation.

Over the past three decades, **the climatic conditions in Kericho County have gradually changed:** rainfall has become more erratic and unpredictable, and periods of drought more frequent. This has had a significant impact on agricultural production. Kenya is now vulnerable because its major cash crops - tea, maize, and coffee - which require water, are affected, and their production is constantly decreasing yearly.

A June 2020 report from the Kenya Meteorological Department and a March 2020 report from the Kenya Agriculture and Livestock Research Organization (KALRO) show increasing disparities in how climate change affects different regions. In Kericho, daytime temperatures have increased by 11%, while nighttime temperatures have increased by 24%. These changes bring their own set of challenges to the region. For example, the county now faces previously unknown crop diseases. In addition, failures and reduced yields are forcing farmers to look for alternatives to crops like tea and coffee that used to do well in the county.

In addition, **soil erosion** affects mainly sloping lands, especially in Sigowet, Chilchila, and Ainamoi divisions. Farmers are encouraged to plant cover crops such as legumes, potato seedlings, and native trees as windbreaks, grasses, and plants. There is currently a 10% cover (trees) target for each farm, and farmers are becoming increasingly aware of the need to adopt good agricultural practices.

In addition, rivers in Kericho, such as the Samba, Chebilat, and Tuyiobei, have dried up, reducing the water available for livestock and agriculture. Encouraging agroforestry, reforestation and afforestation will increase the dwindling forest cover and ensure the replenishment of water catchment areas.

Therefore, women must focus on **frugal innovation** (providing quality solutions at low cost, doing better with less), choosing sustainable crops, and diversifying. **Diversification** is highly encouraged by the government; in the case of Kericho County, consider crops that are only grown on a small scale but promise good results. For example, chicken and vegetable farming could be produced on a larger scale to reduce dependence on a single crop and provide farmer income.



Key Finding #3

Thanks to its multiple advantages, organic farming is an opportunity to be exploited for women who are starting in diversified agriculture.

Kenya is one of the few countries in Africa that **imports and exports organic products**. In 2020, the country had 37,295 organic farms. Kenya is the world's second-largest producer of organic avocados, with a share of organic avocado crops that is very high (72%), the leading producer of organic macadamia nuts with more than 50,500 ha in 2018, and the leading producer of organic coconuts in Africa (20,500 ha in 2018 or 34.6% of the national area dedicated to coconuts).

The Kenyan organic market is also growing, although it is still modest (€3.9 million in 2018). Organic products are available in supermarkets, markets, and restaurants. It is increasingly common to find an organic section in supermarkets, and organic farmers' markets are growing. The main reason for buying organic food is food safety, and the main obstacle to the market's growth is the price. It is mainly the well-to-do consumers who have traveled and are currently consuming organic products.

There has been a **training center for organic agriculture in Kenya since 1986**. The Kenya Organic Agriculture Network (KOAN) was established in 2005 and brought together organic producers, exporters, traders, NGOs, and other organizations. The network coordinates the organic sector and promotes organic agriculture's social, economic, and environmental benefits. It helps organic producers find markets and provides training. The Kenya Institute of Organic farming (KIOF) is an NGO that provides training in organic farming. In addition, Busia County is supporting the establishment of an organic fertilizer factory.

The banning of pesticides is under great discussion in Kenya. According to studies, pesticides or agrochemicals are among the main pollutants of water bodies in rural Kenya because they leach into rivers and lakes. In addition, Kenyan consumers are becoming increasingly vigilant about their health and food safety. Farmers are increasingly aware that pesticides are polluting and more expensive than organic fertilizers. By controlling future pest attacks, organic fertilizers improve yields and reassure consumers.

Claire Nasike of Greenpeace Africa's Food for Life campaign advocates the **adoption of push-pull technology**, which consists of intercropping cereal crops with leguminous plants (intercropping maize fields with podded vegetables, for example) that have repellent properties against desmodium pests, and then planting forage plants such as elephant grass at the edge of the crop. The intercropped plant emits a mixture of compounds that repel (push) pests, while the border plants emit semiochemicals that attract (pull) pests to the border.

A study of 642 farmers in 56 villages in eight counties in western Kenya shows that the push-pull technique improves soil fertility by adding nitrogen and organic matter, thus saving farmers from potential losses. In addition, they almost doubled their yields compared to their neighbors who did not use it. Other benefits of interplanting plants into crops include preventing the spread of weeds such as striga, and fodder harvested from elephant grass can be fed to livestock and increase milk production. This technology has improved the overall income of 55% of the farmers through increased income from the crop and milk.

The only negative point is that this push-pull technique may require more labor and, therefore, an additional cost. Adoption of this technique is also limited, and more needs to be learned about its economic and environmental benefits.

Other organic fertilizer techniques exist, such as **worm juice**: the farmer is encouraged to raise worms to generate a nutrient-rich liquid that can be poured directly into the soil to increase soil fertility. Earthworms naturally use their body systems to break down food and soil particles and transform them into rich soil. The farmer studied by the researchers is also raising **species of birds**, including owls, to hunt pests such as mice, caterpillars, and other crop insects, instead of using pesticides.

These techniques challenge the still-dominant idea that using chemicals increases yields and profits and encourages farmers to implement them. International and urban customers (customers in Nairobi) are increasingly alert to these criteria and organic certifications. In Nairobi, organic markets have existed since 2006 and are working well through word of mouth.

Women farmers have the opportunity to increase their yields and profits while protecting the environment and the health of their customers. Moreover, labels and customers are increasingly sensitive to fair trade, gender-sensitive production, and women's empowerment while organic. Therefore, **the "made by women" label** is essential for international and urban customers who want a clear conscience.



Key Finding #4

Existing cultural norms, which are a barrier to women's empowerment, can be challenged and overcome (by women's groups & international labels).

Anecdotal evidence shows that it is by coming together that **women can disrupt and overcome the norms that hold them back**; by pooling their resources, they can start or expand their businesses and move into areas of activity usually reserved for men.

Among these success stories, here is the one of a Maasai woman who started her **yogurt production** after having followed the training; she initially invested 2000 Kenyan Shillings (equivalent to \$20) in making her first 5 liters of yogurt, she sold her production on the market and received a friendly welcome encouraging her to increase her production to 50 liters per market day. She then formed a women's group investing in each other's businesses by rotating the funds saved. Each woman contributed to the creation of the yogurt by collecting milk and receiving a share of the profits. This group of women built a thriving business that later needed to be formalized and registered. The women became coaches, conducting training on yogurt production and speaking at conferences and meetings with other rural and agricultural women.

This example illustrates the importance of these **women's groups as a catalyst for changing norms and empowering women**. They allow them to break out of an initially hostile environment and face cultural barriers, lack of resources, and lack of institutional support.

The economic empowerment component of the NGO Brighter Communities supports groups of farmers, including women, in the realization of their projects in Kericho County; the training provided can serve as an impetus and give the keys in hand to those who wish to start their businesses.

Labels are increasingly demanding gender equality and women's empowerment issues. These labels should be closely monitored because they are crucial to production (especially for export) and influence the frameworks and standards of producing communities. In addition to environmental considerations, certifications and labels have social considerations.

The Naturland Fair, Biopartenaire, and Fair for Life labels, in addition to enshrining organic agriculture, fair value trade, and the social impact of production. Gender equality and women's conditions are thus key criteria for their attribution. The Rainforest Alliance is even more committed; to obtain its certification, the farm is required to promote gender equality by explicitly communicating this to its workers and, depending on its size, to appoint a committee responsible for the implementation, monitoring, and evaluation of measures that promote gender equality and the empowerment of women. The Fairtrade label includes gender equality as a key criterion and emphasizes "made by women" through its projects. It has conducted a three-year project entitled "Growing Women in Coffee" with women members of two cooperatives (Kabng'etuny and Kapkiyai).



7. CONCLUSION

In conclusion, the sectors we find most appropriate for women are **poultry, dairy farming, tree nursery, and beekeeping**. These sectors are the most reliable in a time of climate change, they are also the easiest to access in financial and cultural terms, and they can bring in a significant income for women who startup.

Women have the potential to integrate quickly and succeed in these sectors if **they band together**. If they can, women are encouraged to pursue **different activities in parallel** when they are complementary: for example, growing cereals and legumes while raising a dairy cow. It is essential to diversify activities to limit risks and secure income.

Discover now **the specific needs of each sector** to get started:



- **Ksh 3,000 to 25,000**
- special equipment & costs : baby chickens, construction of a unit, vaccination, and feeding
- a piece of land



- **Ksh 2,500 (for yoghurt production)**
- special equipment & costs : cattle, camel or goat, vaccination, feeding
- a piece of land
- training (for yoghurt production)



- **Ksh 2,000 (for 100 seedlings)**
- special equipment & costs : rootstock, graft, tools
- a piece of land
- training



- **Ksh 10,000 (5 hives)**
- special equipment & costs : hives, beekeeping suit, smoker, purchase of grease and various products
- a piece of land
- training

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