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POLICY AND DEVELOPMENT**

FINAL REPORT

ON


**REGULATORY IMPACT ASSESSMENT OF THE DRAFT COFFEE (GENERAL)
REGULATIONS, 2018**

Submitted to:

The Agriculture and Food Authority

By:

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1. Background

The coffee sector in Kenya supports an estimated 5 million people, both directly and indirectly. The current production of about 40,000 metric tonnes (MT) is significantly lower than in 1998 (128,926 MT). This reduction is attributed to poor payment to farmers and reduced yields caused by high incidence of coffee leaf rust and coffee berry disease (FAO 2013). Most of the coffee farmers are small-scale, currently estimated at 700,000 and producing around 60% of the country's output. The rest is produced by farmers holding at least five hectares. Most small-scale farmers grow coffee on their own farms, which are properly titled. This reduces the risk of incidences of land conflicts in the coffee sector (GoK 2016).

The sector is currently characterized by low earnings (especially for small-scale farmers), low yield per plant, high cost of inputs, governance weaknesses and declining acreage under coffee production. According to the Food and Agricultural Organisation of the United Nations (FAO), the total acreage under coffee has declined by approximately two-thirds between 1990 and 2014, while yield per hectare has reduced by almost half (FAO 2015). Statistics from the Agriculture and Food Authority (AFA) also a declining trend in area and production (Table 1). The dismal performance in coffee production has resulted to increased poverty in the growing areas. Fertilizer is one of the critical inputs in coffee production that contributes significantly to production costs. However, with increasing fertilizer prices majority of the farmers have been forced to abandon use of fertilizers and instead use manure or none at all. It is critical that farmers are supported to access fertilizer at competitive prices. Another critical production activity is pest and disease control which accounts for 30-35 percent of the production costs. Prices of chemicals have also increased significantly, which has led farmers to abandon use of chemicals or use them sub-optimally. To revive the coffee industry, there is need for efforts to improve profitability of production, which implies that interventions to improve productivity and cut down on costs of production are required. In addition, the rapid growth of the specialty coffee market has presented new opportunities for smallholder farmers and for them to benefit from this rising demand, there is need to improve both the yield and quality of coffee.

In Kenya, the coffee sector contributes about 8% of the total exports earnings with an annual inflow of about Ksh 20 billion. Throughout the years the coffee industry has been characterized by cyclical market trends. Since 2003, the coffee markets have been on a steady recovery. The recovery has been largely attributed to the increasing global deficit, as the expanding consumption outpaced the growth in supply. It has further been projected that globally, coffee supply will continue to be constrained by various factors including climate change and resource competition, while consumption will continue to grow in both traditional and emerging markets. This overall position presents a generally viable proposition for producers of coffee across the world.

Coffee marketing is done through two channels. First is the Coffee Directorate-licensed marketing agents and dealers at the Nairobi Coffee Auction, which accounts for 90 % of the coffee sales. The second option is direct sales by marketing agents to consumers or their

representatives, which accounts for the remaining 10 % of the coffee sales. The aim of direct sales is to give growers a direct link with international buyers of the Kenyan coffee. Some notable challenges with direct sales include: most growers are not able to supply the required volumes consistently; growers have limited market intelligence and capacity to negotiate contracts and handle export logistics; and, poor promotion of Kenyan coffee in the international markets. It is worthwhile to note that the rapid growth of the specialty coffee market has created new opportunities for smallholder farmers in Kenya.

Table 1: Coffee Production Trends (2008-2015)

		2008	2009	2010	2011	2012	2013	2014	2015
Area under coffee (ha)	Small holder	122,040	106,656	120,000	120,000	85,189	85,200	85,300	87,433
	Estate	40,680	53,344	40,000	40,000	24,606	24,600	24,700	26,067
Total		162,720	160,000	160,000	160,000	109,795	109,800	110,000	113,500
Production (Mt)	Small holder	22,260	29,370	22,280	19,600	27,000	21,900	32,700	27,230
	Estate	19,740	24,650	19,720	16,660	22,000	17,900	16,800	14,807
Total		42,000	54,020	42,000	36,260	49,000	39,800	49,500	42,037

Source: Coffee Directorate, AFA

The Agriculture and Food Authority (AFA) Strategic Plan (2016-2019) has proposed some measures to increase coffee production and consumption in the country. The plan proposes to increase the area under coffee from 110,000 to 130,000 Ha by 2021. The extension services will be strengthened as well as promotion of new varieties and reintroduction of Robusta coffee at the Lake Basin and Coastal areas. The plan also proposes to increase domestic coffee consumption by at least 5% by 2021. On international coffee trade, the plan is to hold at least four international coffee fairs per year from 2016 to 2021.

2. An assessment of the impact of coffee regulations

The Crops Act 2013 Section 40 gives the Cabinet Secretary in charge of Agriculture the powers to make regulations for the better carrying out of the provisions of the Act. In light of this, AFA in consultation with the counties and relevant stakeholders drafted the Coffee Regulations 2018. AFA engaged Tegemeo Institute of Agricultural Policy and Development, Egerton University to undertake a regulatory impact assessment of the Draft Coffee Regulations.

The assessment of the regulations sought to determine:

- i. economic, environmental and social costs as well as benefits associated with the regulations
- ii. administration and compliance costs (including resource allocation costs) that will be required to put the regulations in place

- iii. their impact on the private and public sectors and fundamental rights and freedoms
- iv. whether there are other practicable means, regulatory or non-regulatory of achieving the objectives of the regulations. This will focus on complementary and supplementary strategies for achieving the objectives of the regulations.
- v. if there are other pertinent issues that have been omitted or not well articulated in the regulations and which are likely to impact on the implementation of the regulations as well as the revival and performance of the coffee sub-sector. These include cherry pricing mechanism, payments to farmers, youth engagement in the coffee subsector and domestic consumption.

2.1 Benefits to be derived from the regulations

The benefits that are expected to be derived from the regulations relate to aspects of production, processing and marketing of coffee as well as efficiency in delivery of services for value chain players. This section outlines the potential benefits and identifies specific clauses in the regulations, indicating how they are likely to confer the outlined benefits.

(i) Increased production of coffee by farmers

Overall, the regulations seem to focus more on improving coffee trading and marketing, but this is not enough. It is particularly necessary to pay attention to improving production at the farm level, given the trends in declining yields and acreage under coffee. Increased volumes will mitigate the falling prices in the global market. However, the provisions that will boost production include:

- Clause 5 (d): the county governments shall offer extension services on coffee production and primary processing. Extension services at the county level are currently inadequate and they need to be revamped to provide intensive agronomy training to boost productivity. However, focus should not be on agronomic practices without business development services, since there is need to promote and support coffee farming as a business among farmers and farmer organizations. Hence, county governments may need to support coffee specific extension within the revamped extension delivery systems, which will meet the prevailing industry requirements. This may mean supporting coffee specific extension in every coffee producing county; training extension service providers in coffee specific extension knowledge including business development services; and, building capacity and support for farmer-led extension systems.
- Clause 5 (g): the county governments in collaboration with the law enforcement agencies will enhance security in coffee growing areas. This will reduce the cases of theft of cherries and parchment; if farmers can't secure their harvest, they will stop growing coffee and production will decline further.
- Clause 5 (h): the county government will enforce policies and guidelines on corporate governance in coffee grower institutions. This has been a major challenge in the past due to

corruption and mismanagement of these institutions that has contributed to dismal performance. Cooperatives are considered key for increasing the scale of production, maintaining quality standards and guaranteeing the reliability of smallholders as preferred suppliers in the coffee value chain.

- Clause 5 (i): the county government will monitor and report incidences of pests and disease outbreaks and take appropriate action with relevant agencies.
- Clause 17 (1,2): for record purposes estate growers and smallholder farmers who plant or uproot coffee will notify the county government/cooperative society in writing within six and three months of doing so, respectively, regarding the size of area planted or uprooted. This will guide the sector players in planning and output projections.
- Clause 18 (1): The Authority shall develop and enforce a coffee industry code of practice and standards on coffee production, processing and marketing
- Clause 20 (1, 2): Coffee certified seeds or seedlings will only be accessed from the Kenya Agricultural and Livestock Research Organization (KALRO) or its authorized agents. This will ensure that farmers are provided with quality planting materials. There is need to sensitize farmers of newer varieties such as Ruiru 11 and Batian that are disease resistant, grow faster and have higher yields compared to older varieties.

If the interventions outlined above are implemented as envisioned, area under coffee as well as production and productivity are expected to improve as shown in Figure 1.

Figure 1: Coffee production for the period 2009-2015 and projections for the period 2016-2020

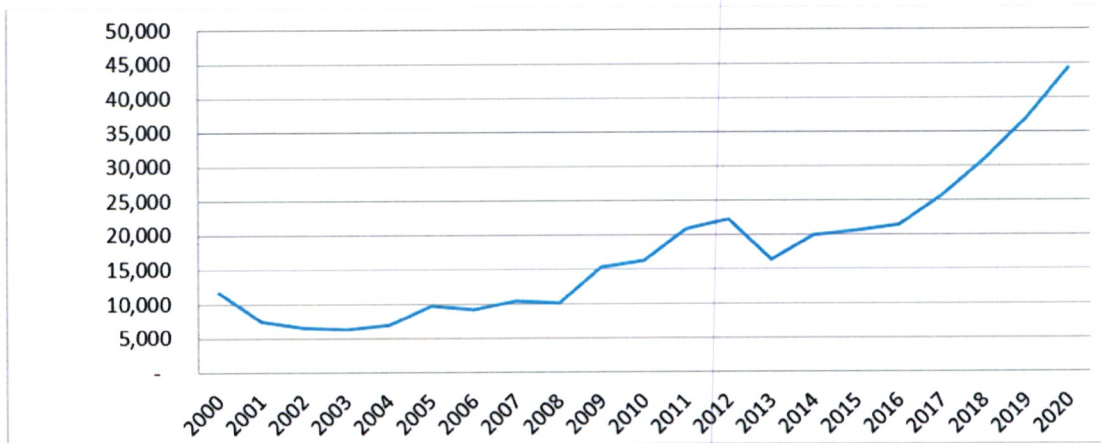


Source: Economic Surveys (various publications) and authors' calculations

Assuming that the regulations will lead to an increase in area under production by 10 percent, we expect coffee production to increase by 20 percent every year. The yields will increase by 29 percent by 2020. Increase yields will result in lower costs of production, better incomes and improved competitiveness at the production level. If provisions are supported by clear plans for financing the capacity to produce, the benefits from the projected increases will be larger.

With the new regulations, coffee production will increase due to improved crop husbandry and marketing. This will open up more marketing opportunities both locally and abroad that will stimulate increased exports. Assuming an annual growth of coffee exports by 20 percent, the value of exports will potentially increase to approximately Ksh 45 billion by 2020 in nominal values as shown in Figure 2.

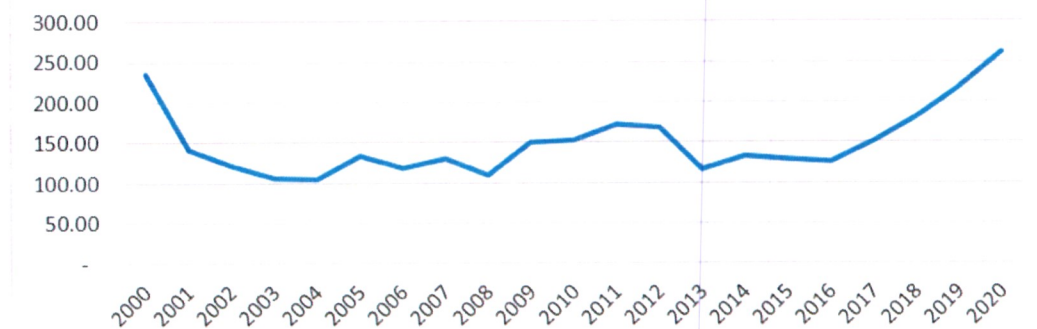
Figure 2: Coffee exports and projections in nominal values (Ksh. Million)



Source: Economic Surveys (various publications) and authors' calculations

Since 2010 coffee exports have been on a downward trend in real values as shown in Figure 3. With stability in exchange rate and market prices the earnings from coffee will potentially increase to Ksh 250 million by 2020 in real values.

Figure 3: Coffee exports and projections in real values (Ksh. Million)



Source: Economic Surveys (various publications) and authors' calculations

(ii) Increased growers returns

While increased coffee production will lead to higher returns for coffee growers, other provisions in the regulations will also ensure increased returns for farmers. These include:

- Clause 10 (1) b): Growers can apply for a pulping license to operate a pulping station at a reasonable fee. This will enable farmers to benefit more from selling fully washed coffee at much higher prices to the millers compared to prices they receive for cherry delivered to cooperatives. This benefit can be greater if affordable and locally assembled wet mills are accessible.
- Clause 10 (1) c): Growers can apply for a milling license to pulp, mill, market or roast own coffee. This will create opportunities for value addition that improves the farmer returns.
- Direct sales between growers or grower millers with overseas buyers will allow cooperatives to cut the cost of middlemen and hence improve farmer returns, especially where governance of cooperatives has improved.
- Experts on the world coffee market often make reference to the "coffee paradox". The global coffee chain is currently characterized by a paradoxical coexistence of a 'coffee boom' in consuming countries and a 'coffee crisis' in producing countries. A coffee crisis in producing countries is characterised by a trend towards lower prices, declining incomes and profits affecting millions of people in the world's poorest countries. On the other hand, a coffee 'boom' in consuming countries comprises of rising sales and profits for coffee retailers and roasters. This coffee paradox is typical in Kenya and it exists mainly because what coffee farmers sell and what consumers buy are very different coffee products. As long as coffee farmers do not control at least what the consumers want, they will keep receiving low prices. This can be addressed through empowering growers to add value by producing specialty coffee and accessing direct markets. Better organized farmers as envisioned in the regulations, either through strong co-operatives or other legal entities can intervene directly in the coffee market by bringing strength through numbers in the negotiation of better coffee prices.
- A warehousing receipt that will be issued to farmers by a licensed coffee warehouseman in respect of coffee stored in a licensed warehouse can be used as collateral, hence opening avenues for farmers to access credit for coffee-related activities or other expenditure including businesses.

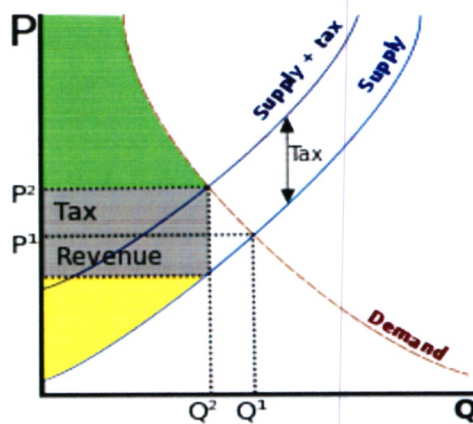
(iii) Minimized taxation

- The 4% levies charged to the farmers to finance the Coffee Directorate, Coffee Research Institute and roads levy were abolished through the Finance Act 2016. The reduction of levies will increase the farmers' incomes. Reduction of taxes levied on coffee farmers will

have positive impacts on the producers and consumers but will lead to loss of revenue to the government. The effect can be evaluated through changes in both producer and consumer surplus. Producer surplus represents the benefit the seller gains from selling a good at a specific price. The coffee producer surplus will increase as a result of reduction in taxes. This is due to the increase in quantity of coffee sold as the relative price of the good decreases with the reduction in taxes. This will ultimately lead to better incomes for the coffee farmers. Consumer surplus refers to the net gain that a consumer receives when she purchases a specific good at a specific price. It represents the difference between the actual price paid for a good and the price a consumer would be willing to pay to purchase the good. With the reduction in taxes levied to coffee farmers the overall price paid by consumers for coffee decreases. At a lower price level, demand for the good increases, resulting in increased consumer welfare. However, the loss of revenue is likely to negatively impact research and state of roads in coffee growing areas, unless the National and County governments support these from other funds.

In addition, elimination of the levy will result in reduced income for the Coffee Research Institute (CRI), which has been supporting farmers to improve productivity. Farmers may not be willing to pay costs for accessing services offered by CRI, given that without funds from the levy, CRI will not be able to offer extension as a public good. This will likely affect farmers negatively since many farmers are not used to paying for research and extension services. Without access to these services, it's also unlikely that they will adopt new technologies or improve their productivity.

Figure 4: Effect of tax reduction on coffee output



As illustrated in Figure 4, with reduction in taxes, the supply (coffee output) increases, the price decreases and this leads to increased demand.

- The cooperative society commission not to exceed 20 % of the net earnings from the coffee sales. This rate has been retained as before and the commissioner of cooperatives ought to enforce this rule. This will help to boost farmer returns.

(iv) Increased efficiency in service delivery

- Licensing: the regulations have clearly stated how licences will be issued by AFA and the county governments and nobody will be allowed to transact in any coffee business without a valid license
- Clause 10 (1) (a to d) specifies the licences to be issued by the county government (coffee nursery certificate, pulping station license, growers' milling license and coffee roaster license).
- Clause 10 (2) (a to e) specifies the licences to be issued by AFA (commercial millers license, liquoring, cupping, warehousing and trading licenses).
- Clause 11 (1): to avoid conflict of interest, a holder of a coffee trader's license will not be licensed as a commercial miller or a ware houseman. Large coffee businesses can overcome this licence regulation by establishing new companies that operate independently on paper but that are subsidiaries owned by a business group. This will, however, not be feasible for small businesses, which may find the costs of such moves or decisions too high. The result may be a market structure, where medium sized businesses (traders, millers or processors) are nearly absent.
- The regulations have provided for the issuance of movement permits that will allow movement of coffee. Clause 15 (5) states that the licensing authority will monitor the movement of coffee between stores and the market to ensure that coffee is safe and minimize illegal coffee dealings. However, this will not apply to a smallholder farmer moving own coffee between the farm and the pulping station where he is registered.
- Clause 5 (f): the county government will enforce policies and guidelines on corporate governance in coffee grower institutions, which is expected to streamline operations and improve service delivery.
- Clause 25 (1, 2): the establishment of the Direct Settlement System (DSS) will facilitate faster payment of coffee proceeds to farmers.
- Clause 5 (a): the county governments shall offer extension services on coffee production and primary processing. Better services that will include business development services and coffee specific extension will be beneficial.

(v) Improved coffee marketing

- Clause 23 (3): Through the growers milling licenses, the growers will have access to the Nairobi Coffee Exchange (NCE). In the past farmers were not allowed to trade at NCE and participation was restricted to licensed marketing agents and dealers. The new regulations allow farmers to participate in the marketing of their coffee at the NCE, which will improve their returns. There will be minimum tonnage to be sold by the millers at the NCE introduced to minimize congestion

- The regulations have eliminated several licenses. These include grower marketer, commercial marketing agent and management agent certificate. This will help reduce the number of value chain players and length of the chain, and associated bureaucracy.
- Clause 11 (1): a holder of a coffee trader's license shall not be licensed as a commercial miller or warehouseman. This will take care of the cross-ownership challenge that increases conflict of interest in form of insider trading in favour of dealers.
- Clause 24 (1, 2) allows a grower cooperative society or other legal entity to undertake direct sales or sell clean coffee to local roasters for local value addition. Farmers could target the new markets such as Ukraine and Russia that are witnessing a sharp increase in the consumption level. Several Middle Eastern countries having higher disposable incomes are also predicted to offer good prospects for growth in the short-to-medium term period.
- Clause 25 (1,2); the Nairobi Coffee Exchange (NCE) shall be incorporated in accordance with Capital Market Act to maintain a transparent and efficient auction system for coffee trading
- Clause 26 (3): the establishment of the Direct Settlement System (DSS) in licensed commercial banks will facilitate faster payment of coffee proceeds to farmers. DSS will be piloted before being rolled out and a transition period of one year provided for the DSS to be rolled out. DSS provider to remit the proceeds to growers and service providers within 10 days after the auction- currently law stipulates 14 days after the auction
- The pulping station licensees have no authority to receive growers' money after the sale of coffee; payment will be done directly to the grower from the DSS or other agent appointed by the grower for that purpose.
- Clause 19 (1-7) provides for the certification of the Kenyan coffee. This means that coffee will be labelled for traceability that ensures quality is maintained and adds more value. The rules allow growers and millers to seek for certification from the Authority. The welfare impact of certification can be measured with a wide range of indicators. Most studies focus on coffee yields, prices and (net) revenues. A study on impact of coffee certification on smallholder farmers in Kenya found that certified farmers are likely to fetch significantly better prices for their coffee. Farmers selected for certification were usually found in sub-optimal production areas. Consequently, initial gains from certification are usually high, but these tend to disappear once other non-certified farmers catch up in the process.
- Clause 28 provides that the authority will coordinate coffee stakeholders at national and international events for the purpose of promoting Kenya coffee. While the bulk of coffee is exported, only 3 percent is consumed locally. An increase in consumption favouring a gradual rise in world prices would be a positive factor for economic growth and increased per capita incomes.

(vi) Insurance against losses

Clause 22 (5): commercial millers will be required to take insurance cover against fire, theft and other risks for all the coffee in their possession. This will reduce cases of coffee theft from stores that have been quite rampant.

Clause 21 (3) c: While the coffee is at the pulping station, the licensee shall insure the coffee against loss and damage while at the station and in transit and reinforce the security of the station to guard against theft of coffee.

(vii) Improved milling and processing of coffee

- Competitive procurement of milling services: Clause 22 (14) provides that a cooperative society or any entity representing smallholder farmers will have to bid for milling services before issuing any contracts. This will ensure transparency and accountability in the milling process.
- Clause 10 (1) d) provides for a coffee roaster licence authorizing the holder to roast or grind and package coffee for local sale. Local processing and sale of high value coffee increases value added.
- To promote local processing and value addition, provision of tax incentives (e.g. removal of duties) on roasting machines and packaging materials need to be considered.

2.2 Costs associated with the regulations

The costs include economic, environmental, social, administration and compliance costs (including resource allocation costs) that will be required to put the regulations in place.

- i) The cost of comprehensive insurance against loss or damage to coffee will be incurred by the millers and warehousemen
- ii) The compliance costs are numerous and could be expensive. These include tax compliance, NEMA certificate (Ksh 40,000), Occupational Health and Safety Certificate, Certificate of Registration and County Business permit.
- iii) The registration (Ksh 500) and nursery certificate (Kshs 1,000) fees are quite manageable for the smallholder farmers
- iv) The pulping station license fee (Ksh 1,000) and Grower's miller licence (Ksh 10,000) are quite reasonable especially for the smallholder farmers.
- v) Movement permits of one US dollar per leaf for clean coffee. However, licence for movement of parchment/buni is free of charge.
- vi) The roasters license (Ksh 5,000) issued by the county government is quite reasonable and could promote value addition

- vii) Commercial Coffee millers license (USD 1000/ Ksh 100,000)
- viii) Independent cupping center (Ksh 20,000) to be incurred by grower and commercial millers
- ix) Warehousing costs to be paid in Kenya Shillings per 60 kg bag of the coffee stored at the warehouse. The cost shall be paid by the grower through the Direct Settlement Service once the coffee is sold.
- x) A commercial miller's bank guarantee (1 Million-12 Million USD). However a commercial miller who does not handle coffee sale proceeds on behalf of the grower shall be exempted from this requirement.
- xi) Cost of warehousing facilities will be borne by the warehouseman to ensure that the storage facility licensed for the storage of coffee is well designed and maintained to guarantee the quality and safety of the coffee, including providing for insurance against loss of damage.
- xii) Inspection costs
 - Clause 34 (1) indicates that the Authority, in collaboration with the County Governments, shall conduct inspection of coffee farms, coffee nurseries, pulping stations, coffee mills, warehouses, cupping centres, vessels transporting coffee or the premises of coffee traders to ascertain compliance with the requirements of the Act and these Regulations.
 - In addition, clause (36) indicates that the Authority will conduct periodic surveillance among all the above players to assess the degree of compliance with the coffee industry policy, standards, code of practice, laws and the general well-being of the coffee industry.
 - Clause 5 (i): The county governments shall monitor and report incidences of pests and disease outbreaks and take appropriate action in collaboration with the Authority and other relevant government agencies.
- xiii) Capacity building

This will be done at various levels and for different players across the value chain, for which resources will need to be allocated:

 - Clause 4 (2) b): The Authority to co-ordinate capacity building activities for players in the coffee value chain.
 - Clause 4 (2) e): The Authority to conduct local and international coffee market intelligence and promotional activities including the application of the National Coffee Kenya Mark of Origin
 - Clause 33 (2): The Authority, in consultation with industry stakeholders, shall develop a training curriculum, conduct examinations and issue certificates for coffee liquorers.

xiv) Environmental costs

Coffee production and processing have considerable impacts on the environment. These impacts include high consumption of energy, water and land. After coffee is picked, the pulp and mucilage is removed which requires two different processes. Coffee is then dried, the parchment removed and then sorted. The main sustainability concerns in coffee processing are as a result of intensive use of pesticides and poor disposal of waste products. About 99% of the biomass waste produced, mainly untreated pulp and husks is discarded on land. Further coffee processing consumes high quantities of water and energy. It is estimated that over 200,000 tonnes of pulp at 77% moisture content and 2,300,000 litres of polluted water are released into the environment every day in Kenya (Shitanda 2006). On average 45.5 kg of green coffee requires between 1,000 and 2,000 litres of water, 12.5 kWh of electricity and 0.07 cum of firewood for processing (Instituto del Caf  de Costa Rica -ICAFE, 2006). A survey of rivers between Nairobi and Thika towns in Kenya showed that they were all polluted with coffee waste with Biological Oxygen Demand (BOD) levels of more than 100 mg/l. The unpolluted rivers had BOD of 4 mg/l (Wrigley, 1988). Although a river of 10 mg/l is considered significantly polluted, the maximum allowable limit of effluent discharge into the environment is 30 mg/l (BOD 5 days at 20°C) according to Kenya's National Environment Management Authority (NEMA) Standards (Republic of Kenya, 2006). With the proliferation of coffee milling, due to the increased number of pulping stations, it will become necessary to assess possible negative environmental effects. This will mean additional costs and resources for an environmental impact assessment by NEMA before registering the mills.

xv) Social costs

Increased coffee production will result in need for more labour, which could easily attract school going children and could negatively impact on their schooling outcomes.

2.3 Impact of the regulations on the private and public sectors

The Coffee Regulations are aimed at providing regulation, promotion and development of the coffee industry. Hence, the regulations will have both negative and positive potential impacts on the players in the coffee value chain, both in the private and public sector. Both positive and negative impacts can be summarized as follows:

Economic impacts

The implementation and enforcement of the regulations will lead to a more vibrant coffee subsector from production to consumption. This is expected to have economic impacts at different levels of the economy, which can be summarized as follows:

- a. Household incomes: these will increase as coffee production, productivity and marketing improve. Also, the review of minimum requirements for the issuance of licences for pulping, roasting and milling of coffee will enable participation of some farmers in value addition, which will boost the business component of household incomes. Overall, higher incomes will lead to better household welfare including food and nutrition security.
- b. Business growth and employment: with promotion of coffee production and easier entry into more value addition activities in pulping, milling and roasting, coffee-based small and medium scale businesses and industries (SMEs) will emerge through both backward and forward linkages. They will directly and indirectly benefit about five million people in the country by providing income and employment, particularly for the youth, who have an inclination toward participating in value chain activities post-production level. These businesses could include coffee shops and street coffee vending that may also lead to growth of other businesses such as bakeries. They are supported by a growing urban coffee culture among young adults and professionals, due to increasing urbanization and higher incomes among the middle and upper classes. We also expect to see growth in manufacturing businesses that will support the coffee-based SMEs in terms of fabricating pulping and roasting equipment as well as developing or importing coffee packaging machines and materials and coffee dispensing and vending machines. Youth employment can be boosted through such coffee-based and related businesses, particularly if they are able to access finance. To boost business growth in the sub-sector, there is need for tax incentives such as zero-rating of equipment and machines.

In the short to medium term, it is expected that there will be an increase in the number of pulping stations. However, their efficiency may be hampered by their size¹ and hence in the long-term, there may be incentives to consolidate such businesses to achieve economies of scale.

- c. Value addition and global market access: one of the major challenges that has affected the coffee sector is limited value addition. Although Kenyan coffee is of superior quality, it is mainly sold as a raw material for blending, with little or no value addition. Consequently, coffee has had relatively lower market value leading to a reduction in incomes that accrue to the local economy. The regulations will facilitate a reversal of this trend and hence create more value overall and for each player along the coffee value chain, as well as support sustainable commercial production of coffee where farmers are assured of stable and remunerative returns. In addition, strategies to market coffee that are provided for in the regulations will create a bigger footprint for Kenyan coffee in the world market. These include opportunities for farmers, cooperatives, associations and other legal entities to engage in direct sales with overseas buyers and sell coffee in the NCE; and, promotional strategies such as the application of the National Coffee Kenya Mark of Origin and use of certification schemes for Kenyan coffee. Creating real value

¹ Farmers with 20,000 kg of cherry on an average over three years can apply for a pulping station license.

out of the Kenya Coffee brand will promote foreign exchange earnings for the country. This can be greatly enhanced by branding coffee based on quality and taste profiles unique to the area of origin and sold as premium coffee.

Additionally, by adhering to the code of production standards, coffee growers can access specialty markets, which confer price premiums of up to 40% compared with conventional coffee. Farmers can then use these increased revenues to access education, health and new business enterprises.

- d. Economy-wide growth: increased production and marketing of coffee, particularly in niche markets will lead to an increase in foreign exchange earnings for the country. In addition, through linkages with other sub-sectors such as manufacturing, it is expected that better performance of the coffee sub-sector will result in higher incomes for various players in other sub-sectors. More importantly, given that the status of the agriculture sector greatly determines the overall economic growth of the Kenyan economy, a vibrant coffee sub-sector will boost growth in the agricultural sector and, hence overall economic growth through the various linkages that agriculture has with other sectors. A better performing economy will enable the government to meet its key targets as outlined in the Kenya Vision 2030, the SDGs and other sectoral strategies such as the proposed Agriculture Sector Growth and Transformation Strategy (ASGTS). In particular, it is recognized that the youth unemployment challenge in Kenya is primarily a problem of labour demand since the economy is not creating sufficient jobs to cater for the increasing number of youth that is entering the labour market. Hence, a vibrant coffee sector will contribute to youth employment and the achievement of the goal of the Kenya Youth Agribusiness Strategy 2017-2021, which aims at positioning the youth at the forefront of agricultural growth and transformation.
- e. Increased idle milling capacity: currently there is milling overcapacity in the country occasioned by the consistent decline in coffee production over the last few decades. There is a likelihood of increased idle capacity and a potential waste of resources in installing/commissioning additional milling capacity when there is close to 80 % idle capacity in the industry. Unfortunately, it is likely that farmers may bear the brunt of this extra cost. Stakeholders need to recognize that expansion and improvements in processing will be tied closely to increased coffee production to enhance operational efficiency and economies of scale.

Environmental impacts

The regulations provide for ease of registration and licensing of pulping stations since a farmer owning a minimum of 5 acres of coffee or 20,000 kg of cherry on an average over three years can apply to operate a pulping station. While this will promote incomes and create businesses, it may have negative environmental consequences, if it results in a proliferation of pulping stations in the coffee growing areas. These may include:

- a. A strain on water resources: increased abstraction of water to run the wet mills will lead to a strain on water resources that are already diminishing in some areas due to climate change. Consequently, there will be competition for water amongst many users and uses.
- b. Pollution: there will be increased effluents from the pulping stations and pollution from increased use of insecticides that will likely pollute the river waters for downstream users. Although an environmental impact assessment by NEMA may be conducted, the ensuing pollution will require clear plans for water treatment and waste disposal, given that about 47% of Kenyans access water from unimproved water sources include water from rivers or streams, dams, ponds, lakes, unprotected wells and unprotected springs. As a mitigation measure, coffee farmers and owners of pulping stations can be trained in water conservation and supported² to put in place wastewater treatment systems as is being done in countries like Rwanda. This will result in responsible coffee production that leads to cleaner water and healthier rivers.
- c. Increased use of chemicals: there is a likely increase in use of chemicals as coffee production improves and their safe use may become a challenge. To deal with this potential risk, there is need to: (i) sensitize players on right to a safer work environment by creating awareness on safety hazards of the chemicals; (ii) train growers and workers on safe use of chemicals; and, (iii) provide appropriate protective gear and equipment.
- d. Higher energy requirements: the pulping stations will require more energy that will lead to a further strain on national energy grid. While coffee mills can run on diesel, this will exacerbate the pollution challenge. Possible mitigation measures could include use of solar powered energy systems and wind energy; and, exploration of innovative ways of generating energy from processing waste as in the case of sugar firms that generate clean power from bagasse.
- e. Destruction of ecosystems: clearance of forests and natural habitats for birds to plant coffee will severely affect the breeding of birds in some ecosystems. To maintain ecosystems and promote sustainable and responsible production, the Rain Forest Alliance recommends agroforestry, i.e. integration of coffee and tree (avocado, grevillea) production.

² This can be in form of technical assistance and funding that support them to building waste water treatment systems

Social impacts

The regulations are likely to have positive and negative as well as direct and indirect impacts on different populations. The impacts can be captured in terms of creation/loss of jobs, income distribution, access to goods and services and social inclusion of different groups, and can be summarized as follows:

- a. A more vibrant coffee sub-sector from production to consumption will lead to overall increased employment. According to a report by ILO (Mureithi, 2008) between 2001 and 2005, the estate sub-sector accounted for an average of 61,000 employees in any one year, equivalent to 19 percent of total employment in agriculture and forestry activities and about 4 per cent of total employment in Kenya. However, when workers in other coffee activities either for pay, profit or family gain in the small coffee farms/cooperatives are included, close to a million people depend on the coffee sector for their living, employed at some stage in the commodity chain. We expect that with the revival of the coffee subsector, the number of people employed along the value chain will double.
- a. Mainstreaming of youth in the sub-sector through supporting them to engage in coffee-based and coffee-related businesses such as coffee shops and kiosks will reduce youth unemployment.
- b. Child labor is widespread during peak coffee harvesting seasons. At such times, the incentive for poor families to withdraw their children from school and send them to work increases. Since higher levels of education are tied to higher income over the long term, and children from poor families are more likely to miss school and go to work, child labor maintains a cycle of poverty over generations.

There is need to cultivate a balanced understanding of legitimate engagement of children in economic activity and exploitative practices that infringe on the rights to education for children. Children can be legitimately engaged in work within the subsector after school and during weekends and school holidays as part of family labor and in employment to contribute to family income and welfare. However, this is to be done in such a way that it does not interfere with children's right to education. Hence, there is need to create awareness that: (i) exploitation of children is unacceptable, and so they should not engage in work that denies them a right to education; and, (ii) children can be economically engaged in coffee sector though in a limited way for learning and economic gain.

- c. Just like in most agricultural value chains, women tend to play major roles at the initial segments of the coffee value chain, laboring in the field, harvesting and processing, whereas men participate in activities such as transport and marketing of the product. In addition, typically it is the men who receive money from coffee sales and women have difficulty accessing it. Hence, while incomes from the coffee sector will grow, these

inherent obstacles that women face are likely to exacerbate disparity in income between men and women and may lead to intra-household conflicts.

Table 2 outlines a summary of sustainability issues regarding coffee production and processing.

Table 2. Sustainability concerns for coffee production and processing life cycle.

Life cycle stage and activities	Sustainability concerns (economic, social and environmental)
Farm level	<ul style="list-style-type: none"> - Expensive agro-chemicals - Health risks due to minimum use of protective gear - Soil pollution due to copper-based agrochemicals - Water pollution from agro-chemical carried in sediment - Inadequate support infrastructure - Health and safety standards of coffee workers - High energy and hence threat to tree cover
Factory level	<ul style="list-style-type: none"> - High water demand amidst other competing uses - Odour from accumulating coffee pulp - Water pollution from disposed waste water
Marketing	<ul style="list-style-type: none"> - Declining and volatile coffee prices - Lack of a robust management framework
Waste management	<ul style="list-style-type: none"> - Inadequate protective gear - Poor disposal of waste water, pulp and husk - Negative environmental load particularly due to accumulating pulp

Source: Kanyiri and Waswa, 2017

2.4 Impacts of the regulations on rights and fundamental freedoms

This section examines the likely impacts of the Coffee Regulations 2018 on the realization of human rights and fundamental freedoms.

2.4.1 Positive impacts on rights and fundamental freedoms

Article 43 of the 2010 constitution affirms the rights of individuals and communities to an adequate standard of life, under the concept of economic and social rights. The items set out in this article can be secured through the application and use of both the private resources of individuals and families as well as the public resources of the State. Overall the State has obligations to organize public national resources in such ways that enable successful initiatives by individuals and groups to invest, create employment and income, and eventually meet their needs from private resources. In Article 55 of the Constitution, there is additional responsibility of the State to take measures to ensure that youth can access employment and opportunities for social and economic advancement. Therefore, promoting investment, income and wealth creation in the agriculture sector and other sectors of the Kenyan economy is no longer a political discretion of the government but a requirement of the Bill of Rights. Further obligations of the State to promote the right to work are contained in the various international conventions of

which Kenya is a signatory. These include the International Covenant on Economic Social and Cultural Rights 1966. Article 6 of this covenant affirms the obligations of states to implement policies and techniques to achieve steady economic, social and cultural development and full and productive employment. The regulations seek to advance the government policy of implementing reforms in the coffee sector aimed at meeting the national goals set out in the Kenya Vision 2030, whereby the agriculture sector shall be a key driver in economic growth and value addition. The positive impacts can be summarized as follows:

- a. The review of minimum requirements for the issuance of licences for pulping, roasting and milling of coffee will enhance participation of more smallholder farmers in value addition.
- b. The provision for smallholder farmers to opt out of cooperative societies and operate under alternative associations
- c. Focus on value addition and prohibition of trading in cherry or parchment will reduce economic exploitation of farmers
- d. Establishment of cupping centres for capacity building for coffee liquorers
- e. Provision for farmers to trade their coffee at the Nairobi Coffee Exchange

The regulations are pro-grower and enable more people to participate in the coffee industry through enhanced access to licences for value addition and trading.

The regulations are also intended to address the perennial problems that have plagued the coffee sector. These include the low prices for raw coffee, mismanagement of coffee cooperative societies and the impoverishment of small holder farmers. If the reforms proposed in the regulations are implemented, they will have the positive impact of providing existing and new farmers better returns on their produce and investment. The regulations will create wealth and employment for more people in the rural areas, enabling them to be key partners in the multi-billion-dollar global coffee industry. This would contribute to improved household incomes and enhanced capacity to afford an adequate standard of living envisaged in the provisions of Article 43 of the Constitution.

2.4.2 Possible negative impact of the Coffee regulations 2018 on human rights

There are three possible negative impacts of the regulations:

(i) Mandatory membership in associations/cooperatives

Compulsory membership in a coffee association or cooperative may violate farmers' rights to the freedom of association. This is the case where farmers have been victims of inefficient cooperative societies and would not wish to repeat the experience.

Where a farmer applies for a pulping veto or no objection letter from a cooperative appears problematic. The cooperative societies have a conflict of interest and may withhold the no

objection letter. This will contravene the property rights of the producer seeking a licence for a pulping station.

(ii) Child labour

Coffee harvesting is labour intensive. It entails selecting and manually picking ripe cherries and leaving the unripe ones on the branches. Therefore, mechanization of coffee harvesting is still afar off. The revival and foreseeable boom in this crop will result in increased demand for labour. In most smallholder farms, coffee farmers use child workers. While the Children Act 2001 and employment legislation permit limit forms of child work, there is a real risk that a coffee boom will draw children from schools to farms to pick cherries.³ In some estates, workers frequently bring their children to the farms to help shore up the parents' daily production. The regulations mention the mandate of the AFA to formulate and enforce a coffee industry code of practice and standards on coffee production, processing and marketing (Clauses 4, j). These together with the Children Act 2001 should guide practice in the subsector to ensure that children are not engaged in exploitative labour practices. They will also help in reconciling the conflicting interests of growers, opportunities for income through working on coffee farms and the developmental rights of children involved in such situations.

(iii) Risk of food shortage and famine

When the coffee regulations are implemented, more people will be drawn into coffee production and land previously used for food crops will be reallocated to growing coffee. Consequently, food production on smallholder farms will drop as more land and other resources are channelled to coffee production. The main expectation is that the high earnings projected from the trading of processed coffee will enable farmers to purchase food. However, if coffee prices drop and/or other risks affect the coffee trade resulting in losses, coffee growing communities will be hit by food shortages and famine. In this context there is a real likelihood that the implementation of the coffee regulations may negatively affect the realization of the right to food in the coffee growing communities. To mitigate against this risk, we recommend measures for stabilizing prices and diversification in income generating activities alongside the coffee business.

2.5 Other regulatory or non-regulatory means of achieving the objectives of the regulations

This section highlights other complementary and supplementary strategies that will be needed to achieve the objectives of the regulations and could provide quicker and more flexible solutions to the problems facing the coffee sub-sector. They include:

2.5.1 Capacity for coffee growing and improving subsector competitiveness

The regulations aim at developing the coffee sub-sector but little emphasis has been put on the production portion of the value chain, yet the revival of the coffee industry is pegged on improvements in production, including the competitiveness in production. Increasing

³ It is estimated that children below 15 years supply up to 30% of the labour during peak harvesting period, and likely to infringe on their right to basic education.

productivity to the targeted levels of 5-10 kg per tree per year within 3 years, will lead to a reduction in production costs and enhance the competitiveness of the Kenyan coffee. However, it is not clear how the capacity for coffee growing will be promoted. There is no provision for a coffee development fund out of which subsidies could be drawn for providing planting materials, fertilizers and crop protection chemicals that will help drive down the costs of production. The regulations do not indicate how the input markets for fertilizers and pesticides can work more effectively for the farmers. The role of cooperatives in increasing productivity is not well articulated yet they are very crucial in the procurement and distribution of inputs to the farmers. This implies that regulations may not achieve the intended objectives unless specific interventions are applied to make the coffee production venture attractive and feasible. As things stand now, it is difficult to sell the project of coffee production in the country. Hence, we recommend that a Coffee Fund be set up to finance the sub-sector and create a push to invigorate it. In addition, short term subsidies on seed and fertiliser, prompt payment to farmers and other forms of incentives will go a long way in boosting coffee production. There is also no mention of disease and pest control although losses associated with them are quite substantial. Given the reduced acreage under coffee, a Coffee Fund to deal with these challenges would play a big role in attracting new growers both in traditional and non-traditional coffee growing areas. In addition, the regulations do not address the issue of farm land under coffee especially in areas where agricultural land is increasingly being converted to other uses such as real estate. This may call for a review of the national land policy and laws.

Overall, regulations need to address funding for the sector and have a clear incentive framework to encourage coffee production. There is a need for clear plans, provisions or strategies on investment that will lower the cost of production and improve sub-sector competitiveness.

2.5.2 Capacity for value addition

Barriers to value addition activities have been reduced through various provisions such the ability of smallholders with up to 5 acres under coffee to obtain a pulping licence. This enables them to add value to coffee cherries and sell beans to millers. However, it is not clear whether smallholders and other individuals that would like to engage in coffee-based and coffee-related businesses will be able to access capital or training/skills to set up the required facilities for value addition. Coffee regulations should include the obligations of county governments to provide support for the coffee industry.

Value-addition for coffee ranges from the very basic practices to very intricate processing and packaging activities that can add to the worth of the final product. The basic activities are very crucial in determining the final quality of the end product, yet not much emphasis is laid on them. Activities that contribute to value addition include appropriate land preparation, fertilizer application, pests and diseases control and management, irrigation, primary processing, secondary processing and maintenance of facilities. As aforementioned, support in production is crucial in improving quality of coffee.

Hence, there is a need for clear plans on funding and training to support the envisioned coffee-based businesses.

2.5.3 Regulatory and institutional support

The regulations provide that cooperative societies will not charge more than 20% of the coffee earnings. There is also reduction of some statutory deductions (ad valorem levy of 4% was abolished) and suggestions for forensic audit to establish debts for SACCOs and waiver for outstanding debts, affirmative action in cooperative leadership and training opportunities for liquorers. These regulations will attract more players into the industry and raise the economic performance of farmers and the country.

The regulatory support will require enactment of new laws, some of which are outstanding e.g. amendment to the AFA Act, Crops Act, Cooperative Act, enactment of Geographical Indication, Warehouse Receipts Bill. The Ministry of cooperatives should also ensure compliance with all the regulations that have been enacted. The county governments will have to be involved in this process.

In order to promote good governance of cooperatives, there is need to revise the Cooperative Act to ensure that the Board of directors and management of the cooperatives, auditors and officials from the State department of Cooperatives are held personally liable for corrupt practices that deny members services and returns

2.5.4 Information and education campaigns

These will help to inform public about new/existing products and hence influence the behaviour of individuals. In the coffee subsector, education campaigns could, for instance: encourage people to drink more coffee locally; create awareness about funding opportunities to support businesses created in the value chain; and, inform about potential negative effects of child labour and environmental pollution.

2.5.5 Financial and fiscal incentives

The incentives include tax increases/reductions, subsidies, concessionary loans with reduced interest rates, etc. While the current levels of coffee production are very low, farmers could be subsidised in order to encourage them to increase production. The subsidies could be in form of inputs such as fertilizers, planting materials and chemicals or access to cheaper loans. We note that the Coffee task force recommended subsidy programme to be funded jointly by national and county government to boost coffee production in the immediate term to raise production from the current level of 2 kg of cherry per tree per year to 8 kg within 2-4 years. This is practicable but requires huge expenditure from the public funds.

2.6 Other pertinent issues regarding draft regulations

The draft Coffee (general) Regulations (2018) can be strengthened through the following additional mechanisms and interventions:

2.6.1 Pricing mechanism for cherry

Neither the existing practice nor the draft regulations address the critical issue of grading cherries and this is a gap that needs to be addressed. There lacks quality differentiation of cherries, making farmers less concerned about quality. Grading is a good incentive for farmers and there is need to explore innovative ways of grading such as the floatation technique used in Ethiopia and Haiti.

2.6.2 Payment period

The duration within which farmers receive payments upon delivery of cherry should to be properly legislated. The current practice where farmers receive earnings once a year, several months after delivery of cherry is a big disincentive for production. The long waiting period implies that farmers lack continuous income and it reduces the attractiveness of coffee farming especially for the youth, and it is a major cause of coffee hawking (where farmers sell coffee to middlemen)

The payment scheme could be structured in form of a contingent contract such that farmers receive a first payment as a down payment or advance payment upon delivery of cherry and a second payment several weeks or months later that is contingent on quality achieved and prices received after the coffee is sold at the auction. This will be feasible given the suggested certification schemes. We note that the Taskforce formed in 2016 recommended the establishment of a Coffee Cherry Advancement Payment Scheme.

2.6.3 Youth participation in the coffee sector

Creating youth employment is currently a big agenda for Kenya, but the regulations are not clear on how youth will be mainstreamed in the coffee subsector, yet there are many opportunities for youth to engage along the value chain. These include participation in coffee production, primary processing, roasting, coffee shops and kiosks, coffee hawking and other coffee-related businesses such as fabricating machinery and equipment for processing and baking enterprises. To facilitate their involvement there may be need for: (i) training on coffee production; (ii) training in business skills and in particular those that support coffee-based and coffee-related businesses; (iii) access to affordable credit; (iv) creating awareness of funding for youth such as the Youth Fund and supporting them on how to access the funds.

2.6.4 Promotion of domestic consumption

Regulations are silent on promotion of domestic consumption of coffee, which is currently low at 3% of coffee produced in Kenya. While, there is a provision for a coffee roaster licence authorizing the holder to roast or grind and package coffee for local sale, there is no clear indication on how promotion of local consumption will be done or supported. The development and promotion of local consumption of coffee will create alternative markets and reduce dependency on dynamic international markets. Local

markets will help to retain the value of coffee locally and in turn improve farmers' incomes. One strategy that can promote local consumption is zero-rating coffee machines used in the coffee shops and kiosks for an initial period of three years to bring down the price of coffee and generate local demand.

2.6.5 Monitoring of unintended consequences

It is likely that the implementation of the policy will result in unintended consequences such as water pollution as a result of increased pulping stations. This report has highlighted some measures to mitigate against such consequences but the regulations need to incorporate how monitoring for such consequences will be done.

2.7 Concluding Remarks

The proposed regulations will have far reaching positive impacts will spur the development of the coffee subsector across the coffee value chain players. Overall, the benefits arising from the implementation of the new regulations outweigh the potential negative impacts identified. However, there are certain issues which are pertinent to the revival and development of the coffee sub-sector including coffee productivity and quality, but they have not been addressed in the Regulations. These include: (i) cost of production (land preparation, fertilizer application); (ii) pest and disease control; (iii) irrigation; (iv) inclusion of women and youth; (v) crop insurance; and, (vi) child labour.

It is our view that these issues can be addressed through regulations focused on specific issues such as pests and diseases or better still, they can be examined comprehensively through a coffee strategy.

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**TEGEMEO INSTITUTE OF AGRICULTURAL
POLICY AND DEVELOPMENT**

FINAL REPORT

ON

**REGULATORY IMPACT ASSESSMENT OF THE DRAFT COFFEE (GENERAL)
REGULATIONS, 2018**

Submitted to:

The Agriculture and Food Authority

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1. Background

The coffee sector in Kenya supports an estimated 5 million people, both directly and indirectly. The current production of about 40,000 metric tonnes (MT) is significantly lower than in 1998 (128,926 MT). This reduction is attributed to poor payment to farmers and reduced yields caused by high incidence of coffee leaf rust and coffee berry disease (FAO 2013). Most of the coffee farmers are small-scale, currently estimated at 700,000 and producing around 60% of the country's output. The rest is produced by farmers holding at least five hectares. Most small-scale farmers grow coffee on their own farms, which are properly titled. This reduces the risk of incidences of land conflicts in the coffee sector (GoK 2016).

The sector is currently characterized by low earnings (especially for small-scale farmers), low yield per plant, high cost of inputs, governance weaknesses and declining acreage under coffee production. According to the Food and Agricultural Organisation of the United Nations (FAO), the total acreage under coffee has declined by approximately two-thirds between 1990 and 2014, while yield per hectare has reduced by almost half (FAO 2015). Statistics from the Agriculture and Food Authority (AFA) also a declining trend in area and production (Table 1). The dismal performance in coffee production has resulted to increased poverty in the growing areas. Fertilizer is one of the critical inputs in coffee production that contributes significantly to production costs. However, with increasing fertilizer prices majority of the farmers have been forced to abandon use of fertilizers and instead use manure or none at all. It is critical that farmers are supported to access fertilizer at competitive prices. Another critical production activity is pest and disease control which accounts for 30-35 percent of the production costs. Prices of chemicals have also increased significantly, which has led farmers to abandon use of chemicals or use them sub-optimally. To revive the coffee industry, there is need for efforts to improve profitability of production, which implies that interventions to improve productivity and cut down on costs of production are required. In addition, the rapid growth of the specialty coffee market has presented new opportunities for smallholder farmers and for them to benefit from this rising demand, there is need to improve both the yield and quality of coffee.

In Kenya, the coffee sector contributes about 8% of the total exports earnings with an annual inflow of about Ksh 20 billion. Throughout the years the coffee industry has been characterized by cyclical market trends. Since 2003, the coffee markets have been on a steady recovery. The recovery has been largely attributed to the increasing global deficit, as the expanding consumption outpaced the growth in supply. It has further been projected that globally, coffee supply will continue to be constrained by various factors including climate change and resource competition, while consumption will continue to grow in both traditional and emerging markets. This overall position presents a generally viable proposition for producers of coffee across the world.

Coffee marketing is done through two channels. First is the Coffee Directorate-licensed marketing agents and dealers at the Nairobi Coffee Auction, which accounts for 90 % of the coffee sales. The second option is direct sales by marketing agents to consumers or their

representatives, which accounts for the remaining 10 % of the coffee sales. The aim of direct sales is to give growers a direct link with international buyers of the Kenyan coffee. Some notable challenges with direct sales include: most growers are not able to supply the required volumes consistently; growers have limited market intelligence and capacity to negotiate contracts and handle export logistics; and, poor promotion of Kenyan coffee in the international markets. It is worthwhile to note that the rapid growth of the specialty coffee market has created new opportunities for smallholder farmers in Kenya.

Table 1: Coffee Production Trends (2008-2015)

		2008	2009	2010	2011	2012	2013	2014	2015
Area under coffee (ha)	Small holder	122,040	106,656	120,000	120,000	85,189	85,200	85,300	87,433
	Estate	40,680	53,344	40,000	40,000	24,606	24,600	24,700	26,067
Total		162,720	160,000	160,000	160,000	109,795	109,800	110,000	113,500
Production (Mt)	Small holder	22,260	29,370	22,280	19,600	27,000	21,900	32,700	27,230
	Estate	19,740	24,650	19,720	16,660	22,000	17,900	16,800	14,807
Total		42,000	54,020	42,000	36,260	49,000	39,800	49,500	42,037

Source: Coffee Directorate, AFA

The Agriculture and Food Authority (AFA) Strategic Plan (2016-2019) has proposed some measures to increase coffee production and consumption in the country. The plan proposes to increase the area under coffee from 110,000 to 130,000 Ha by 2021. The extension services will be strengthened as well as promotion of new varieties and reintroduction of Robusta coffee at the Lake Basin and Coastal areas. The plan also proposes to increase domestic coffee consumption by at least 5% by 2021. On international coffee trade, the plan is to hold at least four international coffee fairs per year from 2016 to 2021.

2. An assessment of the impact of coffee regulations

The Crops Act 2013 Section 40 gives the Cabinet Secretary in charge of Agriculture the powers to make regulations for the better carrying out of the provisions of the Act. In light of this, AFA in consultation with the counties and relevant stakeholders drafted the Coffee Regulations 2018. AFA engaged Tegemeo Institute of Agricultural Policy and Development, Egerton University to undertake a regulatory impact assessment of the Draft Coffee Regulations.

The assessment of the regulations sought to determine:

- i. economic, environmental and social costs as well as benefits associated with the regulations
- ii. administration and compliance costs (including resource allocation costs) that will be required to put the regulations in place

- iii. their impact on the private and public sectors and fundamental rights and freedoms
- iv. whether there are other practicable means, regulatory or non-regulatory of achieving the objectives of the regulations. This will focus on complementary and supplementary strategies for achieving the objectives of the regulations.
- v. if there are other pertinent issues that have been omitted or not well articulated in the regulations and which are likely to impact on the implementation of the regulations as well as the revival and performance of the coffee sub-sector. These include cherry pricing mechanism, payments to farmers, youth engagement in the coffee subsector and domestic consumption.

2.1 Benefits to be derived from the regulations

The benefits that are expected to be derived from the regulations relate to aspects of production, processing and marketing of coffee as well as efficiency in delivery of services for value chain players. This section outlines the potential benefits and identifies specific clauses in the regulations, indicating how they are likely to confer the outlined benefits.

(i) Increased production of coffee by farmers

Overall, the regulations seem to focus more on improving coffee trading and marketing, but this is not enough. It is particularly necessary to pay attention to improving production at the farm level, given the trends in declining yields and acreage under coffee. Increased volumes will mitigate the falling prices in the global market. However, the provisions that will boost production include:

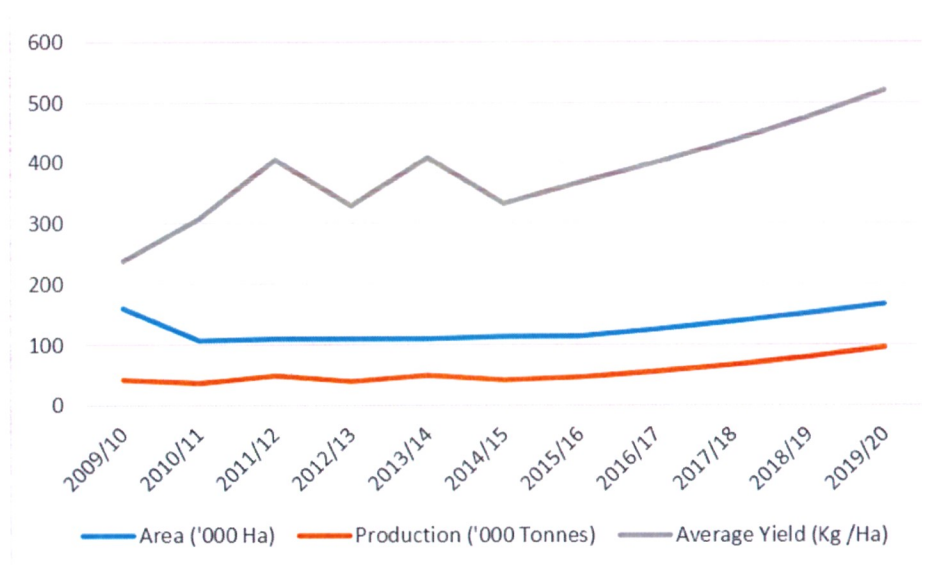
- Clause 5 (d): the county governments shall offer extension services on coffee production and primary processing. Extension services at the county level are currently inadequate and they need to be revamped to provide intensive agronomy training to boost productivity. However, focus should not be on agronomic practices without business development services, since there is need to promote and support coffee farming as a business among farmers and farmer organizations. Hence, county governments may need to support coffee specific extension within the revamped extension delivery systems, which will meet the prevailing industry requirements. This may mean supporting coffee specific extension in every coffee producing county; training extension service providers in coffee specific extension knowledge including business development services; and, building capacity and support for farmer-led extension systems.
- Clause 5 (g): the county governments in collaboration with the law enforcement agencies will enhance security in coffee growing areas. This will reduce the cases of theft of cherries and parchment; if farmers can't secure their harvest, they will stop growing coffee and production will decline further.
- Clause 5 (h): the county government will enforce policies and guidelines on corporate governance in coffee grower institutions. This has been a major challenge in the past due to

corruption and mismanagement of these institutions that has contributed to dismal performance. Cooperatives are considered key for increasing the scale of production, maintaining quality standards and guaranteeing the reliability of smallholders as preferred suppliers in the coffee value chain.

- Clause 5 (i): the county government will monitor and report incidences of pests and disease outbreaks and take appropriate action with relevant agencies.
- Clause 17 (1,2): for record purposes estate growers and smallholder farmers who plant or uproot coffee will notify the county government/cooperative society in writing within six and three months of doing so, respectively, regarding the size of area planted or uprooted. This will guide the sector players in planning and output projections.
- Clause 18 (1): The Authority shall develop and enforce a coffee industry code of practice and standards on coffee production, processing and marketing
- Clause 20 (1, 2): Coffee certified seeds or seedlings will only be accessed from the Kenya Agricultural and Livestock Research Organization (KALRO) or its authorized agents. This will ensure that farmers are provided with quality planting materials. There is need to sensitize farmers of newer varieties such as Ruiru 11 and Batian that are disease resistant, grow faster and have higher yields compared to older varieties.

If the interventions outlined above are implemented as envisioned, area under coffee as well as production and productivity are expected to improve as shown in Figure 1.

Figure 1: Coffee production for the period 2009-2015 and projections for the period 2016-2020

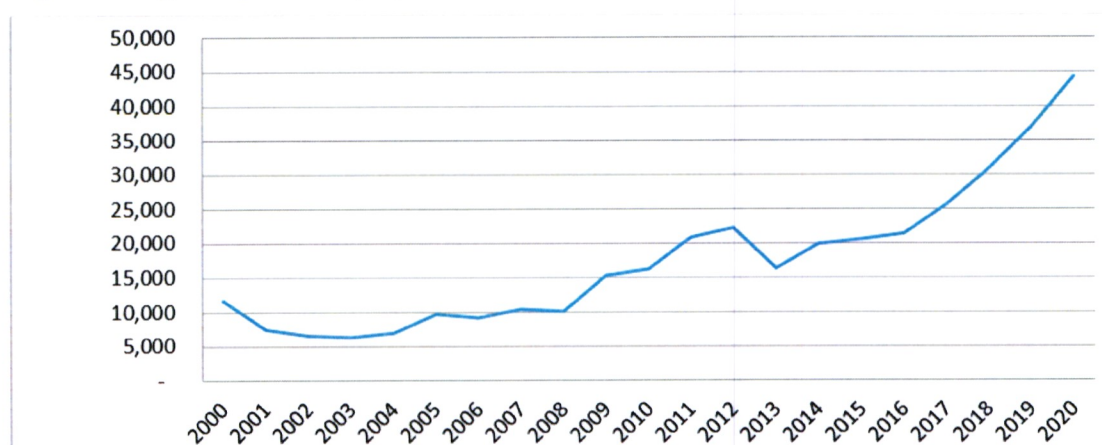


Source: Economic Surveys (various publications) and authors' calculations

Assuming that the regulations will lead to an increase in area under production by 10 percent, we expect coffee production to increase by 20 percent every year. The yields will increase by 29 percent by 2020. Increase yields will result in lower costs of production, better incomes and improved competitiveness at the production level. If provisions are supported by clear plans for financing the capacity to produce, the benefits from the projected increases will be larger.

With the new regulations, coffee production will increase due to improved crop husbandry and marketing. This will open up more marketing opportunities both locally and abroad that will stimulate increased exports. Assuming an annual growth of coffee exports by 20 percent, the value of exports will potentially increase to approximately Ksh 45 billion by 2020 in nominal values as shown in Figure 2.

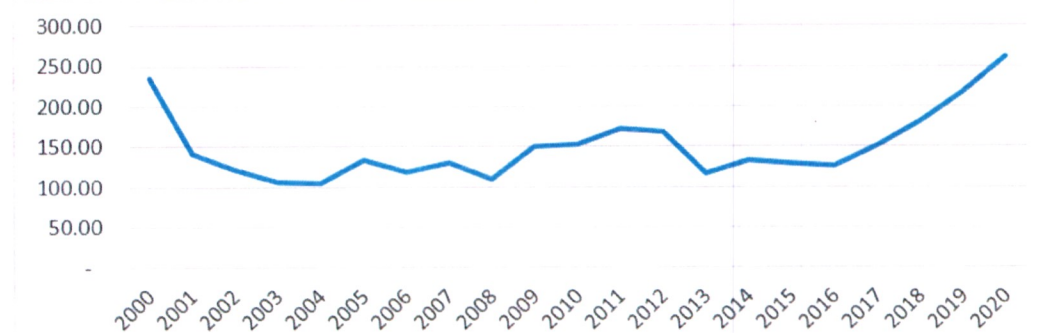
Figure 2: Coffee exports and projections in nominal values (Ksh. Million)



Source: Economic Surveys (various publications) and authors' calculations

Since 2010 coffee exports have been on a downward trend in real values as shown in Figure 3. With stability in exchange rate and market prices the earnings from coffee will potentially increase to Ksh 250 million by 2020 in real values.

Figure 3: Coffee exports and projections in real values (Ksh. Million)



Source: Economic Surveys (various publications) and authors' calculations

(ii) Increased growers returns

While increased coffee production will lead to higher returns for coffee growers, other provisions in the regulations will also ensure increased returns for farmers. These include:

- Clause 10 (1) b): Growers can apply for a pulping license to operate a pulping station at a reasonable fee. This will enable farmers to benefit more from selling fully washed coffee at much higher prices to the millers compared to prices they receive for cherry delivered to cooperatives. This benefit can be greater if affordable and locally assembled wet mills are accessible.
- Clause 10 (1) c): Growers can apply for a milling license to pulp, mill, market or roast own coffee. This will create opportunities for value addition that improves the farmer returns.
- Direct sales between growers or grower millers with overseas buyers will allow cooperatives to cut the cost of middlemen and hence improve farmer returns, especially where governance of cooperatives has improved.
- Experts on the world coffee market often make reference to the "coffee paradox". The global coffee chain is currently characterized by a paradoxical coexistence of a 'coffee boom' in consuming countries and a 'coffee crisis' in producing countries. A coffee crisis in producing countries is characterised by a trend towards lower prices, declining incomes and profits affecting millions of people in the world's poorest countries. On the other hand, a coffee 'boom' in consuming countries comprises of rising sales and profits for coffee retailers and roasters. This coffee paradox is typical in Kenya and it exists mainly because what coffee farmers sell and what consumers buy are very different coffee products. As long as coffee farmers do not control at least what the consumers want, they will keep receiving low prices. This can be addressed through empowering growers to add value by producing specialty coffee and accessing direct markets. Better organized farmers as envisioned in the regulations, either through strong co-operatives or other legal entities can intervene directly in the coffee market by bringing strength through numbers in the negotiation of better coffee prices.
- A warehousing receipt that will be issued to farmers by a licensed coffee warehouseman in respect of coffee stored in a licensed warehouse can be used as collateral, hence opening avenues for farmers to access credit for coffee-related activities or other expenditure including businesses.

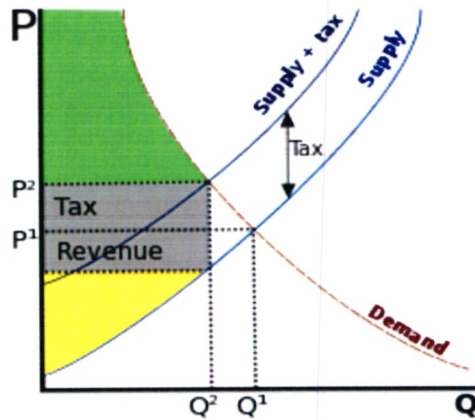
(iii) Minimized taxation

- The 4% levies charged to the farmers to finance the Coffee Directorate, Coffee Research Institute and roads levy were abolished through the Finance Act 2016. The reduction of levies will increase the farmers' incomes. Reduction of taxes levied on coffee farmers will

have positive impacts on the producers and consumers but will lead to loss of revenue to the government. The effect can be evaluated through changes in both producer and consumer surplus. Producer surplus represents the benefit the seller gains from selling a good at a specific price. The coffee producer surplus will increase as a result of reduction in taxes. This is due to the increase in quantity of coffee sold as the relative price of the good decreases with the reduction in taxes. This will ultimately lead to better incomes for the coffee farmers. Consumer surplus refers to the net gain that a consumer receives when she purchases a specific good at a specific price. It represents the difference between the actual price paid for a good and the price a consumer would be willing to pay to purchase the good. With the reduction in taxes levied to coffee farmers the overall price paid by consumers for coffee decreases. At a lower price level, demand for the good increases, resulting in increased consumer welfare. However, the loss of revenue is likely to negatively impact research and state of roads in coffee growing areas, unless the National and County governments support these from other funds.

In addition, elimination of the levy will result in reduced income for the Coffee Research Institute (CRI), which has been supporting farmers to improve productivity. Farmers may not be willing to pay costs for accessing services offered by CRI, given that without funds from the levy, CRI will not be able to offer extension as a public good. This will likely affect farmers negatively since many farmers are not used to paying for research and extension services. Without access to these services, it's also unlikely that they will adopt new technologies or improve their productivity.

Figure 4: Effect of tax reduction on coffee output



As illustrated in Figure 4, with reduction in taxes, the supply (coffee output) increases, the price decreases and this leads to increased demand.

- The cooperative society commission not to exceed 20 % of the net earnings from the coffee sales. This rate has been retained as before and the commissioner of cooperatives ought to enforce this rule. This will help to boost farmer returns.

(iv) Increased efficiency in service delivery

- Licensing: the regulations have clearly stated how licences will be issued by AFA and the county governments and nobody will be allowed to transact in any coffee business without a valid license
- Clause 10 (1) (a to d) specifies the licences to be issued by the county government (coffee nursery certificate, pulping station license, growers' milling license and coffee roaster license).
- Clause 10 (2) (a to e) specifies the licences to be issued by AFA (commercial millers license, liquoring, cupping, warehousing and trading licenses).
- Clause 11 (1): to avoid conflict of interest, a holder of a coffee trader's license will not be licensed as a commercial miller or a ware houseman. Large coffee businesses can overcome this licence regulation by establishing new companies that operate independently on paper but that are subsidiaries owned by a business group. This will, however, not be feasible for small businesses, which may find the costs of such moves or decisions too high. The result may be a market structure, where medium sized businesses (traders, millers or processors) are nearly absent.
- The regulations have provided for the issuance of movement permits that will allow movement of coffee. Clause 15 (5) states that the licensing authority will monitor the movement of coffee between stores and the market to ensure that coffee is safe and minimize illegal coffee dealings. However, this will not apply to a smallholder farmer moving own coffee between the farm and the pulping station where he is registered.
- Clause 5 (f): the county government will enforce policies and guidelines on corporate governance in coffee grower institutions, which is expected to streamline operations and improve service delivery.
- Clause 25 (1, 2): the establishment of the Direct Settlement System (DSS) will facilitate faster payment of coffee proceeds to farmers.
- Clause 5 (a): the county governments shall offer extension services on coffee production and primary processing. Better services that will include business development services and coffee specific extension will be beneficial.

(v) Improved coffee marketing

- Clause 23 (3): Through the growers milling licenses, the growers will have access to the Nairobi Coffee Exchange (NCE). In the past farmers were not allowed to trade at NCE and participation was restricted to licensed marketing agents and dealers. The new regulations allow farmers to participate in the marketing of their coffee at the NCE, which will improve their returns. There will be minimum tonnage to be sold by the millers at the NCE introduced to minimize congestion

- The regulations have eliminated several licenses. These include grower marketer, commercial marketing agent and management agent certificate. This will help reduce the number of value chain players and length of the chain, and associated bureaucracy.
- Clause 11 (1): a holder of a coffee trader's license shall not be licensed as a commercial miller or warehouseman. This will take care of the cross-ownership challenge that increases conflict of interest in form of insider trading in favour of dealers.
- Clause 24 (1, 2) allows a grower cooperative society or other legal entity to undertake direct sales or sell clean coffee to local roasters for local value addition. Farmers could target the new markets such as Ukraine and Russia that are witnessing a sharp increase in the consumption level. Several Middle Eastern countries having higher disposable incomes are also predicted to offer good prospects for growth in the short-to-medium term period.
- Clause 25 (1,2); the Nairobi Coffee Exchange (NCE) shall be incorporated in accordance with Capital Market Act to maintain a transparent and efficient auction system for coffee trading
- Clause 26 (3): the establishment of the Direct Settlement System (DSS) in licensed commercial banks will facilitate faster payment of coffee proceeds to farmers. DSS will be piloted before being rolled out and a transition period of one year provided for the DSS to be rolled out. DSS provider to remit the proceeds to growers and service providers within 10 days after the auction- currently law stipulates 14 days after the auction
- The pulping station licensees have no authority to receive growers' money after the sale of coffee; payment will be done directly to the grower from the DSS or other agent appointed by the grower for that purpose.
- Clause 19 (1-7) provides for the certification of the Kenyan coffee. This means that coffee will be labelled for traceability that ensures quality is maintained and adds more value. The rules allow growers and millers to seek for certification from the Authority. The welfare impact of certification can be measured with a wide range of indicators. Most studies focus on coffee yields, prices and (net) revenues. A study on impact of coffee certification on smallholder farmers in Kenya found that certified farmers are likely to fetch significantly better prices for their coffee. Farmers selected for certification were usually found in sub-optimal production areas. Consequently, initial gains from certification are usually high, but these tend to disappear once other non-certified farmers catch up in the process.
- Clause 28 provides that the authority will coordinate coffee stakeholders at national and international events for the purpose of promoting Kenya coffee. While the bulk of coffee is exported, only 3 percent is consumed locally. An increase in consumption favouring a gradual rise in world prices would be a positive factor for economic growth and increased per capita incomes.

(vi) Insurance against losses

Clause 22 (5): commercial millers will be required to take insurance cover against fire, theft and other risks for all the coffee in their possession. This will reduce cases of coffee theft from stores that have been quite rampant.

Clause 21 (3) c: While the coffee is at the pulping station, the licensee shall insure the coffee against loss and damage while at the station and in transit and reinforce the security of the station to guard against theft of coffee.

(vii) Improved milling and processing of coffee

- Competitive procurement of milling services: Clause 22 (14) provides that a cooperative society or any entity representing smallholder farmers will have to bid for milling services before issuing any contracts. This will ensure transparency and accountability in the milling process.
- Clause 10 (1) d) provides for a coffee roaster licence authorizing the holder to roast or grind and package coffee for local sale. Local processing and sale of high value coffee increases value added.
- To promote local processing and value addition, provision of tax incentives (e.g. removal of duties) on roasting machines and packaging materials need to be considered.

2.2 Costs associated with the regulations

The costs include economic, environmental, social, administration and compliance costs (including resource allocation costs) that will be required to put the regulations in place.

- i) The cost of comprehensive insurance against loss or damage to coffee will be incurred by the millers and warehousemen
- ii) The compliance costs are numerous and could be expensive. These include tax compliance, NEMA certificate (Ksh 40,000), Occupational Health and Safety Certificate, Certificate of Registration and County Business permit.
- iii) The registration (Ksh 500) and nursery certificate (Kshs 1,000) fees are quite manageable for the smallholder farmers
- iv) The pulping station license fee (Ksh 1,000) and Grower's miller licence (Ksh 10,000) are quite reasonable especially for the smallholder farmers.
- v) Movement permits of one US dollar per leaf for clean coffee. However, licence for movement of parchment/buni is free of charge.
- vi) The roasters license (Ksh 5,000) issued by the county government is quite reasonable and could promote value addition

- vii) Commercial Coffee millers license (USD 1000/ Ksh 100,000)
- viii) Independent cupping center (Ksh 20,000) to be incurred by grower and commercial millers
- ix) Warehousing costs to be paid in Kenya Shillings per 60 kg bag of the coffee stored at the warehouse. The cost shall be paid by the grower through the Direct Settlement Service once the coffee is sold.
- x) A commercial miller's bank guarantee (1 Million-12 Million USD). However a commercial miller who does not handle coffee sale proceeds on behalf of the grower shall be exempted from this requirement.
- xi) Cost of warehousing facilities will be borne by the warehouseman to ensure that the storage facility licensed for the storage of coffee is well designed and maintained to guarantee the quality and safety of the coffee, including providing for insurance against loss of damage.
- xii) Inspection costs
 - Clause 34 (1) indicates that the Authority, in collaboration with the County Governments, shall conduct inspection of coffee farms, coffee nurseries, pulping stations, coffee mills, warehouses, cupping centres, vessels transporting coffee or the premises of coffee traders to ascertain compliance with the requirements of the Act and these Regulations.
 - In addition, clause (36) indicates that the Authority will conduct periodic surveillance among all the above players to assess the degree of compliance with the coffee industry policy, standards, code of practice, laws and the general well-being of the coffee industry.
 - Clause 5 (i): The county governments shall monitor and report incidences of pests and disease outbreaks and take appropriate action in collaboration with the Authority and other relevant government agencies.
- xiii) Capacity building

This will be done at various levels and for different players across the value chain, for which resources will need to be allocated:

 - Clause 4 (2) b): The Authority to co-ordinate capacity building activities for players in the coffee value chain.
 - Clause 4 (2) e): The Authority to conduct local and international coffee market intelligence and promotional activities including the application of the National Coffee Kenya Mark of Origin
 - Clause 33 (2): The Authority, in consultation with industry stakeholders, shall develop a training curriculum, conduct examinations and issue certificates for coffee liquorers.

xiv) Environmental costs

Coffee production and processing have considerable impacts on the environment. These impacts include high consumption of energy, water and land. After coffee is picked, the pulp and mucilage is removed which requires two different processes. Coffee is then dried, the parchment removed and then sorted. The main sustainability concerns in coffee processing are as a result of intensive use of pesticides and poor disposal of waste products. About 99% of the biomass waste produced, mainly untreated pulp and husks is discarded on land. Further coffee processing consumes high quantities of water and energy. It is estimated that over 200,000 tonnes of pulp at 77% moisture content and 2,300,000 litres of polluted water are released into the environment every day in Kenya (Shitanda 2006). On average 45.5 kg of green coffee requires between 1,000 and 2,000 litres of water, 12.5 kWh of electricity and 0.07 cum of firewood for processing (Instituto del Caf  de Costa Rica -ICAFE, 2006). A survey of rivers between Nairobi and Thika towns in Kenya showed that they were all polluted with coffee waste with Biological Oxygen Demand (BOD) levels of more than 100 mg/l. The unpolluted rivers had BOD of 4 mg/l (Wrigley, 1988). Although a river of 10 mg/l is considered significantly polluted, the maximum allowable limit of effluent discharge into the environment is 30 mg/l (BOD 5 days at 20°C) according to Kenya's National Environment Management Authority (NEMA) Standards (Republic of Kenya, 2006). With the proliferation of coffee milling, due to the increased number of pulping stations, it will become necessary to assess possible negative environmental effects. This will mean additional costs and resources for an environmental impact assessment by NEMA before registering the mills.

xv) Social costs

Increased coffee production will result in need for more labour, which could easily attract school going children and could negatively impact on their schooling outcomes.

2.3 Impact of the regulations on the private and public sectors

The Coffee Regulations are aimed at providing regulation, promotion and development of the coffee industry. Hence, the regulations will have both negative and positive potential impacts on the players in the coffee value chain, both in the private and public sector. Both positive and negative impacts can be summarized as follows:

Economic impacts

The implementation and enforcement of the regulations will lead to a more vibrant coffee subsector from production to consumption. This is expected to have economic impacts at different levels of the economy, which can be summarized as follows:

- a. Household incomes: these will increase as coffee production, productivity and marketing improve. Also, the review of minimum requirements for the issuance of licences for pulping, roasting and milling of coffee will enable participation of some farmers in value addition, which will boost the business component of household incomes. Overall, higher incomes will lead to better household welfare including food and nutrition security.
- b. Business growth and employment: with promotion of coffee production and easier entry into more value addition activities in pulping, milling and roasting, coffee-based small and medium scale businesses and industries (SMEs) will emerge through both backward and forward linkages. They will directly and indirectly benefit about five million people in the country by providing income and employment, particularly for the youth, who have an inclination toward participating in value chain activities post-production level. These businesses could include coffee shops and street coffee vending that may also lead to growth of other businesses such as bakeries. They are supported by a growing urban coffee culture among young adults and professionals, due to increasing urbanization and higher incomes among the middle and upper classes. We also expect to see growth in manufacturing businesses that will support the coffee-based SMEs in terms of fabricating pulping and roasting equipment as well as developing or importing coffee packaging machines and materials and coffee dispensing and vending machines. Youth employment can be boosted through such coffee-based and related businesses, particularly if they are able to access finance. To boost business growth in the sub-sector, there is need for tax incentives such as zero-rating of equipment and machines.

In the short to medium term, it is expected that there will be an increase in the number of pulping stations. However, their efficiency may be hampered by their size¹ and hence in the long-term, there may be incentives to consolidate such businesses to achieve economies of scale.

- c. Value addition and global market access: one of the major challenges that has affected the coffee sector is limited value addition. Although Kenyan coffee is of superior quality, it is mainly sold as a raw material for blending, with little or no value addition. Consequently, coffee has had relatively lower market value leading to a reduction in incomes that accrue to the local economy. The regulations will facilitate a reversal of this trend and hence create more value overall and for each player along the coffee value chain, as well as support sustainable commercial production of coffee where farmers are assured of stable and remunerative returns. In addition, strategies to market coffee that are provided for in the regulations will create a bigger footprint for Kenyan coffee in the world market. These include opportunities for farmers, cooperatives, associations and other legal entities to engage in direct sales with overseas buyers and sell coffee in the NCE; and, promotional strategies such as the application of the National Coffee Kenya Mark of Origin and use of certification schemes for Kenyan coffee. Creating real value

¹ Farmers with 20,000 kg of cherry on an average over three years can apply for a pulping station license.

out of the Kenya Coffee brand will promote foreign exchange earnings for the country. This can be greatly enhanced by branding coffee based on quality and taste profiles unique to the area of origin and sold as premium coffee.

Additionally, by adhering to the code of production standards, coffee growers can access specialty markets, which confer price premiums of up to 40% compared with conventional coffee. Farmers can then use these increased revenues to access education, health and new business enterprises.

- d. Economy-wide growth: increased production and marketing of coffee, particularly in niche markets will lead to an increase in foreign exchange earnings for the country. In addition, through linkages with other sub-sectors such as manufacturing, it is expected that better performance of the coffee sub-sector will result in higher incomes for various players in other sub-sectors. More importantly, given that the status of the agriculture sector greatly determines the overall economic growth of the Kenyan economy, a vibrant coffee sub-sector will boost growth in the agricultural sector and, hence overall economic growth through the various linkages that agriculture has with other sectors. A better performing economy will enable the government to meet its key targets as outlined in the Kenya Vision 2030, the SDGs and other sectoral strategies such as the proposed Agriculture Sector Growth and Transformation Strategy (ASGTS). In particular, it is recognized that the youth unemployment challenge in Kenya is primarily a problem of labour demand since the economy is not creating sufficient jobs to cater for the increasing number of youth that is entering the labour market. Hence, a vibrant coffee sector will contribute to youth employment and the achievement of the goal of the Kenya Youth Agribusiness Strategy 2017-2021, which aims at positioning the youth at the forefront of agricultural growth and transformation.
- e. Increased idle milling capacity: currently there is milling overcapacity in the country occasioned by the consistent decline in coffee production over the last few decades. There is a likelihood of increased idle capacity and a potential waste of resources in installing/commissioning additional milling capacity when there is close to 80 % idle capacity in the industry. Unfortunately, it is likely that farmers may bear the brunt of this extra cost. Stakeholders need to recognize that expansion and improvements in processing will be tied closely to increased coffee production to enhance operational efficiency and economies of scale.

Environmental impacts

The regulations provide for ease of registration and licensing of pulping stations since a farmer owning a minimum of 5 acres of coffee or 20,000 kg of cherry on an average over three years can apply to operate a pulping station. While this will promote incomes and create businesses, it may have negative environmental consequences, if it results in a proliferation of pulping stations in the coffee growing areas. These may include:

- a. A strain on water resources: increased abstraction of water to run the wet mills will lead to a strain on water resources that are already diminishing in some areas due to climate change. Consequently, there will be competition for water amongst many users and uses.
- b. Pollution: there will be increased effluents from the pulping stations and pollution from increased use of insecticides that will likely pollute the river waters for downstream users. Although an environmental impact assessment by NEMA may be conducted, the ensuing pollution will require clear plans for water treatment and waste disposal, given that about 47% of Kenyans access water from unimproved water sources include water from rivers or streams, dams, ponds, lakes, unprotected wells and unprotected springs. As a mitigation measure, coffee farmers and owners of pulping stations can be trained in water conservation and supported² to put in place wastewater treatment systems as is being done in countries like Rwanda. This will result in responsible coffee production that leads to cleaner water and healthier rivers.
- c. Increased use of chemicals: there is a likely increase in use of chemicals as coffee production improves and their safe use may become a challenge. To deal with this potential risk, there is need to: (i) sensitize players on right to a safer work environment by creating awareness on safety hazards of the chemicals; (ii) train growers and workers on safe use of chemicals; and, (iii) provide appropriate protective gear and equipment.
- d. Higher energy requirements: the pulping stations will require more energy that will lead to a further strain on national energy grid. While coffee mills can run on diesel, this will exacerbate the pollution challenge. Possible mitigation measures could include use of solar powered energy systems and wind energy; and, exploration of innovative ways of generating energy from processing waste as in the case of sugar firms that generate clean power from bagasse.
- e. Destruction of ecosystems: clearance of forests and natural habitats for birds to plant coffee will severely affect the breeding of birds in some ecosystems. To maintain ecosystems and promote sustainable and responsible production, the Rain Forest Alliance recommends agroforestry, i.e. integration of coffee and tree (avocado, grevillea) production.

² This can be in form of technical assistance and funding that support them to building waste water treatment systems

Social impacts

The regulations are likely to have positive and negative as well as direct and indirect impacts on different populations. The impacts can be captured in terms of creation/loss of jobs, income distribution, access to goods and services and social inclusion of different groups, and can be summarized as follows:

- a. A more vibrant coffee sub-sector from production to consumption will lead to overall increased employment. According to a report by ILO (Mureithi, 2008) between 2001 and 2005, the estate sub-sector accounted for an average of 61,000 employees in any one year, equivalent to 19 percent of total employment in agriculture and forestry activities and about 4 per cent of total employment in Kenya. However, when workers in other coffee activities either for pay, profit or family gain in the small coffee farms/cooperatives are included, close to a million people depend on the coffee sector for their living, employed at some stage in the commodity chain. We expect that with the revival of the coffee subsector, the number of people employed along the value chain will double.
- a. Mainstreaming of youth in the sub-sector through supporting them to engage in coffee-based and coffee-related businesses such as coffee shops and kiosks will reduce youth unemployment.
- b. Child labor is widespread during peak coffee harvesting seasons. At such times, the incentive for poor families to withdraw their children from school and send them to work increases. Since higher levels of education are tied to higher income over the long term, and children from poor families are more likely to miss school and go to work, child labor maintains a cycle of poverty over generations.

There is need to cultivate a balanced understanding of legitimate engagement of children in economic activity and exploitative practices that infringe on the rights to education for children. Children can be legitimately engaged in work within the subsector after school and during weekends and school holidays as part of family labor and in employment to contribute to family income and welfare. However, this is to be done in such a way that it does not interfere with children's right to education. Hence, there is need to create awareness that: (i) exploitation of children is unacceptable, and so they should not engage in work that denies them a right to education; and, (ii) children can be economically engaged in coffee sector though in a limited way for learning and economic gain.

- c. Just like in most agricultural value chains, women tend to play major roles at the initial segments of the coffee value chain, laboring in the field, harvesting and processing, whereas men participate in activities such as transport and marketing of the product. In addition, typically it is the men who receive money from coffee sales and women have difficulty accessing it. Hence, while incomes from the coffee sector will grow, these

inherent obstacles that women face are likely to exacerbate disparity in income between men and women and may lead to intra-household conflicts.

Table 2 outlines a summary of sustainability issues regarding coffee production and processing.

Table 2. Sustainability concerns for coffee production and processing life cycle.

Life cycle stage and activities	Sustainability concerns (economic, social and environmental)
Farm level	<ul style="list-style-type: none"> - Expensive agro-chemicals - Health risks due to minimum use of protective gear - Soil pollution due to copper-based agrochemicals - Water pollution from agro-chemical carried in sediment - Inadequate support infrastructure - Health and safety standards of coffee workers - High energy and hence threat to tree cover
Factory level	<ul style="list-style-type: none"> - High water demand amidst other competing uses - Odour from accumulating coffee pulp - Water pollution from disposed waste water
Marketing	<ul style="list-style-type: none"> - Declining and volatile coffee prices - Lack of a robust management framework
Waste management	<ul style="list-style-type: none"> - Inadequate protective gear - Poor disposal of waste water, pulp and husk - Negative environmental load particularly due to accumulating pulp

Source: Kanyiri and Waswa, 2017

2.4 Impacts of the regulations on rights and fundamental freedoms

This section examines the likely impacts of the Coffee Regulations 2018 on the realization of human rights and fundamental freedoms.

2.4.1 Positive impacts on rights and fundamental freedoms

Article 43 of the 2010 constitution affirms the rights of individuals and communities to an adequate standard of life, under the concept of economic and social rights. The items set out in this article can be secured through the application and use of both the private resources of individuals and families as well as the public resources of the State. Overall the State has obligations to organize public national resources in such ways that enable successful initiatives by individuals and groups to invest, create employment and income, and eventually meet their needs from private resources. In Article 55 of the Constitution, there is additional responsibility of the State to take measures to ensure that youth can access employment and opportunities for social and economic advancement. Therefore, promoting investment, income and wealth creation in the agriculture sector and other sectors of the Kenyan economy is no longer a political discretion of the government but a requirement of the Bill of Rights. Further obligations of the State to promote the right to work are contained in the various international conventions of

which Kenya is a signatory. These include the International Covenant on Economic Social and Cultural Rights 1966. Article 6 of this covenant affirms the obligations of states to implement policies and techniques to achieve steady economic, social and cultural development and full and productive employment. The regulations seek to advance the government policy of implementing reforms in the coffee sector aimed at meeting the national goals set out in the Kenya Vision 2030, whereby the agriculture sector shall be a key driver in economic growth and value addition. The positive impacts can be summarized as follows:

- a. The review of minimum requirements for the issuance of licences for pulping, roasting and milling of coffee will enhance participation of more smallholder farmers in value addition.
- b. The provision for smallholder farmers to opt out of cooperative societies and operate under alternative associations
- c. Focus on value addition and prohibition of trading in cherry or parchment will reduce economic exploitation of farmers
- d. Establishment of cupping centres for capacity building for coffee liquorers
- e. Provision for farmers to trade their coffee at the Nairobi Coffee Exchange

The regulations are pro-grower and enable more people to participate in the coffee industry through enhanced access to licences for value addition and trading.

The regulations are also intended to address the perennial problems that have plagued the coffee sector. These include the low prices for raw coffee, mismanagement of coffee cooperative societies and the impoverishment of small holder farmers. If the reforms proposed in the regulations are implemented, they will have the positive impact of providing existing and new farmers better returns on their produce and investment. The regulations will create wealth and employment for more people in the rural areas, enabling them to be key partners in the multi-billion-dollar global coffee industry. This would contribute to improved household incomes and enhanced capacity to afford an adequate standard of living envisaged in the provisions of Article 43 of the Constitution.

2.4.2 Possible negative impact of the Coffee regulations 2018 on human rights

There are three possible negative impacts of the regulations:

(i) Mandatory membership in associations/cooperatives

Compulsory membership in a coffee association or cooperative may violate farmers' rights to the freedom of association. This is the case where farmers have been victims of inefficient cooperative societies and would not wish to repeat the experience.

Where a farmer applies for a pulping veto or no objection letter from a cooperative appears problematic. The cooperative societies have a conflict of interest and may withhold the no

objection letter. This will contravene the property rights of the producer seeking a licence for a pulping station.

(ii) Child labour

Coffee harvesting is labour intensive. It entails selecting and manually picking ripe cherries and leaving the unripe ones on the branches. Therefore, mechanization of coffee harvesting is still afar off. The revival and foreseeable boom in this crop will result in increased demand for labour. In most smallholder farms, coffee farmers use child workers. While the Children Act 2001 and employment legislation permit limit forms of child work, there is a real risk that a coffee boom will draw children from schools to farms to pick cherries.³ In some estates, workers frequently bring their children to the farms to help shore up the parents' daily production. The regulations mention the mandate of the AFA to formulate and enforce a coffee industry code of practice and standards on coffee production, processing and marketing (Clauses 4, j). These together with the Children Act 2001 should guide practice in the subsector to ensure that children are not engaged in exploitative labour practices. They will also help in reconciling the conflicting interests of growers, opportunities for income through working on coffee farms and the developmental rights of children involved in such situations.

(iii) Risk of food shortage and famine

When the coffee regulations are implemented, more people will be drawn into coffee production and land previously used for food crops will be reallocated to growing coffee. Consequently, food production on smallholder farms will drop as more land and other resources are channelled to coffee production. The main expectation is that the high earnings projected from the trading of processed coffee will enable farmers to purchase food. However, if coffee prices drop and/or other risks affect the coffee trade resulting in losses, coffee growing communities will be hit by food shortages and famine. In this context there is a real likelihood that the implementation of the coffee regulations may negatively affect the realization of the right to food in the coffee growing communities. To mitigate against this risk, we recommend measures for stabilizing prices and diversification in income generating activities alongside the coffee business.

2.5 Other regulatory or non-regulatory means of achieving the objectives of the regulations

This section highlights other complementary and supplementary strategies that will be needed to achieve the objectives of the regulations and could provide quicker and more flexible solutions to the problems facing the coffee sub-sector. They include:

2.5.1 Capacity for coffee growing and improving subsector competitiveness

The regulations aim at developing the coffee sub-sector but little emphasis has been put on the production portion of the value chain, yet the revival of the coffee industry is pegged on improvements in production, including the competitiveness in production. Increasing

³ It is estimated that children below 15 years supply up to 30% of the labour during peak harvesting period, and likely to infringe on their right to basic education.

productivity to the targeted levels of 5-10 kg per tree per year within 3 years, will lead to a reduction in production costs and enhance the competitiveness of the Kenyan coffee. However, it is not clear how the capacity for coffee growing will be promoted. There is no provision for a coffee development fund out of which subsidies could be drawn for providing planting materials, fertilizers and crop protection chemicals that will help drive down the costs of production. The regulations do not indicate how the input markets for fertilizers and pesticides can work more effectively for the farmers. The role of cooperatives in increasing productivity is not well articulated yet they are very crucial in the procurement and distribution of inputs to the farmers. This implies that regulations may not achieve the intended objectives unless specific interventions are applied to make the coffee production venture attractive and feasible. As things stand now, it is difficult to sell the project of coffee production in the country. Hence, we recommend that a Coffee Fund be set up to finance the sub-sector and create a push to invigorate it. In addition, short term subsidies on seed and fertiliser, prompt payment to farmers and other forms of incentives will go a long way in boosting coffee production. There is also no mention of disease and pest control although losses associated with them are quite substantial. Given the reduced acreage under coffee, a Coffee Fund to deal with these challenges would play a big role in attracting new growers both in traditional and non-traditional coffee growing areas. In addition, the regulations do not address the issue of farm land under coffee especially in areas where agricultural land is increasingly being converted to other uses such as real estate. This may call for a review of the national land policy and laws.

Overall, regulations need to address funding for the sector and have a clear incentive framework to encourage coffee production. There is a need for clear plans, provisions or strategies on investment that will lower the cost of production and improve sub-sector competitiveness.

2.5.2 Capacity for value addition

Barriers to value addition activities have been reduced through various provisions such the ability of smallholders with up to 5 acres under coffee to obtain a pulping licence. This enables them to add value to coffee cherries and sell beans to millers. However, it is not clear whether smallholders and other individuals that would like to engage in coffee-based and coffee-related businesses will be able to access capital or training/skills to set up the required facilities for value addition. Coffee regulations should include the obligations of county governments to provide support for the coffee industry.

Value-addition for coffee ranges from the very basic practices to very intricate processing and packaging activities that can add to the worth of the final product. The basic activities are very crucial in determining the final quality of the end product, yet not much emphasis is laid on them. Activities that contribute to value addition include appropriate land preparation, fertilizer application, pests and diseases control and management, irrigation, primary processing, secondary processing and maintenance of facilities. As aforementioned, support in production is crucial in improving quality of coffee.

Hence, there is a need for clear plans on funding and training to support the envisioned coffee-based businesses.

2.5.3 Regulatory and institutional support

The regulations provide that cooperative societies will not charge more than 20% of the coffee earnings. There is also reduction of some statutory deductions (ad valorem levy of 4% was abolished) and suggestions for forensic audit to establish debts for SACCOs and waiver for outstanding debts, affirmative action in cooperative leadership and training opportunities for liquorers. These regulations will attract more players into the industry and raise the economic performance of farmers and the country.

The regulatory support will require enactment of new laws, some of which are outstanding e.g. amendment to the AFA Act, Crops Act, Cooperative Act, enactment of Geographical Indication, Warehouse Receipts Bill. The Ministry of cooperatives should also ensure compliance with all the regulations that have been enacted. The county governments will have to be involved in this process.

In order to promote good governance of cooperatives, there is need to revise the Cooperative Act to ensure that the Board of directors and management of the cooperatives, auditors and officials from the State department of Cooperatives are held personally liable for corrupt practices that deny members services and returns

2.5.4 Information and education campaigns

These will help to inform public about new/existing products and hence influence the behaviour of individuals. In the coffee subsector, education campaigns could, for instance: encourage people to drink more coffee locally; create awareness about funding opportunities to support businesses created in the value chain; and, inform about potential negative effects of child labour and environmental pollution.

2.5.5 Financial and fiscal incentives

The incentives include tax increases/reductions, subsidies, concessionary loans with reduced interest rates, etc. While the current levels of coffee production are very low, farmers could be subsidised in order to encourage them to increase production. The subsidies could be in form of inputs such as fertilizers, planting materials and chemicals or access to cheaper loans. We note that the Coffee task force recommended subsidy programme to be funded jointly by national and county government to boost coffee production in the immediate term to raise production from the current level of 2 kg of cherry per tree per year to 8 kg within 2-4 years. This is practicable but requires huge expenditure from the public funds.

2.6 Other pertinent issues regarding draft regulations

The draft Coffee (general) Regulations (2018) can be strengthened through the following additional mechanisms and interventions:

2.6.1 Pricing mechanism for cherry

Neither the existing practice nor the draft regulations address the critical issue of grading cherries and this is a gap that needs to be addressed. There lacks quality differentiation of cherries, making farmers less concerned about quality. Grading is a good incentive for farmers and there is need to explore innovative ways of grading such as the floatation technique used in Ethiopia and Haiti.

2.6.2 Payment period

The duration within which farmers receive payments upon delivery of cherry should to be properly legislated. The current practice where farmers receive earnings once a year, several months after delivery of cherry is a big disincentive for production. The long waiting period implies that farmers lack continuous income and it reduces the attractiveness of coffee farming especially for the youth, and it is a major cause of coffee hawking (where farmers sell coffee to middlemen)

The payment scheme could be structured in form of a contingent contract such that farmers receive a first payment as a down payment or advance payment upon delivery of cherry and a second payment several weeks or months later that is contingent on quality achieved and prices received after the coffee is sold at the auction. This will be feasible given the suggested certification schemes. We note that the Taskforce formed in 2016 recommended the establishment of a Coffee Cherry Advancement Payment Scheme.

2.6.3 Youth participation in the coffee sector

Creating youth employment is currently a big agenda for Kenya, but the regulations are not clear on how youth will be mainstreamed in the coffee subsector, yet there are many opportunities for youth to engage along the value chain. These include participation in coffee production, primary processing, roasting, coffee shops and kiosks, coffee hawking and other coffee-related businesses such as fabricating machinery and equipment for processing and baking enterprises. To facilitate their involvement there may be need for: (i) training on coffee production; (ii) training in business skills and in particular those that support coffee-based and coffee-related businesses; (iii) access to affordable credit; (iv) creating awareness of funding for youth such as the Youth Fund and supporting them on how to access the funds.

2.6.4 Promotion of domestic consumption

Regulations are silent on promotion of domestic consumption of coffee, which is currently low at 3% of coffee produced in Kenya. While, there is a provision for a coffee roaster licence authorizing the holder to roast or grind and package coffee for local sale, there is no clear indication on how promotion of local consumption will be done or supported. The development and promotion of local consumption of coffee will create alternative markets and reduce dependency on dynamic international markets. Local

markets will help to retain the value of coffee locally and in turn improve farmers' incomes. One strategy that can promote local consumption is zero-rating coffee machines used in the coffee shops and kiosks for an initial period of three years to bring down the price of coffee and generate local demand.

2.6.5 Monitoring of unintended consequences

It is likely that the implementation of the policy will result in unintended consequences such as water pollution as a result of increased pulping stations. This report has highlighted some measures to mitigate against such consequences but the regulations need to incorporate how monitoring for such consequences will be done.

2.7 Concluding Remarks

The proposed regulations will have far reaching positive impacts will spur the development of the coffee subsector across the coffee value chain players. Overall, the benefits arising from the implementation of the new regulations outweigh the potential negative impacts identified. However, there are certain issues which are pertinent to the revival and development of the coffee sub-sector including coffee productivity and quality, but they have not been addressed in the Regulations. These include: (i) cost of production (land preparation, fertilizer application); (ii) pest and disease control; (iii) irrigation; (iv) inclusion of women and youth; (v) crop insurance; and, (vi) child labour.

It is our view that these issues can be addressed through regulations focused on specific issues such as pests and diseases or better still, they can be examined comprehensively through a coffee strategy.

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STATUTORY INSTRUMENTS ACT, NO. 23 of 2013

CERTIFICATE OF COMPLIANCE

**(UNDER SECTION 7(4) OF THE STATUTORY INSTRUMENTS ACT, 2013 (NO. 23 OF 2013)
THE CROPS (COFFEE) (GENERAL) (AMENDMENT) REGULATIONS, 2021**

- a) Whereas the Cabinet Secretary for Agriculture, Livestock, Fisheries and Irrigation has published the **Crops (Coffee) (General) (Amendment) Regulations, 2021** in pursuant to the powers conferred by section 40 of the Crops Act, 2013 (No. 16 of 2013), IT IS HEREBY CERTIFIED that the aforesaid **Crops (Coffee) (General) (Amendment) Regulations, 2021** Meet the requirements relating to regulatory impact statement in the Statutory Instruments Act, 2013 (No. 23 of 2013) and the guidelines have been complied with; and
- b) In my opinion, the regulatory impact statement adequately assesses the likely impact of the Crops (Coffee General) Regulations, 2019.

Dated this Day of2021

Signature of the Cabinet Secretary

HON. PETER MUNYA, EGH,

CABINET SECRETARY,

MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES AND COOPERATIVES



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