Towards Realization of Vision 2030KENYA POLICY BRIEFSJuly 2021Volume 2, Issue 2

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ABOUT

The Kenya Policy Briefs presents translations of research results from universities and research institutes for a policymaker and media audience. It targets those who formulate or influence policy. The briefs seek to provide evidence-based, high quality, and practical policy recommendations directly addressing issues under each objective of Kenya's Vision 2030 Medium Term Plan III as shown in the table. In each issue, the briefs are categorized into five series each addressing one of the five core components of Vision 2030:

Series 1: Economic Pillar Series 2: Social Pillar Series 3: Political Pillar Series T: Themes (Cross Cutting Issues) Series F: Foundations

EDITOR-IN-CHIEF Prof. Madara Ogot

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MANUSCRIPT SUBMISSION

All submitted must be based on completed research work with recommendations based on evidence from the study. Submitted briefs will be reviewed for direct alignment to Vision 2030 objectives as provided in the table below, and for potential impact of the recommendations.

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PILLAR/OBJECTIVE

1 Series 1: Economic Pillar

- 1A **Agriculture and Livestock** Innovative, Commerciallyoriented and Modern Agriculture and Livestock Sector.
- 1B **Manufacturing** Robust, diversified and competitive manufacturing sector.
- 1C **Tourism** To be a top 10 long haul destination offering high-end diverse, and distinctive visitor experience.
- 1D **Trade** A formal sector that is efficient, multi-tiered, diversified in product range and innovative.
- 1E Business Process Outsourcing To be a top offshoring destination in Africa
- 1F **Financial Services** A vibrant and globally competitive financial sector.
- 1G **Oil, Gas and Mineral Resources** Promoting sustainable development of the extractive sector.
- 1H **Blue Economy** Sustainably manage & develop the Blue Economy resources for enhanced socio-economic benefits.
- 2 Series 2: The Social Pillar
- 2A **Health** Equitable, Affordable and Quality Health Care of the Highest Standards.
- 2B **Population Urbanization Housing** Quality population with adequate and decent housing.
- 2C **Education and Training** Globally competitive quality education, training & research for sustainable development.
- Environment, Water, Sanitation and Regional 2D Development – Enhancing development in a clean safe environment and, access to Water and Sanitation Services. Gender, Youth and Vulnerable Groups – Equity in
- 2E Access, Control and Participation in Resource Distribution for Improved Livelihood of Women, Youth & Vulnerable
- for Improved Livelihood of Women, Youth & Vulnerable Groups.
- 2F Sports, Culture and Arts- Celebrating the Best in Us.
- 3 Series 3: Political Pillar
- 3A **Devolution** Making Devolution Work: A Catalyst for Holistic, Transformative and Sustainable Development.
- Governance and the Rule of Law A secure, just,
 3B cohesive, democratic, accountable, transparent and conducive environment for a prosperous Kenya.
- T Series T: Themes (Cross Cutting Issues)
- T1 Climate Change
- F Series F: Foundations
- F1 Infrastructure Deploying World Class Infrastructure Facilities and Services.
- F2 Information and Communication Technology Leveraging ICTs for Increased Competitiveness.
- Science, Technology and Innovation Accelerating the F3 Transition to an Innovation-Led and Knowledge-Based Economy.
- F4 Land Reforms Globally Competitive and Sustainable Land Management.
- F5 **Public Sector Reforms** A Citizen-Focused and Results-Oriented Public Service.
- F6 **Labour and Employment** Provide Every Kenyan with Decent and Gainful Employment.
- F7 National Values and Ethics A Value-driven, Ethical and Peaceful, United and Prosperous Nation.
- F8 Ending Drought Emergencies Planning for drought: An end to drought emergencies and food insecurity in Kenya.
- F9 Security, Peace and Building Conflicts Resolution A Nation of Peace and Stability.

Series 1 – Economic Pillar: Financial Services

Role of Fintech in Enhancing Credit Usage Among the Un(der)-Banked

JULY 2021

Dr Davis Bundi Ntwiga

Key Messages

- Market regulator need to develop mechanisms to make digital loan data publicly available to assist in drawing broad market trends.
- Need to tame predatory lenders to protect the consumers and competitors and increase consumer trust through a sound regulatory framework.
- Level the playing ground through common market standards to enhance competition and business conduct for the regulated and unregulated digital lenders.

Context

The un(der)-banked lack financial histories and financial strength to be attractive to financial institutions, and this limits their ability to access credit. In 2015, around 36.1 percent of Kenyans were classified as poor. Access to microcredit loans through financial technology (Fintech) can promote individual outcomes while contributing to several of the United Nations' Sustainable Development Goals (Hove and Dubus, 2019).

Some of the un(der)-banked perceive technology to be risky and not easy to use. A study in 2016 found that M-Pesa had lifted 2 percent of Kenyans out of poverty and reduced the unbanked population (Hove and Dubus, 2019). A Financial Access Household Survey in 2016 noted that individuals seek financial products that cater to their small and inconsistent incomes, offer better tools for managing day to day transactions and risks, while supporting them to face major life transitions (FSD, 2016). This profile of consumers requires an innovative approach, for example, through the use of big data and artificial intelligence deployed by Fintech firms, to cater for their lack of financial histories in the credit lending process. The availability of soft information means that Fintech can cater for this market gap to further enhance financial inclusion if vibrant, competitive and sound credit market practices are introduced and enforced.

The level of financial access is measured through the number of firms, people and households receiving credit and using other financial products; a means to increase financial inclusion to foster economic development. The future of Kenya's credit access is Fintech, as penetration of smartphones is 91% and availability of big data continues to permeate our lives providing the soft information for automated credit decisionmaking processes. Fintech's ability to more consumer sensitive develop products, tap into the evolving consumer perceptions, behavior, trust and access will drive sustainable credit usage.

There is a correlation between financial trust and credit usage with multiple sources of information altering consumer perceptions of credit. In 2018, there were 6 million digital loan borrowers in Kenya, and the numbers were increasing daily. However, of the 10.6 million borrowers listed in the credit reference bureau in 2017, around 2.7 million are negative due to nonperforming loans and of which 400 thousand are listed due to amounts below US\$ 2.0, credit from Fintech firms (Gubbins and Totolo, 2018).

Approach and Results

The study adopted a mixed methods research design to determine the influence of Fintech on credit usage. The data was collected in 2015 from 8,665 households in a survey on financial access and usage in Kenya, covering knowledge and understanding of financial products and services.

The logistic regression analysis found that overall credit usage depended on the source of financial advice (B=-0.52, p<0.001), how they trust the financial institution (B=0.78, p<0.001), cost of credit (B=0.47, p<0.001) and the characteristics of the financial products on offer (B=0.29, p<0.001). This highlights that the reputation of the Fintech, availability of credit at market rate and developing of products to meet the consumer needs are attractive in increasing Fintech usage as a source of credit among the un(der)-banked.

Desktop reviews brought out three messages. First, technology is instant to register, score, allocate and disburse credit even for consumers with scanty financial histories, thus creating wider access and usage. Second, changing consumer trends and behavior, propensity to use technology among young consumers, and social media influence the dynamics in the credit market through Fintech. Third, the market increase regulators need to public awareness, form a joint coordinated approach and a sound regulatory framework to enhance the competition in the market among the players.

Policy Recommendations

Short-Term

- Develop a coordinated and regulatory approach to spur competition among the Fintech and general financial ecosystem in Kenya.
- Encourage Fintech firms to improve trust through the design of the purchase process to increase consumer attention to the loan terms and conditions.

Medium-Term

 A sound regulatory framework is required to minimize Fintech perceived technological risk, enhance competition and protect the consumers from predatory lenders. Regulation will, amongst others, increase consumer protection through privacy in use of data from utility bills, social networks, insurance claims and bank account transaction details without their consent.

 Assist the market players to improve on cyber-risk controls due to new technologies and business models.

Acknowledgements

This policy brief is the outcome of a larger research study entitled "Can Fintech Shape the Dynamics of Consumer Credit Usage Among the Un(der) banked?". The research was funded by the Kenya Bankers Association Research Conference in 2018.

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Series 1 – Economic Pillar: Financial Services

Using Flexible Loans to Improve Access to Credit for Farmers in Kenya

Fredrick Onyango Odhiambo and Dr Radha Upadhyaya

Key Messages

Lenders are designing loan products with flexible terms to respond to the unique needs of farmers in a bid to improve access to credit. However, these products are moderately flexible thus are not improving access to credit for farmers as envisaged.

Lenders should redesign loan products to make them more flexible by providing flexible options such as bullet payments and credit lines.

Lenders should also educate farmers on full product features to increase their financial literacy in order to improve their agency.

Government should provide credit guarantee schemes for institutions that lend to farmers to encourage the lenders to design more flexible loan products.

Context

Lending to the agricultural sector in Kenya is low. According to a report by the Kenya Bankers Association (KBA), only four percent of commercial banks' lending goes into agriculture (KBA, 2018). Most of these loans go to large farmers as smallholder farmers are unable to meet banks' requirements as well as the stringent repayment terms demanded by banks. Thus, smallholder farmers have to rely on other sources of finance for farm financing. As Kenya seeks to achieve the food security goal as enshrined in Vision 2030, it is increasingly important finance to smallholder farmers in order to improve agricultural production and productivity and transform the rural economies.

Given that farmers do not have regular incomes, making regular repayments from agriculture is untenable. Some lenders, especially microfinance lenders, have designed loan products that offer farmers some flexibility in repayment. Such loans mostly contain features such as grace periods and flexible repayment schedules. Other features include bullet/balloon payments, loan refinancing, loan rescheduling, and credit lines. Flexible loans are expected to be attractive to farmers given that they usually match the cash flows of farmers. Thus, access to credit is expected to improve when loan products are designed with flexible terms. This has been a subject of debate among scholars.

There are conflicting results on whether flexible loans improve access to credit for smallholder farmers (see Weber & Musshoff, 2013 and McIntosh, 2008). This may be due to the differences in the measurement of flexible loans. Previous studies have used single indicators of flexible loans where only one aspect of flexibility is examined. However, it is possible for a single loan product to have more than one element of flexibility (Labie et al., 2017). Thus, loan products may differ in their levels of flexibility. Previous studies have failed to model flexibility in this manner. This policy brief discusses the extent to which loans offered to smallholder farmers are flexible as well as whether credit access increases with the increase in the level of loan flexibility. The paper then discusses the implications of results for practice and policy.

Approach and Results

This policy brief summarises the study by Odhiambo (2019) who examined the influence of flexible loans on access to credit among smallholder farmers. The study collected primary survey data from 103 farmers who had borrowed from lending institutions in Ugenya Sub-county of Siaya County. The sub-county has a high concentration of financial institutions that offer flexible loans to smallholder farmers. The study used a simple random sampling method to select respondents from a list of members in farmer groups and individual borrowers.

The results indicate that the loans products offered to farmers were moderately flexible. With the flexible loan index ranging from 0 (low flexibility) to 1 (high flexibility), the study showed that the index had a value of 0.42 (moderate flexibility). Descriptive analysis showed that the most common flexibility features in the loans offered were grace periods and flexible repayment schedules (see Figure 1).

As shown, all farmers reported that the loan products had flexible repayment schedules and, therefore, they were allowed to make loan repayments at intervals that they chose. Further, 98% of the farmers reported being given grace periods before they began loan repayments. About a third (35%) of farmers agreed that they could be



Figure 1 – Percent of Farmers with Various Flexible Loan Features

refinanced in cases where their crops were affected by some shocks such as flood or draught. Only a handful of farmers (13%) said their terms of loans allowed them to make bullet payments. The results also show that few farmers agreed that they would access a credit line (3%) or their loans be rescheduled (3%) in case of any shocks that affected their farm output.

rarely However. these were exercised by borrowers, especially those that were in farmer groups. This is because the borrowers were pressured by their fellow group members to repay their loans quickly in order to improve the group's overall credit rating. Lenders provided incentives to groups for paying up their loans more regularly and for finishing their loan repayments earlier than scheduled. Because groups competed to get rewards for having maintained clean records and repaying their loans earlier, the incentives pushed borrowers to repay their loans regularly and complete their repayments before the loan period expired.

The bivariate results showed that access to credit differed across sex, education, type of credit, and wealth status of households. Access to credit also differed across three features of flexible loans namely bullet payments, loan refinancing and loan rescheduling.

On whether flexible loans influence credit access, the results showed that flexibility had no influence on the amount of loan farmers borrowed. The main drivers of access to credit were the type of loan, education level of the farmer, and the household wealth. More specifically, higher credit access was associated with higher levels of education, wealthier households, and provision of cash-based loans as opposed to asset-based loans.

Policy Recommendations

Short-Term

• Lenders should re-design their flexible loan products to improve the level of

flexibility by introducing more flexible loan options. More options such as credit lines and bullet payments should be included within the portfolio of flexible loan features.

- Lenders should also educate farmers on all the features of loan products available to them to improve the financial literacy and, therefore, their agency. Farmers are most likely unaware of their choices because the loan officers do not educate them more about their options.
- Farmers should be offered more cash loans instead of in-kind credit to improve access to credit. Lenders who offer in-kind credit argue that the fungibility of cash explains the provision of farm inputs. However, the results showed that offering in-kind credit was associated with lower access to credit.
- Lenders should also improve the loan administration and allow borrowers to exercise the rights within the loan contracts such as allowing borrowers a grace period before they begin loan repayments or allowing them to make repayments at time intervals of their choosing.

Medium-Term

- Provide Credit Guarantee Scheme: Lenders consider agriculture a risky sector. Smallholder farmers are even considered riskier. In order to incentivise lending institutions to provide more credit to smallholder farmers, the government can provide credit guarantee schemes. This will act as a way to de-risk lenders from any loan defaults.
- Disburse credit through lenders: Smallholder farmers are more likely to be credit-rationed when the loan product is highly flexible. Thus, the government can provide more funds to the farmers through lenders that offer flexible loan products. This will encourage more lenders to offer

highly flexible loans and limit credit rationing.

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Series 1 – Economic Pillar: Agriculture and Livestock

Improvement of Coconut Production in Kenyan Coast for Income Generation

Dr Maurice E Oyoo

Key Messages

- Kenya has lagged behind in technology development for coconut production, product diversification and product utilization.
- Morphological variation exists. This variation cannot be exploited reliably because it's uncertain how it will impact on nut production.
- There is narrow genetic variation among coconut trees at the Kenyan coast. This hinders meaningful crop improvement.
- Research on coconut is hindered by the long juvenile phase of palms and longterm of field evaluation.

Context

The coconut palm is mostly cultivated in Kwale, Kilifi, Mombasa, Tana River, Lamu and Taita-Taveta Counties. It is grown in different agro-ecological zones at the coast and plays an important role in the economy. The total number of plants in the Kenyan coast is approximately 4.4 million, with an average nut yield of 1.5 tonnes/ha, while that of copra is as low as 0.45 tonnes/ha. Over 80 percent of coastal farm households (about 2.4 million people) derive their livelihood directly or indirectly from coconut and its by-products.

Almost all coconut tree parts can be used in either making commercial products or meeting the food requirements of rural communities (Teulat et al., 2000), an indicator of its economic value. Coconut production contributes an estimated 1.5 percent to the agricultural Gross Domestic Product (GDP) and 0.4 per cent of Kenya's GDP. Compared to other African countries, Kenya has lagged behind technology in development for coconut product diversification and product utilization reducing the overall value of the crop to our economy.

The potential value of the coconut sub-sector is estimated at US\$180.6 million. But the actual value is only 25 percent of that (US\$44.5 million) annually and consists of nuts (mature and immature-madafu) accounting for about 24 percent, coconut wine (60 percent), *Makuti* roofing materials (12 percent), brooms (3.3 percent) and coconut wood (1 percent).

The low level of productivity is due to old and unproductive orchards - the East African Talls (EAT) with no designed improvement programme since they were introduced in Kenya, inadequate quality planting material, lack of fast means of generating clean planting materials, unavailability of improved varieties and a general lack of value addition (Muhammed et al., 2013). Slow growth and long pre-breeding period of palm is also a factor (Rajesh et al., 2008)

Additionally, there is no medium- to long-term coconut breeding programme in Kenya to breed varieties to replace the over-cultivated EAT, East African Dwarfs (EAD), and their incidental hybrids. This has prompted farmers to rely on their current crop to get seedlings. There are also some individual farmers' efforts including Gazi Farm Enterprises Ltd, which produce and sell unimproved coconut seedlings.

Coconut research in Kenya (and the rest of the world) is hindered by the long juvenile phase of palms, the high cost of conducting investigations, long-term of field evaluation, lack of research funding, and lack of use of robust DNA and tissue culture technology.

Approach and Results

Coconut trees were characterized in situ and leaf samples collected for DNA analysis at the coastal counties of Kilifi, Kwale, Lamu, and Tana River. The objective was to characterize the Kenyan coastal lowland coconut using morphological and DNA markers. Sampling was done at different agro-ecological zones. The focus was in areas where palms grown were morphologically different with a marked change in altitude or cropping systems, existence of a formidable barrier, or local people ethnically different (in terms of dialect) from previous collection sites. Sampling was done in both large and small scale farmers' fields.

Morphological characterization (qualitative and quantitative traits) was done according to the procedure as given in by International Plant Genetic Resources Institute (IPGRI) in 1995. For genetic analysis, DNA was extracted from leaf samples and used to assess how coconut trees were closely or distantly related based on their DNA profiles.

Several different morphological features were observed but generally, differences in morphology did not follow geographical areas from which coconut trees were grown (see Figure 1). This suggests that there is an exchange of planting materials among the coastal farmers across the region.

Narrow genetic differences were reported among and with the materials studied. Three DNA groups were realized. Groups were made of mixtures of materials from all the counties. There were also subgroups within the three groups. The presence of subpopulations in all the clusters and different levels of similarity between the localities showed overlapping of same materials at the coast region. This is because the materials have close genetic relationship among them and similar genetic materials are spread across Kenyan coast.

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Colour of Stalk and Immature Nuts





Fruit (without Husk) Appearance/Shape

Figure 1 – Quality Characteristics and their frequencies for the germ plasm studies.

Further analysis showed that there is a high genetic similarity (over 0.95) with a low genetic distance (0.011) of coconut in farmers' field across Kenyan coast (Figure 2). There is also a very narrow variation (2 percent) among coconut trees pointing to the fact that more variation exists within individual coconuts as opposed to among groups based on the areas where they are produced. These results clearly indicate that Kenyan coconut have a shared ancestry, making them close or distant relatives. As a result, they cannot be adequately and meaningfully exploited during plant improvement programmes through hybridization. This means that if a crossing programme was initiated, gene exchange between individuals would result

in marginal crop improvement due to relatedness.



Figure 2a – Comparison of Genetic Distance Among Counties



Figure 2b – Comparison of Genetic Similarities Within Counties

Policy Recommendations

Short-Term

- Deliberately introduce and evaluate materials with potential qualities form the International Coconut Gene Bank.
- A multidisciplinary team should monitor and document attributes of seed nuts brought into Kenya from India in 2018 and planted in a quarantine site at KALRO-Matuga, Kwale County. Their attributes, based on coconut descriptors, IPGRI 1995, should documented.
- Support individual farmers who produce and sell EAT and EAD coconut seedlings to multiply improved varieties once identified.
- Staff training in national research centres and universities on modern plant breeding and rapid multiplication techniques using molecular tools.
- Promoting conservation through use by establishing farmer communitymanaged coconut seedling nurseries and linking germ plasm conservation and use with research and development.

Medium-Term

- Establishing a coast region-based coconut breeding programme equipped with tissue culture facility for optimized and rapid regeneration of superior and clean parental materials for sale to farmers.
- There should be conservation strategy whose components should include conservation in a national field based in KALRO-Mtwapa or Matuga and in situ and on-farm conservation. In vitro embryo culture, somatic embryogenesis and cryopreservation should be considered.

• Establishment of a coconut value chain with emphasis on input-output structure.

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Series 1 – Economic Pillar: Agriculture and Livestock

Cowpea Leaves: Feasible Solutions to Overcome Seasonal Availability

JULY 2021

Joshua O. Owade, Dr George O. Abong', Prof Michael W. Okoth and Prof Agnes W. Mwangombe

Key Messages

- Despite the critical role of cowpea leaves in the ASAL as a food security crop, drought, diseases and pests remain major challenges to be addressed. Prioritizing alternative water sources and extension services is recommended.
- The gender of a household head influences the use of cowpeas leaves in the ASAL. There is need for food security initiatives to adopt gendered approaches in the promotion the value addition approaches and utilization of cowpea leaves.
- Even though the cowpeas leaves are the main vegetables in ASAL households, the fresh forms are highly perishable; households in the ASAL areas need to employ the complementary utilization of both the preserved and fresh forms to assure food security.
- Limited knowledge on value addition technologies coupled with lack of equipment remain major limitations on processing, preservation and improved consumption of cowpeas leaves.
- Dehydrated products from cowpea leaves contain adequate amounts of limiting minerals and hence provide possible food vehicles for dietary diversification of the diets of the populations vulnerable to micronutrient deficiencies.

Context

Efforts of improving food and nutrition security which is one of the Big Four Agenda of the Kenyan Government constrained by the massive are postharvest losses evidenced in various value chains. Whereas the set target of reducing postharvest losses (PHL) from 20% to 15% in the dominant value chains of cereals by 2022 still remains on course, Gogo et al. (2017) estimates the losses in the African leafy vegetables (ALVs) in the country to be as high as 71.8%. The situation is evidently a development priority especially for counties with limited arable land such as the arid and semi-arid lands (ASALS) which constitute the major food and nutrition insecurity hotspots in the country. Moreover, micronutrient deficiencies such as vitamin A and iron deficiencies have also been found to be invariably high in the rural areas than the urban in the country, in as much as these areas serve as the producing areas of the micronutrient-rich ALVs.

Cowpea leaves (Figure 1) is the most produced ALV in the country and has been promoted as a food security crop due to its rich micronutrient content (Owade et al., 2020). However, seasonal availability of the crop constrains its extensive utilization. Moreover, during the long and short rains in ASALs, the vegetables is in abundance but this is followed by scarcity in the off-season. The leafy vegetable has been promoted over the grains of the crop as a cheap alternative source of micronutrients (Mamiro et al., 2011).

Value addition of fresh produce is deployed for product diversification and postharvest management of produce. Without postharvest management, Gogo et al. (2017), reports economic losses of 12.6–34.4%, further limiting vegetable availability for household utilization and commercialization. Policy gaps with regards to cowpea leaves in the country are evident due to limited policy focus of this value chain as there is limited documentation of the postharvest losses of any vegetable in the African Postharvest Losses Information System.

Approach and Results

The study utilized components of field survey and experimental work in the assessment of possible innovations feasible for enhancing vegetable uptake and utilization in the producing areas. The field survey employed mixed method study of cross-sectional survey of systematically sampled 405 cowpea leaves producing households and focus group discussion with processor-farmer groups in the ASALs of Kitui and Taita Taveta Counties, with Kitui having more arid conditions. Twenty-four exhaustively sourced samples from processor-farmer groups were evaluated for micronutrient retention and trends.

The study results revealed that 72.3% of the cowpea leaves producing households were male-headed with farming as the major source of livelihood. Cowpea leaves were the priority vegetable over other leafy 84.4% vegetables among of the households. Households in the drier ASALs of Kitui County prioritized cowpea leaves more than those in the less dry ASALs of Taita Taveta County. Prioritization of the cowpea leaves over other leafy vegetables was due to the high yields of the harvested vegetables. The households planted the crop in dual seasons as per the two rainy seasons. The harvesting of the cultivated cowpea leaves began as early as two weeks upon emergence from the soils and



Figure 1 - Cowpea Leaves

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the harvesting continued for six weeks. Households largely consumed cowpea leaves in fresh form, but complemented their consumption with preserved forms. The average availability of the fresh leaves for household consumption in each of the seasons was 1 month. Early initiation of the harvesting increased the availability of the vegetable among households. The average intake of cowpea leaves among the households was found to be thrice in a week in-season.

Households in more arid areas consumed cowpea leaves frequently, twice as much as those in the less arid areas. With reducing household sizes, the frequency of intake of the vegetables decreased. Moreover, male-headed households had decreased frequency of intake of the vegetables than the femaleheaded. Off-season consumption of the vegetables reduced among the households to a quarter of the households. Practise of traditional preservation increased the utilization of the cowpea leaves. Traditional preservation techniques practised among the households include sun-drying, shadow drying and combination of sun-drying and hot-water blanching (Figure 2). The preference of these techniques among the households and processor groups was informed by the sensory and texture profile, shelf-life and affordability

The three major challenges that constrained the production of cowpea leaves among the households in the ASAL areas were drought and crop diseases and pests. Yields of cowpea leaves realizable in each cropping season reduced due to increasing severity of drought in the ASAL areas. The stakeholders in the value chain perceived that the crop has received minimal attention among policy makers with limited coverage even in the extension system.

In the dehydration of cowpea leaves, the retention of beta-carotene, vitamin C, and minerals determine the efficiency of the technique. The least practised technique among the households that combined hotwater blanching and sun-drying yielded products with the highest retention of betacarotene and vitamin C. Calcium, iron, sodium and zinc contents of vegetables that were processed using the different traditional techniques was similar Utilization of the technique combining hot-water blanching and sun-drying, resulted in increasing retention of betacarotene, whereas the mineral losses increased. On other hand, reducing loss of minerals through use of sun-drying techniques only resulted to increased losses of beta-carotene. However, the preserved products of cowpea leaves still provided adequate nutrient content to aid meet the recommended dietary allowance

Policy Recommendations

Short-Term

- There is need for increased promotion of the complementary use of the preserved and fresh forms of the vegetable in the ASALs.
- The current techniques of sun-drying and shadow-drying without the inclusion of the pre-treatment of blanching offer limited advantages in nutrient retention, thus food security initiatives should help fast-track transition to the hurdle technology concept that combines blanching as a pre-treatment in dehydration.
- Promotional activities on value addition approaches and capacity building at the farmer group levels need to be enhanced.

Medium-Term

- With agriculture as a devolved function, the devolved units should explore further and mechanized techniques coupled with capacity building of farmers in effort to address food and nutrition insecurity.
- The devolved units also need to improve the policy focus on cowpea leaves as one of the food and nutrition security crops. Strengthening of the extension system as a delivery mode of the value addition technologies is necessary.

 Long-term investments in the value chains of the ALVs (including setting up of processing plants) is necessary in order to help address the constraints of limited marketing and commercialization of their produce. Future plans should focus on irrigation and provision of extension services to assist farmers address the current challenges.

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Series 2 - Social Pillar: Education and Training

Mitigating Engineering Profession Regulatory Gaps

Dr Peter K. Ndiba

Key Messages

Regulation of engineering education by both Commission for University Education and Engineering Board of Kenya resulted in uncoordinated directives. The University (Amendment) Act No. 48 of 2016 that sought to address the duality by vesting accreditation mandate on CUE, created gaps in the regulation of the engineering profession that require mitigation.

Context

Regulation of the engineering profession is critical in developing and safeguarding the nation's infrastructural systems. The regulation of engineering education through separate legal provisions of both the Commission for University Education (CUE) and Engineering Board of Kenya (EBK) resulted in uncoordinated and sometimes contradicting directives. The attempt by the University (Amendment) Act No. 48 2016, which was upheld by the High Court ruling of 2020, to resolve the duality by vesting the mandate for accreditation of programmes on CUE has created gaps in the regulation of the engineering profession. This policy brief traces regulation of university education in Kenya, identifies the regulatory gaps and suggests mitigation measures.

Development of Regulation of University Education in Kenya

The first seven public universities in Kenya were established under individual Acts of Parliament that allowed for selfregulation through university organs headed by the Senate, and external regulation bv the responsible Government Ministry. Emergence of private universities necessitated reforms for a regulatory framework leading to establishment of the Commission for Higher Education (CHE) under Universities Act Cap 210B of 1985. The increasing number of public universities and the cumbersome process of enacting Acts of Parliament for each university led to enactment of the University Act No. 42 of 2012. The Act established CUE to regulate university education in Kenya.

CUE has a wide mandate that includes promoting, setting standards, monitoring and evaluating the state of university education systems and accrediting university programmes. The Commission regulates university education using three legal tools, namely:

- 1. The Universities Act, No. 42 of 2012, revised 2013;
- 2. The Universities Regulations of 2014;
- 3. The Universities Standards and Guidelines of 2014.

Because of the unique nature and roles of professions such as medicine, law and engineering, their education requires the safeguards of close monitoring by peers. Accordingly, Acts of Parliament setting up regulatory boards, such as the EBK, and mandated them to regulate the training of their respective professions.

Study Approach and Results

The Engineers Act 43 of 2011 mandated EBK to, among other things, accredit engineering programmes in universities, register and license professional engineers, and set standards for engineering practice. EBK regulates the practice of the engineering profession through registration of graduate and professional engineers and the issuance of annual practicing licenses. Registration of Graduate Engineers relies on possession of a Bachelors Degree from an accredited engineering programme.

Section 7(I) of the Act explicitly mandated the EBK to regulate engineering education in Kenya. The University Act of 2012, while establishing CUE to regulate university education, was silent on the prior mandates of professional bodies to regulate education of various professions. Attempts by both CUE and professional bodies to carry out their mandates separately resulted contradicting requirements on the in teaching institutions. On several occasions, boards for regulations of professions halted the teaching of CUE accredited programmes.

Regulatory Gaps Created by University (Amendment) Act No. 48 of 2016

enactment The of University (Amendment) Act No. 48 of 2016 which was upheld by a High Court ruling of 2020 sought to resolve the duality in the accreditation of programmes. Section 5(2) of the Act vested the mandate for approval and accreditation of any academic programme in Universities on CUE. While section 5(3) gives CUE discretion to consult any relevant body established by written regulate related academic law to programmes, Section 5(5) makes it an offence for any person without the authority of CUE to accredit, recognize, audit or inspect a university.

By subjecting the regulatory role of EBK and other professions regulatory boards to the discretion of CUE, the Act created several gaps in regulation of professions, including:

1. Lack of assurance that graduates seeking registration have had requisite academic training

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- Lack of specialized Standards in CUE whereby engineering is categorized in the Universities Standards and Guidelines under the broad applied sciences field.
- Lack of mandate to incorporate professional objectives in academic programmes
- Inability to enforce international obligations for mutual recognition agreements that are essential for mobility of engineers to other jurisdictions

The training of engineers faces many challenges including multiplicity of institutions offering engineering education that may be difficult to monitor and control; competition for paying students that compromise admission criteria, and a lack of qualified instructors. These challenges risk achievement of quality and require mitigation.

Development of Mitigation Measures

Despite the Universities Amendment Act of 2016 vesting accreditation mandate for engineering education on CUE, EBK should endeavour to play an active rather than passive role in ensuring that graduates engineers entering the profession gain requisite qualifications. The role may include adopting a collaborative approach to the mandate of CUE but ultimately development on its own safeguard measures. In the US, for engineering graduates are to sit for Fundamentals of example, required Engineers' Examination administered by the National Council of Examiners for Engineering and Surveying (NCEES), before joining the engineering profession as Trainee Engineers (Texas Board of Professional Engineers, 2020).

Given the challenges of regulating engineering education and the need to safeguard the practice of engineering, EBK should consider developing similar tools for vetting of graduate engineers. Administering a graduate engineers' registration examination would have threefold benefits, namely,

1. Safeguard the practice of engineering professions from unqualified graduates.

- Motivate universities to improve their programmes and quality of students to support the registration of their graduates.
- Cause students to take their studies seriously.

The suggested examination is a threshold examination aimed at objectively locking out those who fail to the minimum qualifications. meet Provision should be made for assistance in preparation for the examination and for retakes. Because the suggested examination is postgraduate and not a replica of the learning process, it should assess the attainment of the expected learning outcomes of engineering education; namely, knowledge, skills and attitudes.

Pollard et al. (2010) and Hundley and Brown (2013) elaborated these attributes as:

- 1. Basic knowledge of engineering sciences, mathematics, socioeconomics and information technology.
- 2. Engineering competencies in conceptualization, design, construction, manufacture, operation and maintenance of structure, processes and systems.
- 3. Communicate technically through design reports, presentations, drawings and specifications.
- Understand the execution of engineering projects.
- Flexibility to innovate by developing sustainable solutions through critical thinking and creativity.
- Conscious of the impacts of engineering decisions on economic, environment, health and safety, and social and cultural aspects of society
- Bound to ethical conduct and professionalism.
- 8. Commitment to lifelong learning

Policy Recommendations

Short-Term

- Creation of an office at EBK for liaison with the Commission for University Education.
- Establishment of a pool to resource persons from industry to participate review of engineering curricula.

Medium-Term

- Institution of a Graduate Registration Examination for engineering graduates joining the profession.
- Development of guidelines and minimum requirements in the training of engineers.

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Series 2 - Social Pillar: Health

Enhancing Antiretroviral Therapy Adherence Among the Youth

Angela W. Maina and Dr Naomi Mwangi

Key Messages

- There is need to involve the youth as major stakeholders with regard to matters concerning their health and wellbeing.
- It is important to leverage on technology to come up with innovative digital solutions to solve current health challenges.
- Youth peer counsellors ought to be engaged in hospitals to allow the youth to more freely share their issues.

Context

There are 36 million people living with HIV in the world of which 52 percent reside in sub-Saharan Africa. Around five million young people aged between 15 and 24 years live with HIV. Adolescents and youth (12–24 years) account for over 40 percent of HIV incidence globally (Global Statistics, 2018).

Kenya comes in third in the highest HIV incidence among the youth in the East and Central African region and second highest in the prevalence of HIV among the youth. According to statistics from the National Aids Control Council (NACC, 2015), there are 238,987 young people between the ages of 15 to 24 years living with HIV. By the end of 2015, a total of 171,510 people were living with HIV in Nairobi County, with 14 percent being young people aged 15-24 years. The Nairobi County HIV & AIDS Strategic Plan notes that viral suppression among the youth stands at 59 percent (Strategic Plan, 2015).

Antiretroviral therapy (ART) is highly effective in suppressing viral replication, reducing the amount of virus in the blood to undetectable levels and slowing the progress of HIV. To attain viral suppression, thwart the development of resistant strains, and decrease disease transmission, progression and death, high levels of adherence (more than or equal to 95 percent) are necessary due to the capability of the virus to rapidly replicate and effortlessly mutate (Roser & Ritchie, 2019). The frequently used indicator for adherence is viral load (VL). VL results equal or greater than 1,000 copies/ml of blood is a strong indicator of non-adherence to ART.

Mbagathi District Hospital in Nairobi has approximately 300 youth (15-24yrs) on ART. Viral load suppression for this group was 63 percent for the year 2016. Between 2016 and 2017, 40 percent of the youth initiated on care were lost to follow up. The youth do not feel free to share their issues with clinicians and counsellors who are much older than them for fear of being condemned. Similarly, the counselling approach used is 'old school' and fails to attract the youth who would prefer interactive modern sessionS that are more appealing to them (MacCarthy et al., 2018). The youth also lack peer mentors/counsellors and exposure to peer advocacy campaigns to encourage them in their journey towards viral suppression. Ignorance and poor attitude to ART also contributes to non-adherence as well as a lack of disclosure of their HIV status to their families and friends.

Study Approach and Results

Youth is a challenging period of time whereby high-risk sexual behaviour in addition to other misdemeanour like alcoholism, tobacco smoking, etc, are common and this has led to a lack of engagement with healthcare services. This had led to poor adherence to ART with subsequent high viral load results.

In this study, the youth were asked to select members from amongst themselves who would be trained as peer counsellors/mentors. The purpose was to create ownership of the process so that the youth could pick members with whom they had confidence and could freely discuss issues bothering them. This also removed bias from the project team.

Selected youth were taken through capacity building where they emerged as peer mentors/counsellors. The training covered topics including: Roles and responsibilities of peer mentors; Antiretroviral therapy; Communication and counselling skills; Identifying and tracing people who do not return to the clinic; Healthy relationships, stigma, discrimination and disclosure.

After the training, the youth received certification as peer mentors/counsellors. They were then tasked with spearheading the peer advocacy campaigns targeting their peers who were non-adherent to ART. They mobilized them to come to the clinic for ART by personally reaching out to them through phone calls and home visits. They encouraged their peers to continue with the journey of treatment and adherence. Similarly, they took charge of their monthly counselling sessions and provided the much needed peer-to-peer counselling in a manner that only they could since they were sailing in the same boat.

The clinicians who were previously offering the sessions had not received capacity-building on HIV care, service delivery and youth friendly HIV services. The majority of these counsellors were older and this becomes a barrier to the youth's uptake of the treatment literacy and counselling programme because the youth could not freely engage with them.

A treatment literacy toolkit was developed that included a Mobile App and a training manual. Stakeholders involved (the youth and the clinicians) were consulted during the development of the toolkit for purposes of ownership. The toolkit provided current information concerning treatment regimens. The App, "Kuwa Smart", is available on Google Play Store and can be freely downloaded onto mobile phones.

The idea behind the App was to bridge the gap between the clinicians and the youth. A majority of the youth could not attend the monthly treatment literacy sessions due to various reasons including lack of finances and time as a result of work or school. Therefore, with a one-time download of the App, they were able to access treatment literacy information wherever and whenever they needed it. Similarly, the comprehensive care centre operates only from 8am to 4pm on weekdays which proved challenging for the youth. The operating hours were not friendly to them as most preferred to come to the clinic in the evenings or over the weekends.

The contents of the treatment literacy toolkit include: HIV background; antiretroviral therapy; sexually transmitted infections and opportunistic infections; sexual and reproductive health; HIV and nutrition; and exercises and counselling in HIV & AIDS. The App is extremely relevant in today's digital age and was positively welcomed by the youth who are both technophiles and tech savy. The training manual was given to the clinicians and they adopted it as the standard manual which was used to provide treatment literacy to the youth during their monthly meetings.

Information sharing is key with regard to viral suppression and in the management of HIV/AIDS because an undetectable viral load reduces the risk of transmitting HIV. It is important that use of technology and more youth sensitive methods of sharing information be adopted to reduce stigmatization. The viral load suppression for the year 2018 increased to 70 percent. In addition, 15 percent of the youth who had been lost to follow up, resumed the ART treatment.

Policy Recommendations

Short-Term

- It is imperative to seek the participation of all stakeholders involved in a project especially when dealing with young people. This is because they succumb easily to peer pressure and can easily influence each other against a certain project.
- It is important to embrace a bottom-up decision-making approach during all stages of a project as opposed to topdown approach for successful implementation and ownership purposes.
- It is important to avoid a judgmental attitude towards HIV-positive youth because a majority of them are actually born with the virus.

Medium-Term

- It makes much more sense for a young person living with HIV to learn about treatment literacy from another youth living with HIV than a mature counsellor who perhaps does not live with the virus and has to employ theoretical knowledge when it comes to delivery of the treatment literacy sessions.
- The peer mentoring and counselling course is a short course which should be encouraged and embraced by the

Government so that the graduates of this course get employed to specifically handle the needs of their peers in both public and private facilities.

 In the wake of the COVID pandemic, it is crucial to come up with lasting digital health solutions that can bridge the gap between the patients and healthcare providers and empower the patients to take charge of their health.

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Series 2 – Social Pillar: Education and Training

System Approach and Implementation of the Education Programme in Kenya

Dr John M. Mwaura, Dr Naomi W. Gikonyo and Prof John Kanjugu

Key Messages

- For the fundamental changes introduced in the education system to achieve their desired outcomes, the government through its various agencies needs to adopt a more inclusive and collaborative sectoral plan approach.
- The Curriculum for teacher education needs to be revised to be in tandem with the new school system.
- Teachers' training in universities and colleges should focus on equipping teachers with the relevant skills, knowledge and right attitudes for successful implementation of the competence-based curriculum
- Learning and teaching resources should be incorporated in the sectoral-wide approach to educational plans for effective implementation of the new programme

Context

Education is viewed by many as a major catalyst for individual and national development. This is based on the argument that the process of schooling enhances people's capacity to improve their well-being and to more effectively participating in nation building (UNICEF, 2005). Education offered should be current and relevant to the ever-changing people's needs.

Raja in 1991 identified twelve skills that learners need to be equipped with for them to easily adapt to emerging challenges and opportunities at both national and international arenas. These included, critical thinking, creativity, collaboration, capacity to communicate, information literacy, technological literacy, flexibility, leadership, social skills productivity and initiative. Countries have, therefore, taken different pathways to ensure the above skills are inculcated in their youth through the schooling process.

Education systems are, therefore, expected to evolve in tandem with the dynamic needs and demands of the societies which they serve to meet the aspirations of existing economies (Ojiambo 2009). Education plays a critical function in influencing sustainable social economic development of any society in the world (UNICEF, 2005). This, however, depends heavily on the quality and relevance of the education, training and lifelong learning offered.

Education policy in Kenya, has been under review through various commissions since independence. Nevertheless, none of these attempts have provided a panacea to issues and challenges facing the education system. Sessional Paper Number 1 of 2005, recommended a Sectoral Wide Approach Planning, focusing on access, equity, quality, retention, and completion rates both at the primary and secondary level of education (MOEST, 2005). Though the approach is referred to as sectoral wide, the policies focused more on two levels of education disregarding early childhood and university-level.

From these commissions and sessional papers, two system of education have been implemented and a third one is on course. These are 7:4:2:3 system that was implemented for 21 years and 8-4-4 system that was implemented for 32 years. Currently the competency-based curriculum (CBC) 2:6:3:3:3 has been introduced to replace 8:4:4 system. The new system emphasizes more on competencies acquired as opposed to the previous systems that focused more on knowledge acquisition.

The 7:4:2:3 system was phased out on account that it was too academic and therefore not appropriate for direct employment, and that it encouraged elitist and individualistic attitudes among school leavers which was seen to be alien to African communities. The 8:4:4 system was therefore adopted to seal the gaps noted in 7:4:2:3 system. But the curriculum soon came under heavy criticism for producing learners suited only for white collar jobs, that it was too expensive, and produced lower quality graduates. These weaknesses are not any different from the earlier weaknesses associated with the first policy of 7:4:2:3.

Despite the justification given for phasing out the initial policy on the basis of introducing a new system that would facilitate production of required skills appropriate for the economy, programme implementors adequate reauire preparedness. The objective of this policy brief is to establish how the new system of (2:6:3:3:3) education should be implemented differently from the 8:4:4 system with adequate preparedness of the programme implementors for them to actively participate.

Study Approach and Results

This study was conducted at the University of Nairobi. The researchers applied content analysis and qualitative approaches. Interviews were conducted with five academic staff members who were at the University of Nairobi when the first lot of 8:4:4 students reported to the university in 1990. The University of Nairobi Calendar 1987/88, University of Nairobi Calendar 2005/2006 and Republic of Kenya, National Education Sector strategic Plan 2018-2020 were reviewed.

The new system of education is said to be competency-based and preparing school leavers for an active role in economic development. Though this is a very positive endeavour it is not likely to be achieved if necessary preparation measures and infrastructure are not put in place and at all levels of education. Change of attitude will also be very instrumental for any meaningful outcome of the system.



When the first cohort of 8:4:4 system of education students reported to the universities, not much preparation had been done. The Academic staff and administrative staff were not well orientated on the intended changes. Kenva Institute of Curriculum Development supported this assertion based on the review of primary and secondary curriculum where lack of capacity among curriculum implementors was identified as a major hindrance to successful implementation of the 8:4:4 curriculum. The curriculum implemented. therefore, did not change much on the ground. At the University level changes were basically artificial which could not impact much on the Universities output. The structure of the University of Nairobi, for instance, remained the same with six Colleges. The structure and main areas of coverage by the departments had no fundamental difference. (UON 1987/1988).

The members of academic and nonacademic staff remained more or less the same. The answer to the access, quality, equity, retention and completion rates challenges identified with education systems in Kenya does not rest on the magic of distribution of 16 years of education and the additional one year, rather it lies on involvement of stakeholders. Further change of attitudes plays an important role in change management.

Educational stakeholders who all value and base their major decisions on grades obtained as opposed to skills acquired and problem-solving capabilities of school leavers need to be involved in change and reforms management for the change to be successful. Educators in Kenya have been accused of referring to examination outcomes all the time in their course delivery as opposed to skills and competencies acquired. This is equally reflected in the recruitment and selection processes for human resource for both private and private organizations.

If a sectoral wide programme approach is not applied in planning and

implementation of educational system policy mainly at primary level and secondary levels leaving out early childhood education and university education then the outcomes of the current education policy will remain unchanged.

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Policy Recommendations

Short-Term

- There is a need for all universities to establish committees to guide them in aligning their academic programmes to the CBC.
- Universities should actively get involved in more focused dialogue with the Ministry of Education on CBC education reforms for enhanced access, inclusivity, equity, quality and relevance.
- There should be a task force formed on University education to put up strategies more structurally.
- Education experts' need to be cognizant of the difference in outcome of the education system that they expect and such prepare adequately to avoid subjecting students from different education system to the same learning stimulus and environment and expect different outcome. The fundamental difference between CBC and the previous systems of education implemented in Kenya since it attained her independence in 1963 should be well articulated and provided for, in terms of resources, training and support by all stakeholders, if the effort is to bear fruits
- The Government of Kenya through the Ministry of Education and other semi-Autonomous Government Agencies (SAGAs) that work under the Ministry

need to adapt a more all-inclusive and collaborative sectoral plan approach for the education system to achieve the desired outcomes.

Acknowledgement This policy brief is derived from

This policy brief is derived from research findings on study conducted to investigate the institutions' preparedness to implement competency based curriculum in Kenya by Dr John Mwaura Mbugua of the University of Nairobi.

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Series 2 – Social Pillar: Environment, Water, Sanitation and Regional Development

The Future to Conservation of Ramsar Sites: Environmental Education And Awareness

Dr Parita S. Shah and Prof George Atisa

Key Messages

Education and awareness of local communities is key to the survival of inland wetlands. Partnerships between communities, public and private institutions is the way forward.

Educational curricula must be revised to start teaching citizens at all levels to understand the benefits of wetlands conservation and sustainable development.

Context

The creation of the Ramsar Convention (RC) on wetlands in 1971 has prompted the continuous designation that protects global wetlands within the 170 member countries. Currently there are over 2,400 Ramsar sites. Education and awareness are the key to support wetlands protection. The RC has continued to establish wetlands education centres under the Communication Education and Public Awareness (CEPA) programmes to connect people with nature and increase their awareness on use of wetlands and their the sustainability. Today, there are over 300 CEPA centres across the globe supporting community education in conservation.

Since 1900, over 64 percent of the world's wetlands have disappeared, with the highest wetland loss, of about 35 percent, occurring between 1970-2015. Losses have been driven by high demand for water, settlements, urbanisation, encroachment, and pollution resulting in the declining value of environmental services that wetlands provide (Shah, 2016). The study sites of Lakes Nakuru, Naivasha, and Bogoria are examples where wetlands have deteriorated and their current use goes against the RC's concept of "wise use". Lack of sufficient education results in wetlands not being viewed as valuable to both human and environmental needs. In line with the value attached to the wetlands, RC has programmes developed educational designated to improve public awareness and community participation. The education aspect was adopted at the Conference of Parties (CoP) 7 under the CEPA outreach programme. CEPA is continuously strengthened at every annual CoP, with countries encouraged to develop their national CEPA Action Plans.

Kenya signed the RC on October 5, 1990 and ratified it on June 5, 1991. Today, Kenya has six Ramsar sites Lakes Nakuru, namelv Naivasha. Baringo, Bogoria, and Elementaita and River Tana. To successfully implement the RC goals, the country has developed several legal frameworks and policies that are designed to create awareness and educate communities on the value of protecting wetlands. These include the Wetlands Conservation and Management Policv (GoK. 2015), Wetlands Conservation and Management Act (GoK,

2013b), Environment Policy (GoK, 2013a), Sessional Paper No. 6 on Environment and Development (GoK, 1999), the National Constitution of Kenya (GoK, 2010) and the Environmental Management and Coordination (Conservation and Management of Wetlands) Amendment Regulations (GoK, 2017). By 2012, when CoP 12 was held in Romania, Kenya had developed a national plan including subnational plans, basin-level plans and site-related plans, in line with the CEPA programme.

Study Approach and Results

This study analysed the significance of education at influencing communities to conserve and protect three inland RC designated lakes in the East African Rift Valley: Lake Nakuru, Lake Naivasha and Lake Bogoria. L. Nakuru was Kenya's first Ramsar designated site on June 5th, 1990 as Ramsar site number 476 based on its support of the lesser flamingo population at 1 percent (Criterion VI for Ramsar sites). Lake Naivasha was designated on the October 4, 1995 as Ramsar site number 724 due to its habitat and food provision to over 350 resident and migrant bird species, including 1 percent of the world Fulica cristata population; fish; and hippos and waterbucks, around the riparian parts of the lake. Lake Bogoria was designated on August 27, 2001 as Ramsar site number 1097 as it is a refuge site for the Lesser Flamingo and more than 300 bird species. It is also a habitat for endangered mammals such as the Greater Kudu.

Lake Naivasha is a very delicate site in Kenya, as it was almost transferred to the Montreux list of threatened sites in 2008 due to problems of uncontrolled pollution. In contrast to Lakes Nakuru and Bogoria, this lake consistently faces deforestation in its basin and is experiencing increased deterioration of water quality, fish mortality and decreasing fish stock, increased encroachment and transformation of the lakeshore riparian zone, invasive species, increased population and unplanned settlement (Shah, 2016). This lake is surrounded by private land and is not legally gazetted as a protected area under Kenyan law unlike Lakes Nakuru and Bogoria. Before 2010, the riparian land was under the custody of the Lake Naivasha Riparian Association formed in 1927. However, under the new constitution of 2010, the national government has custodianship of this land (GoK, 2010).

Through education, communities can be sensitized on how various activities such as industrial pollution, improper waste disposal, deforestation and poor sanitation damage wetlands. Lake Naivasha and Lake Nakuru are surrounded by urban and modern agriculture-based activities while Lake Bogoria is surrounded by pastoral and rural farming communities. Communities in the three study sites share two common characteristics. First, current formal and informal education does not teach the skills and the value of environmental conservation. Second, the majority of the residents are primary and secondary school graduates (see Figure 1). These two characteristics are likely the main reason these lakes continue to deteriorate.

Another important stimulant can be partnerships that through provide platforms for the cross-pollination of scientific knowledge, education and skills and cultural understanding among all actors (Atisa, 2020). The designation and the presence of the Kenya Wildlife Service and other international conservation organizations in Kenya should have significant influence on raising awareness and thus improved wetlands protection but the results show otherwise. This was found to be the case because it appears that there are no strict land-use and settlement regulations being imposed by any organization. No organization, therefore, is visible from this perspective.



Figure 1 - Education Levels Around the Three Study Sites.

The study findings show that education in primary and secondary schools has very little to do with teaching environmental protection thus does not influence wetlands protection at community level. The education system is structured almost entirely to develop professionals, for example, in the fields of education, accountancy, medicine and law, not environmental sciences. Communities only see the value of conservation when they benefit economically from the wetlands. This is in part because the education has not created significant svstem conservation awareness and inculcation of environmental values in the communities.

Furthermore, the policies proposed by the RC are constrained by factors that drive settlements and migration toward proximity to wetlands. These factors include weak national and local land-use regulations, limited economic opportunities in many local areas, scientific knowledge, lowly educated local populations and inadequate exposure to global policies. For effective protection of inland wetlands, individual landowners, their communities and local authorities must be engaged and willing to develop and adopt specific policy and wetlands protection initiatives. Often, a stimulating force or an influencing variable, such as education or awareness, must be present through schools, conservation organizations or the gove effective adoption of RC goals. the government for

Policy Recommendations

Short-Term

- Start developing mechanisms to revise formal and informal education to include teaching conservation.
- Effective participation in decisionmaking to strengthen the focus of creating education and awareness.
- Enforcement of both public and private partnerships so as to make CEPA successful.
- Enforcement of land-use laws that protect fragile landscapes.

Medium-Term

- Benefit sharing from wetlands to ensure that the communities benefit financially and economically.
- Capacity building of communities and authorities to integrate wetlands protection into settlement and landuse regulations.
- Create awareness of sites being designated under RC and the role of international, national and local organisations towards environmental conservation.
- Educational curriculum to be structured to teach young people to see nature, specifically wetlands, as needing to be preserved.

- Create partnerships between government, conservation organizations and the communities to address conservation challenges.
- Educate all communities to raise awareness of protected areas and the need to conserve wetlands irrespective of perceived benefits.
- Gender equality in terms of education for better decision making of natural resources.

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This policy brief is the outcome of larger research study 'Domestication and Application of Biodiversity Related Multilateral Environmental Agreements in Kenya' by Parita Shah in 2016 and the recently published paper entitled 'Environmental education and awareness: The present and future key to the sustainable management of Ramsar Convention sites in Kenya' in International Environmental Agreements: Politics, Law and Economics 1-20, by Parita Shah and George Atisa

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Series 2 – Social Pillar: Gender, Youth and Vulnerable Groups

COVID-19 and Domestic Violence against Men in Kenya: Issues and Policy Directions

Tom G. Ondicho and Sharon M. Mwanyuli

Key Messages

- Men are experiencing higher levels of controlling behaviours from women, and higher levels of violence perpetrated by women since the onset of COVID-19 in Kenya.
- Obstacles to disclosure and access to services are exacerbated by the fact that access to and supply of support services has been disrupted by the restrictions imposed to reduce the spread of the COVID-19 pandemic.
- There is an urgent need to improve policy responses and to make essential services accessible and open to all abused men in need of support and help during COVID-19.

Context

Since the outbreak of COVID-19 in Wuhan, China in December 2019, multiple media outlets around the world have reported an increase in the rates of domestic violence (DV). In part, this is the result of the stringent measures imposed by governments to reduce the spread of this deadly disease. Factors associated with DV have been exacerbated by the of restricted effects movements increased time spent at home, financial hardships, increased parental stress, and rising unemployment linked to COVID-19. DV is defined in Kenya's Protection Against Domestic Violence (PADV) Act 2015, as 'any form of violence against a person, or threat of violence or of imminent danger to that person, by any other person with whom that person is, or has been, in a domestic relationship'. DV can manifest socially, psychologically, physically, sexually, emotionally, and financially (Obegi et al, 2017; Mangare et al, 2018). While DV affects both genders, more is known about male-perpetrated than female-perpetrated DV, and it is not clear whether what is known about male violence also holds true for female violence.

Preliminary and anecdotal evidence suggest that domestic violence against men (DVAM) in Kenya has been on the increase in recent times (MAWE, 2017). While the true levels remain unknown, recent media reports show a significant increase in DVAM since the onset of the COVID-19 pandemic. Notable is the much-publicized case of police constables John Ogweno and Peter Ndwiga Njiru who were shot by their colleague, Caroline Chemutai, an alleged mutual intimate partner (Daily Nation, 6 July 2021). However, it is widely accepted that DVAM is more common than the number of incidents reflected in the media and other official records. This is because DVAM is a hidden problem and abused men, for reasons of fear, embarrassment, stereotypes around masculinity, cultural expectations and beliefs of male superiority, fear of stigma, and ridicule, never speak out or seek help (Gathogo, 2015). However, available evidence suggests that DVAM is a widespread problem (Mwanyuli, 2017; Kigaya, 2021) that has begun to emerge from its closet of secrecy, especially during COVID-19 and stay-at-home orders.

While DVAM has come to the limelight, relatively little is known about it in Kenya, especially within the context of the ongoing COVID-19 pandemic. The absence of information and statistical data on DVAW in Kenya appears to pervade all sectors and agencies (Mutahi, 2017). Many data collection and research efforts, however, have been disrupted by the containment measures imposed to flatten the curve of COVID-19 infections. There is, therefore, an urgent need for immediate and consistent action. This brief relied on evidence from a previous study and various secondary sources. Such evidence is key to help develop effective strategies to prevent violence and assist victims.

Study Approach and Results

This brief draws upon two sources of materials. First, a qualitative study was carried out in Mathira East Sub-County in Nyeri County of Kenya in March 2017. The objective of the study was to identify the nature, causes, consequences, and survivors' responses to DVAM. Qualitative anthropological research techniques case featuring narrative, in depth interviews, and key informant interviews were used to gather empirical data from 15 sampled men who had purposively experienced DV from their current or previous intimate partners. Second, this brief is based on current data from secondary sources including newspapers, social media, journal articles, blogs, web sites, government, and other reports.

The study established that DVAM is a serious social problem that occurs with impunity behind closed doors and in secret. The men in our sample reported that they experienced episodes of physical abuse including being grabbed or punished in a manner that hurt, beaten with an object, kicked, bitten, and forced into a sexual activity when they did not want. This is confirmed by the Kenya Demographic Health Survey (KDHS, 2014) which showed that 44% of men aged 15-49 and 45% of women had been physically abused since age 15 while 12% of men and 20% of women had experienced physical violence within the 12 months prior to the survey. Most men in our study had also experienced psychological violence in the form of insults, humiliation, limiting contact with family and friends, denied sex, demanding to know where he was and with who, controlling family income and

demanding to have access to his mobile phone. This is consistent with findings by Maendeleo ya Wanaume (MAWE) in their study of DVAM in ten Kenyan counties. Combinations of these factors may be similar to the effects of COVID-19 on men exposed to DV.

The research also found that most of the factors associated with victimization were also associated with perpetration. These included desire to dominate, peer pressure, anger and frustration, alcoholism and drug use, suspicion of marital infidelity. unemployment and poverty, desire to control use of mobile phone and resources, low education levels, financial hardships, and poor mental health. Many of these factors have been exacerbated by the COVID-19-induced restrictions and increased men's vulnerability to DV. Emerging evidence suggest that restricted mobility; excessive alcohol and drug use; confinement of victims and their abusers in the home; men's inability to provide for their families; rising unemployment; loss of income; mental stress; family conflicts and associated stress and, changes in the social and economic circumstances during the COVID-19 may have sparked an increase of DVAM in Kenya.

The study showed that DV abused men suffered physical consequences ranging from minor to severe injuries, and even death. In addition to physical injuries, the study revealed that the victimized men experienced serious psycho-social problems, including high levels of anxiety, depression, and stress from ever-present threat of attack. Abused men working from home reported that DV had disrupted their work, prevented them from seeking employment, caused them to resign and abandon their career and promotional opportunities during COVID-19. These consequences extend to family members and neighbours who attempt to intervene. Children and other family members run the risk of being injured or killed by the abuser if they become involved either by chance or try to protect their father. Beyond the personal costs, DVAM can in the long-run lead to stigmatization of the individual and his family, social isolation, and temporary economic and psychological dependence on others or support groups, and huge financial costs in terms of money spent on police and court services, health and welfare services including housing and food. These impacts are consistent with those suffered by violence against men during other crises including COVID-19 now.

The research revealed that the men in our sample did not seek any form of external intervention including legal redress for the violence experienced. However, it is likely that because people are confined at home during COVID-19 crisis, family members are likely to witness the violence, and therefore may compel the victimized men to speak out and or seek help. However, the situation may be complicated by the fact that COVID-19 has significantly impacted the provision of essential health, justice, policing and social services for victims of DV. As service providers become overburdened and prioritise COVID-19 cases, urgent support, e.g., clinical management of injuries, psycho-social counselling for survivors have been disrupted and may not be available for the survivors of DV. Police and justice sectors are overwhelmed and shifted priorities towards enforcing social distancing, curfew, and responding to emergencies and crime that may increase because of the social and economic consequences of the pandemic.

Policy Recommendations

There are no policies in Kenya now that directly address domestic violence against men. Additionally, there are limited social, legal, advocacy, or shelter services dedicated specifically to victimized men especially during the current COVID-19 pandemic. There is also an urgent need not only to raise awareness on domestic violence against men, but also to develop strategies for outreach and support of men who are vulnerable during the COVID-19 crisis. Further, the research highlights several important policy directions.

Medium-Term

- Government needs to identify the specific needs of abused men with a view of providing appropriate support services and initiate programmes and policies to respond to these needs using technology-based interventions including SMS, social media, and online tools and networks to support the survivors especially during the time of COVID-19.
- Establish, where possible, helplines, counselling services, shelters and crisis centres operated by the state and NGOs and keep them open during the COVID-19 crisis while adhering to the necessary safety precautions.
- Ensure that victimized men have access to essential response services

 such as case management, temporary shelter, urgent medical care, and other forms of support to meet their specific and unique needs.
- Establish protection programmes not only focused on the specific and unique needs and experiences of men but also ensure that men with meaningful opportunities to participate in leadership and making decisions regarding priority areas of intervention, in planning and delivery of support services, and in all areas of programme/policy design and implementation, to ensure that prevention, response, and coordination approaches are carried out in a way that is context-specific, sustainable, and adapted to the gendered dimensions of the COVID-19 pandemic.

- Government needs to enact policies and programmes not only to raise the level of awareness about the detrimental impacts of domestic violence against men but also to transform attitudes and behaviour which inhibit victimised men from speaking out, reporting, or seeking help.
- Government needs to promote targeted educational activities to increase people's ability to identify all forms of domestic violence, support those experiencing violence, and boost referral networks within the community through social media and other online channels.

Long-Term

- Government should prioritise and officially recognise domestic violence services as an essential and lifesaving component of the humanitarian response to COVID-19, including ensuring that necessary services remain open, and that adequate funding is provided to enable targeted, safe, and appropriate, high-guality interventions to take place.
- Government should ensure that domestic violence prevention, response and risk mitigation activities are included as a specific objective in all current and future funding appeals and response plans.
- In recognition of the gendered dimensions of COVID-19, all programming should be based on the findings of a Rapid Gender Analysis that includes data disaggregated by sex, age, and disability, to better understand the differential experiences of affected individuals and communities, and to guide gender-informed action in the short, medium, and long-term.
- Government needs to strengthen gender-based violence policy and improve institutional capacity and responsiveness. Closer collaboration between government agencies, NGOs, and other actors will help to reflect intersections.
- Service providers from health, psychosocial support, legal and security sectors need to be supported to better understand how gender influences men's experiences of domestic violence, and review programs to reflect specific needs and priorities of abused men.
- Create further synergies between violence against men and violence against women programming and policy efforts to ensure that the unique needs and experiences of both genders are appropriately addressed.
- Given the limited evidence that exists both in terms of the scale and nature of DVAM there is a need to develop innovative approaches for research within in the context of COVID-19 to better understand the dimensions of violence against men in domestic settings.



Acknowledgement

This policy brief is an offshoot of a previous study by Sharon Mwanyuli, experiences of battered men seeking legal redress in Mathira East Sub-County which was research Master of Arts in Gender and Development Studies project, the University of Nairobi.

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