jotoafrika

Low emission and climate change adaptation actions

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Highlights

About Joto Afrika

Joto Afrika is a series of printed briefings and online resources about low emission and climate change adaptation actions. The series helps people understand the issues, constrains and opportunities that people face in adapting to climate change and escaping poverty. *Joto Afrika* is Swahili; it can be loosely translated to mean 'Africa is feeling the heat'.

A young man taking care of water melons crop- Kabonon Kapkamak Irrigation scheme in Elgeyo Marakwet County. © Bernard Kiregi

Kenya's Comprehensive Approach to Addressing Climate Change

Editorial

Most of the countries in the world, especially in Africa, consider Climate Change to be a major threat to sustainable development, necessitating for international attention and action. The Paris Agreement on Climate Change was a starting point where all the nations jointly fronted their aspirations to battle climate change and adapt to its effects. A number of the countries have ratified the Agreement and corresponding positive actions are under implementation. However, there is need for the countries to expedite the process of implementation and widen the scale. The Agreement entered into force on November 4, 2016, coinciding with the 22nd UN Conference of Parties on Climate Change (COP 22) in Marrakech, Morocco.

Kenya heads to COP22, having cabinet approval of the Paris Agreement. It is the instrument that will forge the country's future in implementing its priority actions towards climate change mitigation, as well as adaptation.

Kenya in its Intended Nationally Determined Contribution (INDC) aspires towards low carbon and climate resilient development. The Country is coming up with an all-inclusive implementation plan of its INDC. Six (6) sector-working groups are detailing specifics for each sector and priority actions. The INDC is informed by a number of key policy documents that set priority of country's climate agenda; the National Climate Change Response Strategy (NCCRS), the National Climate Change Action Plan (NCCAP), and the National Adaptation Plan (NAP).

Kenya has a Climate Change Act that commenced on May 06 2016. It provides for a regulatory framework for enhanced response to climate change and provide for measures and mechanisms to achieve a low carbon climate resilient development. On October 13 2016 the cabinet approved the National Climate Change Policy Framework (CCPF) for submission to, and adoption by Parliament as a Sessional Paper on National Climate Change. The CCPF provides a framework for coordinated response to climate change, and will streamline and guide efforts at both the international, national and local levels to address the challenges and seize opportunities that may arise.

According to the World Bank, investments that are low-carbon and climate-resilient can be relevant in promoting sustainable economic growth, which is key to achieving countries' goals of ending extreme poverty and boosting shared prosperity.

The comprehensive and timely nature in which the Kenyan government has addressed climate change attests its willingness to address challenges that come with climate change and at the same time capitalizing on inherent opportunities.

The Government of Kenya, for example, is implementing the National Agriculture Insurance and Risk Management Program. It has both crop and livestock insurance schemes. With the crop insurance, smallholder farmers' capacity to manage risks and losses will be enhanced. The livestock insurance will cushion livestock keepers, predominantly in the arid and semi arid lands, against the risks resulting from disasters associated with droughts.

Kenya is participating in the REDD+ process, with pursuit of compensation for its actions taken to reduce Greenhouse Gas (GHG) emissions from the forestry sector. The National Government, in partnership with County Governments and other partners, is focusing at sustainable management of solid waste. It launched a 100–days Rapid Results Initiative (RRI) in August, 2016 as a strategic intervention approach intended to focus attention and effort for a quick turn-around targeting easily achievable actions. Kenya has also developed a National Appropriate Mitigation Action (NAMA) Support Project on "Circular Economy Solid Waste Management" in the urban areas. It proposes a new approach to waste management that involves waste recycling and composting. These form part of the highlights in this issue.

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Word from the Principal Secretary

Kenya is vulnerable to the impacts of climate change, which manifest through an increase in the frequency and intensity of extreme climate and weather events like droughts, floods, rising temperatures and irregular and unpredictable rainfall, among others. These impacts have adversely affected the Kenyan economy and threaten to reverse the economic gains made over the years.

The country continues to play an active role in the global climate change discourse and response, including signing the Paris Agreement, the world's first binding universal climate agreement during COP-21. Kenya is participating in this years' COP-22 in Marrakesh Morroco, to contribute to the crucial next steps to operationalize and implement the Paris Climate Change Agreement.

The Government, through the Ministry of Environment and Natural Resources has put in place a number of measures to respond to climate change effects. These include the National Climate Change Action Plan (NCCAP 2013-2017) that charts a low carbon climate resilient development pathway, and the National Adaptation Plan, which mainstreams adaptation across all sectors in the national planning, budgeting and implementation processes. In addition, Kenya submitted its Intended Nationally Determined Contribution (INDC) and is in the process of ratifying the Paris Agreement.

In May 2016, His Excellency the President assented into law the Climate Change Act 2016. This milestone demonstrates Kenya's commitment and leadership as one of the very first countries in Africa, and among only a few globally, to enact a comprehensive law to guide national and county responses to climate change. Development of the Act was an inclusive and consultative process that was in tandem with Kenya's Constitution 2010, and recognizes the role of County Governments in addressing the impacts of climate change.

The Ministry of Environment and Natural Resources and in particular the State Department of Environment, in collaboration with all stakeholders is committed to ensure the full implementation of the Act for the benefit of our current and future generations.

In the lead up to COP-22, this edition of JotoAfrika focuses mainly on the governments' commitment towards global and national climate action and specific initiatives to address climate change.

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Implications of Kenya's Climate Change Act, 2016

A participant engages in the county consultative meetings on the Act Revisions in Garissa County. © www.kccap.info.

Kenya's Climate Change Act (2016) dates back to 2010 during its inception as an initiative of the Civil Society. The Act 2016 was signed into law by H.E. President Uhuru Kenyatta on 6 May 2016; and commenced on 27 May 2016. The purpose of the Act is to provide for a regulatory framework for enhanced response to climate change and provide for measures and mechanisms to achieve low carbon climate resilient development. Having this law in place is an indication of Kenya's determination to comprehensively address climate change. The law puts Kenya a step ahead, being among a very small number globally to have a stand-alone climate change law.

The Act occasions a transformational change for the country in matters of climate change. Firstly, it establishes a high-level National Climate Change Council chaired by the President, with the Deputy President as vice chair. Members of the Council include Cabinet Secretaries responsible for climate change affairs (secretary to the Council), the National Treasury, Devolution and Planning and Energy. The Chair of the Council of Governors is also a member, ensuring that county government concerns are incorporated in decisions and actions of the council. Members from non-state actor institutions include a representative each of the private sector, civil society, academia, and marginalised community in accordance with the Constitution.

The Council shall provide an overarching national climate change coordination mechanism. It shall, among others, ensure the mainstreaming of the climate change function by the national and county governments; advise the national and county governments on legislative, policy and other measures necessary for climate change response and attaining low carbon climate resilient development; and administer the Climate Change Fund established under this Act.

Secondly, the Act makes it mandatory for both national and county governments to take action on climate change and report on the action taken and utilisation of climate related resources at their respective levels. At the national level, the Cabinet Secretary for climate change affairs will be required to report to the National Assembly biannually on the status of implementation of international and national obligations to respond to climate change, and progress towards attainment of low carbon climate resilient development. The Cabinet Secretary is also obligated to, among others, formulate and periodically review the climate change policy, strategy and the National Climate Change Action Plan and submit to the Council for approval; and provide through the Climate Change Directorate, technical assistance on climate change actions and responses to county governments, based on mutual agreement and needs cited by the county governments.

Similarly, county governments are obligated to integrate and mainstream climate change actions, interventions and duties set out in the Act, and the Action Plan into various sectors; integrate the implementation of the National Climate Change Action Plan into the County Integrated Development Plan (CIDP) and the County Sectoral Plans, taking into account national and county priorities; and designate a County Executive Committee (CEC) member to coordinate climate change affairs. The CEC member is obligated to submit a report on progress of implementation of climate change actions to the County Assembly for review and debate, with a copy to the Climate Change Directorate for information purposes.

Thirdly, the Climate Change Act 2016 creates an avenue for incentivizing non-state actors contributing to adaptation and mitigation actions; and enabling activities like capacity building, technology development and transfer, climate finance, and monitoring and evaluation (measuring reporting and verification) of climate change action and support; among others. Recognizing the efforts of the non-state actors will, therefore spur enhanced action and support from across the board.

Fourthly, the Act establishes a national climate change fund to be a financing mechanism for priority climate change actions and interventions approved by the Council. The fund shall be capitalised from monies appropriated from the Consolidated Fund by an Act of Parliament; monies received by the Fund in the form of donations, endowments, grants and gifts; and monies under an Act payable to the Fund. The fund will also provide a platform for the tracking of climate finance flows into and from within the country.

In addition, the Act obligates the Climate Change Directorate to provide technical advice to national and county governments on the mainstreaming of climate change in their areas of jurisdiction; and expands the mandate of the National Environment Management Authority (NEMA) to include the compliance and enforcement of climate change actions and duties.

Lastly, the Kenya Institute of Curriculum Development is obligated to, on advice of the Council, integrate climate change into various disciplines and subjects of the national education curricula at all levels.

It is worth noting that the Act espouses the principle of public participation and access to information enshrined in the Constitution, to ensure that that public contribution makes an impact on the threshold of decision making. Meanwhile, the related National Climate Change Framework Policy is awaiting approval by Parliament, having been endorsed by the Cabinet.

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Post COP 21: Tracking Kenya's Response to Climate Change

A woman drawing water from a shallow well connected to a sub surface dam in West Pokot County. © Bernard Kiregi

The Paris Climate Change Agreement entered into force on November 4, 2016, which is just in time for the 22nd Climate Change Conference of Parties (COP22) in Marrakech, Morocco. The agreement sets a pathway for countries initiatives that contribute towards reduced greenhouse gas emissions, as well as building climate resilience. The agreement therefore plays an important role towards realization of the Sustainable Development Goals.

An interview with Ms. Fatuma Hussein from the Climate Change Directorate, Ministry of Environment and Natural Resources, highlights progress made by Kenya since Paris COP21 and Kenya's expectations during Marrakech COP22.

What has Kenya achieved since the Paris Agreement?

There have been preparations and consultations around the ratification of the Paris Agreement. The Cabinet has already approved the ratification, which is now in the National Assembly.

The Country is also preparing a detailed implementation plan on its Intended Nationally Determined Contribution (INDC). The government has tasked six (6) sector-working groups to identify specific details for each of the sectors and to provide guidance on priority actions.

What do Kenyans expect to happen once the Paris Agreement enters into force?

Once the agreement enters into force the apex decision making body, which is the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA), will take place during COP22.

The CMA will make transitional arrangements on what will happen. A lot of work has been ongoing in preparing rules guiding the implementation of the agreement. This needs at least 3 years as countries are still far in making substantive decisions. Earlier expectation was that the agreement would enter into force around 2018. CMA will have to make some procedural arrangement and decisions on what happens as only 86 countries have ratified the agreement.

The CMA has also to ensure all parties to the United Nations Framework Convention on Climate Change (UNFCCC) are part of the discussions and decision-making as well as giving countries time to ratify.

What are the biggest obstacles towards the implementation of the Paris Agreement?

Many developing countries will find it difficult to put systems in place to implement the agreement, unlike developed countries that are coming from Kyoto Protocol that had set high standards for them. Detailed and robust transparency arrangement in which countries report after every two years and tracking the implementation of Intended Nationally Determined Contributions (INDCs) after every 5 years would affect most developing countries.

Economic challenges might also hinder many developing countries from raising the finances required in the implementation of their INDCs.

What does the Paris 1.5-degree C mean for the Country?

The idea of 1.5 degree Celsius aims to limit global temperature, which translates to specific type of target in terms of emissions reduction. Paris agreement target is 2 degrees Celsius above pre-industrial levels although countries are aiming at 1.5 degree Celsius. Kenya is conscious about reduction in emissions because when the global average temperature increases, many areas in Africa will have increases beyond that.

How is Kenya transitioning to a low carbon economy?

Kenya has embraced a low emission and climate resilient development pathway through its INDC. The Country seeks to undertake an ambitious mitigation that would reduce its greenhouse gas emissions by 30 percent by 2030. The National Climate Change Action Plan (NCCAP), Climate Change Act 2016 and Climate Change Policy Framework will guide the country's low carbon resilient development. The policy was approved during the 7th Cabinet meeting held on 13th October 2016 for submission to, and adoption, by Parliament as a Sessional Paper on National Climate Change.

What is Kenya doing in building capacities of businesses and communities in regards to climate change?

The NCCAP, Climate Change Act 2016 and Climate Change Policy Framework were prepared through a national consultative and participatory process that included stakeholders from the civil society as well as the private sector. Kenya Private Sector Alliance (KEPSA) and Kenya Association of Manufacturers (KAM) have specific programs that help to implement some provisions in the NCCAP and Climate Change Policy Framework.

The Climate Change Act 2016 has specific provisions of creating awareness and building capacities of different institutions for them to be able to implement the Act.

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Interview was conducted by Bob Aston-ALIN

What does Kenya expect from COP22 in Morocco?

- Clarity around resources available and finances
- Completion of the Paris Agreement rulebook to help in the implementation of the various components
- Clarity around capacity building initiatives for Kenya to set up transparency arrangements
- Clarity in disbursement of Green Climate Fund
- Linkage of adaptation fund
- Clarity in adaptation initiatives

The **United Nations Climate Change Conferences of Parties (COP)** are yearly conferences held in the framework of the **United Nations Framework Convention on Climate Change** (UNFCCC).

The REDD+ Process in Kenya

Aberdare forest ecosystem. @UNDP Kenya/James Ochweri

Kenya's economy has a very strong dependence on the natural environment and, in particular, forestry resources. Forestry supports most sectors, including agriculture, horticulture, tourism, wildlife, and energy. A large rural population depends on woodland and bush resources to provide firewood, charcoal and other forest products. Further, the contribution of forests in water catchments protection is critical to Kenya's rural and urban water supplies.

Kenya is categorized as a low forest cover country. In spite of this, the country still experiences significant forest cover losses. The major reasons for this loss have been attributed to a number of activities including conversion of forest land to agriculture, settlements and other uses; unsustainable utilization of forest products (including timber and charcoal); forest fires; and poor governance. Loss of forest cover is particularly severe in the arid and semi-arid zones, where the agricultural frontier is expanding and charcoal burning is rampant. The government has adopted a number of conservation and management strategies to reverse the trend and to ensure that the country`s forests are well protected and conserved.

Key among the strategies is the REDD + process (**R**educing of **E**missions from **D**eforestation and forest **D**egradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks), which presents a great opportunity to reduce forest sector emissions by providing innovative approaches, including incentives that support implementation of a comprehensive sustainable forest management and conservation strategies.

The REDD+ mechanism seeks to provide compensation to governments, communities, companies or individuals in developing tropical countries for actions taken to reduce Greenhouse Gas (GHG) emissions from the forest sector. REDD+ implementation involves the design and application of appropriate land and forest management practices, including enhanced forest sector governance to reduce deforestation and forest degradation and support to conservation and sustainable management of available forest resources.

Kenya's participation in the REDD+ process is premised on the conviction that the process holds great potential in supporting a number of development goals in the country including; realization of the constitution objective of increasing forest cover to a minimum of 10%; access to international carbon finance to support investments in the forestry sector; design of policies and measures to protect and improve forest resources; realization of the national climate change goals and contribution to global climate change mitigation and adaptation efforts. Further, REDD+ is linked to a number of policy processes including the National Climate Change Policy, National Forest Programme, Climate Change Action Plan (2013-2017), Green Economy Strategy, National Land Policy among others.

Guided by the United Nations Framework Convention on Climate Change (UNFCCC), Kenya has embarked on a process to develop a country-driven and participatory process that delivers the following four pillars of REDD+; a REDD+ Strategy and implementation framework, Forest Reference Levels (FREL/FRL), National Forest Monitoring System (NFMS) and Safeguards Information System (SIS).

The process of developing the four documents represents a country's REDD+ readiness efforts. In support of these efforts, Kenya has received technical and financial support from a number of development partners including the United Nations Program on REDD+ (UN-REDD), the Forest Carbon Partnership Facility (FCPF), Japan (JICA) and the Clinton Climate Initiative.

The REDD+ strategy and implementation framework, a key policy document that is a prerequisite for a country to participate in an international REDD+ mechanism. It plays a crucial role of providing strategic directions for all stakeholders including line ministries and agencies where key political decisions on management of lands and forests are made. It also provides an important tool to inform the strategic direction of the country to relevant stakeholders as well as to potential international partners.

The Forest Reference Levels (FRL) is the baseline level of emission that is used to demonstrate emission reduction or removals from activities that reduce deforestation and forest degradation or those that contribute to enhancement of carbon stocks through rehabilitation or restoration programs.

The National Forest Monitoring Systems (NFMS) is a key component in the management of information on the National REDD+ Programme. All Parties establishing a National REDD+ Programme are required to establish a national forest monitoring system to support the functions of measurement, reporting and verification of actions and achievements of the implementation of REDD+ activities.

Safeguards Information System (SIS) are procedures and approaches that help to ensure that REDD+ activities "do no harm" to people or the environment, but enhance social and environmental benefits. The SIS provides information on how all UNFCCC safeguards are addressed and respected.

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Supporting Climate Smart Agricultural Practices in Arid and Semi-arid Lands

Women sorting and grading french beans in Kabaa irrigation scheme in Machakos County. © Bernard Kiregi

The Arid and Semi Arid Lands (ASALs) in Kenya, occupy 89% of the country and have the lowest development indicators and the highest incidence of poverty in the country. Climate change in the ASALs is depicted by increased frequency of prolonged drought and erratic rainfall patterns; impacting negatively on agricultural practices. A number of climate smart agriculture projects have received support from both government and non-governmental organizations. The government in partnership with various development agencies such as the World Bank, Africa Development Bank, IFAD, AGRA among others among others have shown their commitment towards supporting climate smart agriculture in the ASALs to increase productivity for reducing vulnerability to the climate change impacts.

In 2008, the agricultural sector was given support of Ksh 2 billion by the government of Kenya and the African Development Bank towards implementation of the first phase of the Small-Scale Horticulture Development Project. The main objective was to increase productivity of horticultural products and marketing came to a close at the end of 2015. Its completion saw nine irrigation schemes implemented in dry areas within seven Counties. These are:- Mosiro in Narok, Ngurumani and Namelok in Kajiado, Lari Wendani in Nakuru, Kabonon-Kapkamak in Elgeyo Marakwet, Kabaa and Kauti in Machakos, Kathiga Gacheru in Embu and Mbogoni in Tharaka Nithi County.

The SHDP was instrumental in rehabilitating, expanding and setting up new irrigation infrastructure, improving market access and linking farmers to various stakeholders in horticulture value chain. Some of the notable milestones of the project include the rehabilitation and expansion of nine irrigation schemes. Over 6000 members have benefited directly from this initiative with over 200,000 benefitting indirectly.

Another notable achievement is the construction of nine grading and marketing sheds for the farmers coupled with an increase in production of horticultural produce for domestic and export markets. The earnings from the nine schemes saw an increase from ksh114.1 to 703 million between October 2012 and September 2015. The irrigation schemes also contributed to the improvement of 94 kilometres of access roads, thus boosting the transportation of agricultural produce from the farm to markets. In an effort to conserve the environment, the scheme enabled the protection of 18 water springs resulting to an increased flow of water available for irrigation and domestic use.

In its second phase, the Multinational Drought Resilience and Sustainable Livelihoods Programme (DRSLP) took over from the SHDP project. The 15 year Programme is co-funded by African Development Bank (AfDB) and the Government of Kenya (GoK) to the tune of Ksh5.48 billion. The pilot phase of 5 years started in July 2013 and is expected to end in June 2018. The programme which is being implemented by the State Department of Agriculture in the Ministry of Agriculture, Livestock and Fisheries, aims at enhancing drought resilience and improving sustainable livelihoods of communities living in the arid and semi-arid lands (ASALs) of Kenya.

DRSLP is operational in six ASAL counties namely West Pokot, Turkana, Baringo, Marsabit, Isiolo, and Samburu. The programme is committed towards irrigation to increase food security and households incomes, construction of water structures to reduce trekking for long distances to water sources by livestock and households-especially women and children; and improvement of livestock market acccess. When completed the project will have constructed 9 irrigation schemes with a total irrigated area of 1530 hectares in the six counties.

The programme has contributed to the establishment of 360 ha of commercial pasture demonstrations and constructed 8 hay sheds for pasture storage to be used when droughts set in. The storage facilities can hold 140,000 bales of fodder. Additional 6 hay sheds that can store 90,000 bales will be completed by mid-2017. In addition 19 livestock sale yards are currently being established in five of the six counties, of which ten (10) are complete, with the rest nine (9) under construction.

Rain water harvesting is being achieved through the construction of water pans of between 20-25 cubic metres. The pans are fenced off but the water is channelled out into the livestock watering troughs. In total 21 water pans, 33 boreholes, 16 shallow wells, six (6) subsurface dams are in different stages of completion.

In the long run, the fully implemented programme aims to have an impact on improved livelihood and rural incomes, improved resilience of pastoral production systems and strengthened regional economic and institutional integration.

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Managing Risks for Improved Agricultural Productivity

Farmers tending to their potato farm at Kiolo village in Meru County. Crop Insurance will help to manage risks and losses among smallholder farmers. © Bob Aston

Agriculture is one of the most important sectors in the Kenyan economy, providing source of livelihoods to majority of Kenyans and foreign exchange earnings to the country. The sector is highly sensitive to climate change, affecting production in smallholder systems that have little adaptive capacity. The Ministry of Agriculture, Livestock and Fisheries officially launched the National Agriculture Insurance and Risk Management Program for rollout and expansion throughout the country in March 2016. This article highlights the progress made and future planned activities.

The agricultural sector is critical to the country's development as a foundation towards achievement of the desired economic growth and transformation by 2030. The sector is the foundation of the country's food security and contributes 26 percent of the country's Gross Domestic Product (GDP), 60 percent of the total export earnings and 45 percent of Government revenue. Further the sector supplies over 75 percent of the raw materials and is the main livelihood to close to 80 percent of the country's population.

Despite the crucial role that agriculture plays, natural disasters and climate change have caused catastrophic damage to the sector and the economy at large. Since 1970, Kenya has experienced 12 droughts and 41 floods, between 2008 and 2011, affecting a total of 47 million and 6.9 million Kenyans, respectively. Total drought losses to Kenyan economy was estimated at Ksh 968.6 billion and GDP reduced by 2.8% each year. Floods swept farmers crops and livestock during times of heavy downpour as in the case of Elnino rains experienced during the past season.

In 2014, Kenya lost close to 10 million bags of maize due to Maize Lethal Necrosis Disease (MLND). This seriously affected many farmers in major maize growing counties. Migratory pests such as quelea birds and armyworms also affected farmers yields when such outbreaks occur. Hailstones and frosts are also a frequent menace.

Above are phenomena attributed to climate change and with the associated prevalence of the many risks, hazards and disasters, agriculture will not continue to play its rightful role. There is therefore need for a longterm solution to safeguard farmers.

The Agriculture Insurance is a priority program of the Ministry and is being implemented on a **Private Public Partnership** (PPP) approach targeting both crops and livestock enterprises. The Government is directly subsidizing premiums to be paid by the farmers at 50 percent for the crop insurance and full premium for the livestock insurance.

The overall aim of the crop Insurance is to manage risks and losses amongst smallholder farmers, increase productivity through improved access to credit and higher yielding technology and support to transition from subsistence to commercially oriented farming. On the other hand, the livestock insurance will help minimize risks emanating from drought related disasters and build resilience of pastoralists for enhanced and sustainable food security and incomes.

The program will run for five years and preparations have been ongoing since 2014. The initial pilot phase for crops insurance is being implemented in Nakuru, Embu and Bungoma counties. In the three counties, the Unit Areas of Insurance (UAI) were identified and selling of the insurance cover for the March 2016 cropping season began. The crop insurance currently covers maize and wheat but will be expanded to cover other crops in due course.

The pilot phase for the livestock insurance was implemented in Wajir and Turkana Counties where 25,060 tropical livestock units were insured for 5,012 households at a premium valued at Ksh. 56 million in 2014/2015 financial year. In 2015/ 2016 financial year 45,425 tropical livestock units will be insured for over fifty four thousand (54,000) households in the Arid and Semi-Arid Lands (ASAL).

The next phase for crop insurance will target Homa-bay, Kitui, Migori, Uasin Gishu, Narok, Meru, Machakos, Makueni, and Laikipia counties. For the livestock insurance component the four counties of Isiolo, Marsabit, Mandera, and Tana River will be covered.

The crop insurance will be expanded to thirty Counties by the year 2019 covering 180,000 farmers for an estimated 300,000 hectares. The livestock insurance program will be expanded to cover all the 14 ASAL Counties by 2020. The Ministry will continue to support the growth of the crop insurance market to provide opportunities for farmers to remove the burden of crop and livestock losses and transfer this to the market in order to make farming a sustainable and shared responsibility.

The program is implemented in collaboration with the Ministry of Environment and Natural Resources, the National Treasury and County governments. The supporting development partners include the World Bank Group, USAID, UNDP, and Financial Sector Deepening. The underwriters constitute a pool of seven Private Insurance Companies namely APA, Jubilee, Amaco, Heritage, Kenya Orient and CIC.

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Rapid Results Initiative Approach on Solid Waste Management in Kenya

Flattened plastic waste ready for recycling.
© AP Ben Curtis

The processing and systematic professional management of waste can enable Kenya attain the constitutional entitlement to a clean and healthy environment. Sadly, inappropriate disposal of waste evidenced by litter everywhere and pile-up of garbage in major towns and cities of Kenya is the norm. The different types of waste as recognized in the Waste Management Regulations of 2006 include; industrial wastes, pesticides and toxic substances, biomedical, radioactive substances, electronic waste, organic and construction waste.

The National Government has set out to change the deplorable waste management practices in partnership with County governments and other partners. Consequently, based on the National Solid Waste Management Strategy developed by the National Environment Management Authority (NEMA) in 2015 through a consultative process with key stakeholders, a nation-wide set of activities were initiated. The launch of 100 days Rapid Results Initiative (RRI) in August, 2016 was the beginning of a long term intervention targeting 80% recycled waste and 20% disposal in sanitary landfills by 2030. This RRI initiative is by the National Government through the State Department of Environment, Ministry of Environment and Natural Resources to augment, strengthen and speed up solid waste management actions by county governments.

The RRI strategic focus areas include; public awareness campaigns, compliance, promotion and private sector engagement, enforcement of waste management regulations and standards, data capture and monitoring and evaluation to support the strategic areas.

The National Government is responsible for formulating appropriate policies, strategies and legislations, which are adapted by county governments who are responsible for solid waste management. Enforcement of national laws on waste management and capacity building are functions of the national government and in this case are executed by NEMA.

Effective, efficient and systematic management of waste should be undertaken as a business. The waste management value-chain presents many opportunities for creating jobs and ensuring a clean and healthy indoor and outdoor environment.

It is recognized that poor management of waste at all levels has a lot to do with individuals' attitude. The aim of the RRI therefore, is to intensify public awareness of individuals' responsibility over appropriate management and disposal of waste. The focus areas are highly populated areas with the littering culture in public service vehicles and residential areas. The exercise is carried out in partnership with registered associations of public service vehicles and estates, faith-based organizations and the media. The aim is to reach out to 50% of the populations associated with these entities within the 100 days. Segregation of waste at source is emphasised.

Waste management in Kenya is also guided by international conventions and treaties to which Kenya is a signatory. The key conventions are the *Stockholm Convention* that aims at eliminating or reducing the use of persistent organic pollutants; *Basel Convention* which is applied to control trans-boundary movement of waste and their disposal and therefore safeguards developing countries from being dumping ground of waste; *Rotterdam Convention* on prior- informed consent on certain hazardous chemicals and waste and *Minamata Convention* which aims at protecting the environment and human health from adverse effects of mercury.

The culture of recycling, refurbishing and re-using is gaining momentum; particularly among the youth. The Ministry is therefore working in partnership with young entrepreneurs to support investment in waste management. Women are a critical cluster in the waste management value-chain at both household and industrial levels. At the household level, they socialize children on waste management and general hygiene. At industrial scale, they have been noted as active members of work-clusters in dumpsites and in waste recycling and disposal. The Ministry is therefore keen in forging partnerships with women investors on waste management.

The National Transport and Safety Authority (NTSA) is a key partner because littering is a common practice by travelers. Conditions are set to ensure that all public transport vehicles have bins into which waste is disposed. Creating awareness through random inspection and ensuring compliance will heavily depend on partnership between NEMA and NTSA.

The Retail Trade Association of Kenya (RETRAK) has a major role because retailers use a lot of packaging materials especially polythene bags. Reducing the volumes of polythene bags in the environment can be achieved through a partnership with RETRAK to urge members to charge a fee for bags used for packaging merchandise.

During 2015 when all countries were expected to document and register their commitment targets on reducing Green House Gas Emissions (GHGs), Kenya committed to a reduction of 30% by 2030. Community-based organizations (CBOs) are an important partner in all aspects of waste management specifically in behaviour change. The Ministry will therefore work closely with CBOs while addressing waste management issue.

The National Solid Waste Management Strategy indicates that about 3.9 Billion Kenya shillings will be needed to address the waste management challenge. This includes development of managed infrastructure, public education and awareness creation and strengthening enforcement institutions and processes.

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KenGen Foundation Building Community Resilience to Climate Change

A water pump at Sondu, Nyanza County. The Foundation is committed to the provision of clean water to the communities living near the company's power. © KenGen Foundation

Since its formal establishment in 1997, KenGen has been involved in Corporate Social Investment (CSI) activities, specifically targeting communities living in areas neighbouring its installations to add value to their livelihoods by establishing and implementing sustainable community projects. Over the years, high impact corporate programs could not be effectively implemented due to limited financial resources and lack of internal capacity. To address this challenge, the Company established a Foundation in 2012 to serve as the vehicle for up scaling its CSI programmes. The KenGen Foundation began operations in December 2012 and it is run by a Managing Trustee governed by a Board of Trustees.

> To date, KenGen has invested over Ksh 500 Million [USD 5.8Million] into various community projects countrywide within the three pillars of; Education, Environment, and Water and Sanitation. Over KShs 17.5 million has been invested in education scholarships supporting more than 380 students in Kenya.

Every year, the Foundation sponsors high school and university students. Sponsored university students who attain first class honours on the relevant degrees upon graduation receive automatic employment into KenGen as per the policy. The programme's beneficiaries include the girl child and students with disabilities. The Foundation organizes an Annual Mentorship Programme for all the Education Scholarship programme beneficiaries to ensure they discover their potentials and talents that they are endowed with as they join the Alumni association. In addition to the scholarships, the Foundation supports schools' infrastructural development and in provision of equipment and learning materials.

KenGen through, environmental conservation initiatives, contributes towards enhancing adaptation to climate change among vulnerable communities, whose livelihoods are heavily dependent on rainfall and biodiversity. The Foundation through a partnership with Better Globe Forestry and Bamburi Cement Limited established the Green Initiative Challenge (GIC) project, to work with schools located around the 7-Forks power stations. The initiative aims at creating environmental awareness through schools and students participation to improve their environment. In 2014, the Foundation enlisted 81 schools to participate in establishing woodlots, with the purpose of greening the schools' compounds and their neighbourhoods.

The Foundation supplies participating schools with multi-purpose *Cassia siamea* (*Muveci*) and *Melia volkensii* (Mukau) tree seedlings for planting in designated 0.5 to 1 acre plots. *Muveci* is a fast growing tree that provides almost immediate benefits, which include wood and has coppicing ability that make it a source of wood for many years. *Mukau* is a source of hard wood and is sawn for timber. Both trees are adaptable to dry climatic conditions, providing shade, all year round, and wood fuel; thus reducing pressure on surrounding vegetation and forest resources. The trees, through carbon sequestration are a source of sink to the greenhouse gases. They control soil erosion by increasing topsoil for water infiltration that reduces surface runoff.

The GIC expansion project targets greening of 460 acres with 324,300 tree seedlings and 113,956 fruit seedlings (passion and pawpaw) by involving over 910 schools. The project awards prices to schools with highest survival rate of seedlings, since the area is characterized by dry weather conditions. The best performing schools stand to benefit from education scholarships, infrastructural developments, water tanks, and rainwater-harvesting and cash awards among others.

> Every year, preventable waterborne illnesses claim lives of millions of Kenyans. The Foundation, for the last two decades, has partnered with corporates, and central and county governments, in addressing water challenges by enabling communities to access clean water. Regional Water Service Boards support the initiative with professional services that ensure sustainability. KenGen Foundation therefore continues to make a mark towards contributing to help Kenya meet the UN Sustainable Development Goals.

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Write to us!!

We welcome your feedback on this special issue of Joto Afrika. Please send us your thoughts using the contact details on **page 12**. Please include your full contact address or email. A selection of letters will be printed in the next issue.

Capacity Development for Clean Energy Access and Energy Efficiency

A group inspects a solar panel kit in Nairobi. Solar energy is gradually gaining popularity as an alternative source of clean energy. © Philip Dinga

Kenya's energy policy aims at ensuring adequate, secure, affordable, sustainable and reliable supply of energy to meet national and county development needs, while protecting and conserving the environment. Reforms within the energy sector in Kenya take cognisance of renewable energy as a major enabler of economic activity. Further, Kenya being a vulnerable country is impacted negatively by the vagaries of climate change. The country's economy depends on climate sensitive sectors that include energy. In this regard, the deployment of clean and efficient energy technologies including solar energy is a national priority as is outlined in the country's Intended Nationally Determined Contribution (NDC) to the UNFCCC and the National Climate Change Action Plan (NCCAP).

Kenya receives solar radiation all year round estimated at 4-6 kwh/m^2/day that is adequate for both lighting and heating. However, the percentage of solar energy harnessed for commercial and domestic applications remains insignificant. The Energy Regulatory Commission gazetted the solar PV and solar water heating regulations in 2012. The regulations were intended to contribute towards improving the delivery of products and services within the solar sector. Under these regulations, only licensed technicians are allowed to design and install solar PV and water heating systems; and to be licensed to practice, technicians must undertake a solar training course. In addition, vendors and manufacturers need to employ licensed technicians in order to be licensed themselves.

The Ministry of Environment and Natural Resources, through the Low Emission and Climate Resilient Development (LECRD) project, provided support for developing institutional capacity for training of technicians on design, installation, and maintenance of solar photovoltaic (PV) and solar water heating systems. The project specifically supported the training of instructors on installation, maintenance and repair of both solar PV and water heating systems as well as provision of training kits. Ten (10) technical training institutes from across the country were beneficiaries of this support. In addition the project supported the development of a training manual for solar water heating that will be used by instructors across the country. Sixty (60) instructors from across the country have been trained and ten (10) technical training institutes equipped with training kits that include all components of solar PV and solar water heating systems. This was a collaborative effort with other institutions including Jomo Kenyatta University of Agriculture and Technology (JKUAT), the Energy Regulatory Commission (ERC), National Industrial Training Authority (NITA), Steel Stone Ltd and Chloride Exide Ltd.

Energy efficiency, standards and labelling are highly cost effective means to reduce energy demand and greenhouse gas emissions. Minimum Energy Performance Standards (MEPs) specify the minimum set level of energy performance that appliances, and lighting and electrical equipment must meet or exceed before they can be sold to consumers. Currently, Kenya has gazetted MEPs for six (6) appliances including industrial motors, compact fluorescent lamps, ballasts for fluorescent lamps, self-ballasted lamps, refrigerators and air conditioners. The project is also supporting the development of Minimum Energy Performance Standards (MEPs) for three (3) electrical appliances. The LECRD project is supporting the establishment of a testing facility to be housed at the Kenya Industrial Research and Development Institute (KIRDI). This facility will ensure that the appliances meet the standards.

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The Principal Secretary, Ministry of Environment and Natural Resources, Mr. Charles Sunkuli flagging off a lorry distributing solar training kits to select Technical Training Institutes.© Phillip Dinga

Mainstreaming Climate Change into National and County Policy, Planning and Budgetary Processes

Participants engaged during the development of the curriculum on mainstreaming climate change © Philip Dinga

Kenya recently passed into law a climate change act that defines mainstreaming as *'the integration of climate change actions into decision making and implementation of functions by the sector ministries, state corporations and county governments.'* The Climate Change Act 2016 obligates the national and county governments to mainstream climate change responses into development planning, decision making and implementation.

The Ministry of Environment and Natural Resources (MENR), through the Climate Change Directorate, in partnership with the Kenya School of Government (KSG) and the Kenya Institute of Curriculum Development (KICD) are developing a short course to mainstream climate change into national and county policy, planning and budgetary processes. The process of developing the curriculum and training manual is supported by the USAID-UNDP funded Low Emission and Climate Resilient Development (LECRD) Project of the MENR. The course would develop in-country capacities required to reduce vulnerability, as well as build resilience of communities and production systems facing climate impacts; and ensure sustainable development through actions that are resource efficient and environmentally sustainable.

The curriculum development process began with a wide range of stakeholder engagements with climate change, policy, finance and communication experts drawn from the Kenya School of Government, Kenya Institute of Curriculum Development, Ministry of Devolution and Planning, National Treasury, University of Nairobi - Institute of Climate Change and Adaptation, Kenya Meteorological Department, National Youth Green Growth Secretariat, Care International and Ministry of Environment and Natural Resources among others. This approach allowed for rich exchange of knowledge, expertise from subject matter specialists and experience resulting in a robust curriculum that will contribute to climate change mainstreaming processes at national and county levels.

The ten (10) day course has been structured in 4 modules namely; Introduction to Climate Change, Climate Change Policies and Strategies, Climate Change Financing and Budgeting, Climate Change Monitoring, Evaluation, Reporting and Dissemination. The course will equip the national and county officials with the requisite knowledge, skills and attitude to mainstream climate change in development planning, decision-making and implementation in line with the Climate Change Act 2016 and to support the implementation of the Kenya's Intended Nationally Determined Contribution (INDC).

Based on the curriculum, a training manual is being developed through a highly knowledge sharing and peer and technical review process with with subject matter experts to ensure a robust and comprehensive manual is developed. The course will be offered through the Kenya School Government to county and national government officials.

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The Low Emission and Climate Resilient Development (LECRD) Project

Contributing Towards Enhancing Kenya's Low Emmision and Climate Resilient Development

KEY RESULT AREAS

1	National Climate Change Coordination Processes Strengthened
2	Access to Clean and Efficient Energy Systems Enhanced
3	A National Greenhouse Gas Inventory Established
4	National and County Decision Making Tools for Climate Change Interventions Improved
5	Climate Knowledge Management and Capacity Enhanced
6	Impacts of Extreme Climate Events for Improved and Resilient Livelihoods Minimized

Training on estimating land based greenhouse gas emissions. © Philip Dinga.

The Low Emission and Climate Resilient Development Project ...*"at a glance"*

The Low Emission and Climate Resilient Development (LECRD) project supports Kenya's efforts to pursue long-term, transformative development and accelerate sustainable climate resilient economic growth, while slowing the growth of greenhouse gas emissions. It is a project of the Ministry of Environment and Natural Resources, funded by the United States Agency for International Development (USAID) through the United Nations Development Programme (UNDP).

Since commencement in 2014, the LECRD project has built synergy and sustainability of its impacts by implementing activities through linkages and partnerships with government ministries and agencies, counties, NGOs, development partners, academia and private institutions.

In improving the national climate change coordination process, the project supported consultations that led to the development and submission of Kenya's Intended Nationally Determined Contributions (INDC).

Through the National Treasury, LECRD project supported the training of 155 individuals at national and county levels on incorporating climate change into the Integrated Financial Management Information System (IFMIS) system and establishing mechanisms to track climate finance flows.

Training of Trainers (ToT) in solar photo voltaic (PV) and thermal installation maintenance and repair was conducted amongst tutors drawn from 10 select Technical Training Institutes (TTIs) across the country to increase the pool of qualified technicians to install, maintain and repair water heating and photovoltaic (PV) systems which has been a constraint to their wide uptake in Kenya. Additionally, the institutes' were provided with solar training kits.

The project is also implementing the establishment of solar PV powered Business and Information Centers in the Arid and semi Arid Lands (ASALs) as a key element in spurring the establishment of sustainable ventures for community empowerment using renewable energy.

In partnership with the Kenya School of Government (KSG), the project developed a curriculum for a short course on mainstreaming climate change into national and county policy, planning and budgetary processes.

The LECRD Project has supported the establishment of a state of the art amphi-theater, training rooms including teleconferencing facilities and a specialized library that has both physical and digital climate change resources at the National Climate Change Resource Centre. Additionally, the project is facilitating the National Environment Trust Fund (NETFUND) to hold forums and exhibitions where climate change innovations and practices are awarded and also linked with investors.

Through the support accorded to the Media Council of Kenya, 159 journalists and editors were trained on climate change issues and related disasters including El Nino; with the aim of strengthening the role of the media in informing the public on climate change related phenomenon. To ensure sustainability a Disaster Reporting and e-learning portal for Kenya has been developed.

The LECRD project partnered with the State Department of Agriculture in establishing and operationalizing the crop insurance scheme in Kenya under the Kenya Agriculture and Risk Management (KAIRM) Program. The program aims at managing risks and loses to smallholder farmers and livestock keepers, as well as building resilience of the agricultural production systems to effects of climate change, for sustainable food security and income.

For more information, please contact:
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