jotoafrika

SPECIAL ISSUE

November Issue 2015

Low emission and climate change adaptation actions

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'.

Communities benefiting from climate smart agriculture initiatives in Kajiado County ©Noah Lusaka, ALIN 2015

Kenya is taking bold steps to combat climate change

Editorial

Climate change describes larger than normal variability in weather and climate parameters, especially rainfall and temperature. The cause of climate change has been debated by critics. But the time for debate is long past. Unless we act more proactively, hundreds of millions of people will face more drought, more floods, more hunger and more conflict. That is why Kenya is not waiting. Kenya is taking bold adaptation and mitigation actions to combat the impacts of climate change.

Climate change is reducing grain yields and causing food prices to rise steeply, especially in Africa. Lower grain yields and food price spikes could lead to a 20 percent rise in malnutrition among children in Africa. Variable rainfall patterns are likely to constrain fresh water supply, compromising hygiene and increasing the risk of water-borne diseases, which kill over 2.2 million mostly children under five years of age in Asia and Africa. Climate change is creating the perfect storm, with pandemics invigorated by warmer climate, water scarcity, hunger and malnutrition, and changes in disease vector ecology.

According to World Health Organisation (WHO), the direct cost to health, excluding costs in agriculture, water and sanitation, is projected to reach $2-4 billion annually by 2030. The World Bank estimates that $75 billion will be needed annually to deal with the impacts of climate change such as tropical diseases, decline in agricultural productivity and damage to infrastructure owing to sea-level rise.

Climate change is an existential threat to "Our Common Future", which requires much greater responsibility at individual, community, national and global levels to return our planet on a path of equitable and sustainable development. This special issue of Joto Afrika for the 21st Conference of Parties to the United Nations Framework Convention on Climate Change (COP21) presents a collection of articles, which demonstrate Kenya's commitment and leadership in addressing the impacts of climate change

The Government of Kenya understands its obligation both to its citizens and the community of nations with respect to taking decisive and appropriate measures that contributes to abating Greenhouse gas emissions, as well as enhancing resilience to the climate change impacts. Through its Intended Nationally Determined Contribution (INDC) Kenya has embraced a low emission and climate resilient development strategy.

Kenya understands that the time to act is now. The country is in the process of finalizing its Climate Change Bill 2014 and the Climate Change Policy Framework. These provide a legal and institutional framework for mitigation and adaption to the effects of climate change; coordination mechanism for formulation of programs and plans to enhance the resilience of human and ecological systems against the impacts of climate change; measuring, verification and reporting of climate interventions; guidance and measures to achieve low carbon climate resilient development.

Moreover, initiatives such as investments in geothermal energy generation, establishment of a sub-national adaptation fund (County Climate Change Fund), building a national greenhouse inventory to estimate emissions and removals from land based activities and the wide use of solar lanterns and cook stoves, in Narok and Samburu, demonstrates that the Country understands the urgent need for decisive action.

This November, the world will converge in Paris at COP21. COP21 may not produce a global deal. But I think we all have a moral obligation as citizens of the world to act responsibly and preserve the planet for posterity. COP21 must be about you and I, our communities and what our nations can do to curb global warming.

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Word from the Principal Secretary

Climate change presents a special global challenge to the social and economic development agenda. Kenya has taken important steps towards effectively addressing the phenomenon, including putting in place relevant policies and strategies. The country, for example, was among the first in Africa to come up with a National Climate Change Response Strategy (NCCRS) in 2010. Thereafter in 2013, Kenya launched the National Climate Change Action Plan (NCCAP, 2013–2017), which is the blueprint for implementing the NCCRS. Additionally, Kenya is in the process of formalizing both the National Climate Change Framework Policy and Climate Change Bill.

In response to the decisions adopted by the United Nations Framework Convention on Climate Change (UNFCCC), the country has now developed its Intended Nationally Determined Contribution (INDC) on reducing Greenhouse Gas (GHG) emissions that was submitted in July 2015. The INDC has an ambitious target of 30 per cent reduction in emissions by 2030. It is in line with the low carbon climate resilient development pathway, which Kenya has adopted.

Kenya has also set in place a mechanism for raising public awareness about climate change as a way of ensuring all-round involvement of citizens in combating its negative impacts and taking advantage of opportunities. In a bold step to bring this about, the government has constructed a National Climate Change Resource Centre in Nairobi which is open for public use. It is the national repository for climate change information relevant to Kenya.

The Resource Centre incorporates green building concepts such as use of solar power, biogas and water recycling. The Centre has a library, amphitheater and training facilities for dissemination of climate related information.

A virtual online version of the Climate Change Resource Centre in the form of a one-stop climate change portal is currently under development to ensure more widespread access of climate change information by the public.

This special edition of the Joto Afrika presents key initiatives the Ministry of Environment Natural Resources and Regional Development Authorities (MENRRDA) and its partners have undertaken in realizing a low emission and climate resilient development pathway. The production of this issue is supported by the USAID-UNDP funded Low Emission and Climate Resilient Development (LECRD) Project, within the framework of the US Government led effort on Enhancing Capacity for Low Emission Development Strategy (EC-LEDS). I am grateful for the financial and technical support we continue to receive as a ministry from other partners.

As a Government, we appreciate efforts being made by non-state actors towards strengthening the national response to climate change. We have featured some of these initiatives in this issue as a way of demonstrating that an effective climate response must involve all stakeholders working in a coordinated manner, hence ensuring that different expertise, experiences and lessons are harnessed for maximum effectiveness.

It is our hope that readers will find this special issue informative and add value to their work on addressing the challenges and opportunities that come with climate change.

Richard L. Lesiyampe (PhD) MBS
Principal Secretary
Ministry of Environment, Natural Resources and Regional Development Authorities

Kenya opts to green its economy

Demonstration of a solar cooker at Jamuhuri Energy Centre
©Noah Lusaka, ALIN 2015

Transition to a green economy means contributing to eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth's ecosystems.

A green economy, in the Kenyan context refers to a shift towards a development path that promotes resource efficiency and sustainable management of natural resources, social inclusion, resilience, and sustainable infrastructure development. Kenya's key policies and programmes that are supportive of a green economy include: investments in renewable energy; promotion of resource-efficient and cleaner production; environmental planning and governance; and restoration of forest ecosystems.

Highlights
The Kenya Green Economy Assessment Report (2014) indicated that Kenya is implementing various Green Economy initiatives and policies such as investment in renewable energy, promotion of sustainable production and consumption, pollution control and waste management, and environmental planning and governance.

Greening scenarios - which is based on Kenya-Threshold 21 (T21) model - show that a transition to green economy has positive impacts in the medium and long term across all the sectors of the economy. The T21 Model is a uniquely customised planning tool for the long-term integrated development planning as well as carrying out scenario analyses of adaptation options under uncertainty in Kenya. The Model allows the cost of adaptation to be quantified, which is a pre-requirement for attracting much needed financing for adaptation.

The Kenya Green Economy Assessment Report (2014) underscores that green growth has the potential to build a transformative development pathway that will create green jobs, accelerate poverty reduction, support sustainable growth, and restore environmental health and quality as a foundation for future prosperity and well-being.

In this context, the development of a national Green Economy Strategy and Implementation Plan (GESIP) is almost being finalized. The GESIP process is undertaken in collaboration with strategic partners; United Nations Environment Program (UNEP), African Development Bank (AfDB), World Wide Fund for Nature (WWF), Danish International Development Agency (DANIDA) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Multi-stakeholder and multi-sectoral consultations have being held at the national and county levels. GESIP focuses on the promotion of resource efficiency, sustainable management of natural resources, social inclusion, building resilience, and sustainable infrastructure development.

Enabling conditions for Green Growth/ Economy in Kenya include Vision 2030 (implemented through five-year Medium Term Plans). Vison 2030 is Kenya's long-term development blueprint which aims to transform the country into "a newly industrialized, middle-income country, providing a high quality of life to all its citizens in a clean and secure environment" by 2030. The Constitution of Kenya 2010; Article 42, recognizes a healthy environment as a right and calls for "sustainable exploitation, utilization, management and conservation of the environment and natural resources".

Conclusion
Green investments and innovation in Kenya are driven mainly by renewable energy, resource efficient and clean technologies, sustainable consumption and production. Fiscal policies and leveraging international support are crucial in the implementation of the Green Economy Strategy.

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Contribute to *Joto Afrika*

Do you want to tell people how your community is adapting to climate change? Are you involved in a programme, project or research that is helping people to find practical solutions to cope with the effects of climate change? We want your contributions for *Joto Afrika!*

We are looking for research work, community case studies, videos, audio clips and photo essays about climate change adaptation in Kenya. The case studies need to be short (no more than 600 words), easy to understand and provide practical information for other people facing these problems. If you would like to contribute, please contact the editor at jotoafrika@alin.net. We welcome contributions in English.

Kenya moves to complete the National Adaptation Plan

Women in Kajiado County practising Climate Smart Agriculture ©Noah Lusaka ALIN, 2015

Climate change adaptation has become a global policy priority. The ongoing process to develop the National Adaptation Plan (NAP) marks another landmark by the Government of Kenya towards addressing climate change vulnerability.

An interview with a Kenya-based director of LTS international, a consulting and project management firm that supports sustainable development worldwide, Ms. Irene Karani, highlights milestones Kenya has achieved as it completes its NAP.

What aspects of climate change work are you involved in Kenya?
Our focus in Kenya is on assisting in development of the adaptation chapter of Kenya's National Climate Change Action Plan (NCCAP.) LTS also coordinated the development of the National Performance Benefits Measurements Framework for climate change in Kenya. In operationalizing the NCCAP, we are working with the adaptation thematic working group to develop the NAP. The NAP will address how to integrate climate change adaptation into the medium term plan of Vision 2030 and mainstreaming adaptation into the County Integrated Plans of all of Kenya's 47 counties.

What aspect are you addressing to enhance resilience?
We are working closely with the Adaptation Consortium coordinated by the National Drought Management Authority (NDMA) to come up with climate change adaptation monitoring and evaluation frameworks for Isiolo, Kitui and Makueni counties. We work with both county and ward adaptation planning committees and assist them in developing theories of change and adaptation indicators through training processes.

We have developed a number of training materials with partners such as the International Institute for Environment and Development (IIED) on the Tracking Adaptation and Measuring Development (TAMD) framework which are being used to train partners on adaptation and resilience.

What are your achievements so far?
We have designed and we are in the process of recommending how to institutionalise climate change adaptation monitoring systems that are customised to needs at all levels down to the wards. We are creating linkages of the county adaptation monitoring and evaluation (M&E) systems with the National Performance and Benefit Measurement Framework (NPBMF) developed as part of the NCCAP. The county level M&E systems will contribute to aggregation of data and information on climate change adaptation at the national level. For example data collected on adaptation indicators at the county level will feed into national level data sets on adaptation. We are also involved in the finalisation the NAP.

The local planning TAMD manual developed with IIED drew a lot of experience from Isiolo and currently being used in Sudan, Tanzania, Uganda, and Mozambique.

What are the achievements of the Government of Kenya in responding climate change?
In terms of policy achievements so far, Kenya is the only country in East Africa with a climate change policy, a climate change law, a National Climate Change Response Strategy and a National Climate Change Action Plan. Moreover, only Kenya has a climate change performance benefits measurements framework for assessing progress on adaptation and mitigation.

In terms of climate finance Kenya has sub-national climate adaptation financing known as the County Adaptation Fund (CAF) that is assisting the most vulnerable communities in enhancing resilience. Climate funds from the International Climate Fund are used to implement county and ward adaptation actions directly.

What is the role of private sector in adaptation?
The private sector is producing tea varieties that can survive under frost conditions. They have also come up with adaptation packages for farmers. Amiran, a company specializing in irrigation, has developed irrigation systems for small scale farmers while Syngenta has developed varieties of seeds that suit different ecological zones. Furthermore, the private sector also supports research, capacity building and piloting of some of the adaptation technologies.

What are the lessons you have learnt during your envolvement in various aspects in Kenya?

- In the arid and semi-arid areas (ASALs) it is not useful to differentiate between adaptation and drought management because both entail the same activities.
- In the past, infrastructure planning should take into account climate scenarios to ensure that facilities survive another 30-40 years.
- The fact that national and county governments have set aside funds shows that the country's capacity to prepare and respond to climate change risks has been enhanced.
- Communities no longer want food aid but solutions so that they can feed themselves.

Do you have any recommendation?
Yes. Adaptation is a journey – and not a destination. National plans should be developed and updated continuously, progressively and iteratively. Implementation should be based on nationally identified priorities.

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Interview was conducted by Esther Lungahi who works with ALIN

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Contingency finance revolutionises response to droughts in Kenya

Provision of water to schools in Baringo ©NDMA

Drought is the single most damaging natural hazard in Kenya, destroying lives and livelihoods and undermining national development. These impacts are likely to worsen with climate change. However, many of these costs could be avoided or significantly mitigated by reducing people's exposure and vulnerability to risk. This requires that adequate, cost-effective and appropriate measures are taken in advance of drought so that people's capacity to anticipate and withstand is strengthened.

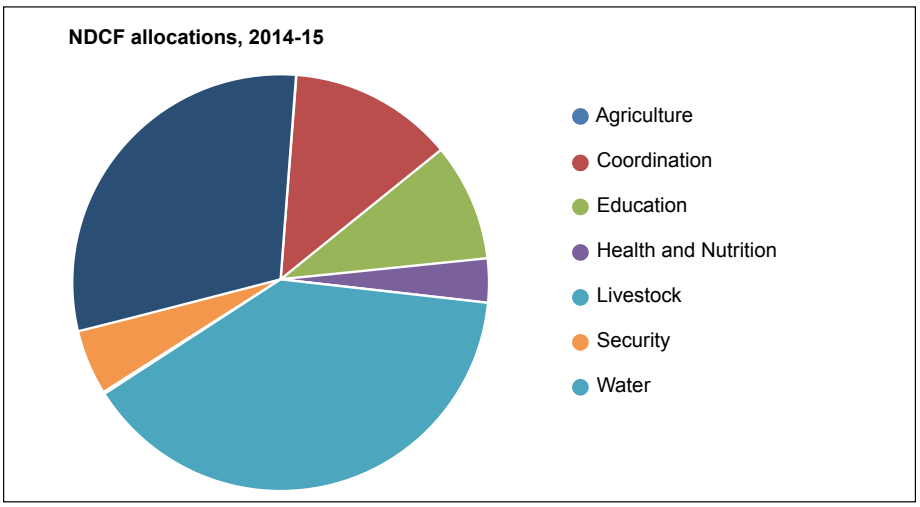
The Government of Kenya is establishing a National Drought Contingency Fund (NDCF). This initiative reflects a wider policy shift from crisis management to risk management, informed by evidence which suggests that early action can protect lives and livelihoods and avoid the high cost of emergency response. The NDCF will be an innovative way of ensuring that finance for early drought response is always available when needed.

As an interim measure, until the NDCF is operational, the National Drought Management Authority (NDMA) has been disbursing drought contingency finance provided by the European Union. In Wajir, for example, rapid response teams ensured that strategic boreholes were repaired within six hours. In Embu, the County Government was able to repair 12 boreholes and protect the health of nearly 3,000 cattle and 22,000 sheep and goats; as a result, distances to water and livestock diseases both reduced.

Drought contingency finance should be developmental. Livelihoods analysis helps identify the impact of drought on producers and the actions that will best reinforce their capacity to cope. An example might be targeting services along migratory corridors or in areas where livestock converge so that pastoralists can access dry-season grazing. Drought contingency finance can also strengthen the ability of communities and those who work with them to manage drought episodes better, thus improving preparedness.

The allocation of drought contingency finance is guided by two linked systems:

- **Contingency planning:** county drought contingency plans are approved in advance of a drought and describe, sector by sector, what should be done during each phase: 'normal', 'alert', 'alarm', 'emergency' or 'recovery'. Once the alert or alarm phase is reached, the plan is quickly reviewed and an operational response plan is developed to address the particular features of that drought. It is these response plans which are financed with contingency funds.
- **Early warning:** the drought phase is determined by the early warning system. This monitors bio-physical indicators (to assess the severity of drought) and socio-economic indicators (to assess its impact), using a combination of remote-sensed data, household interviews and direct observation.



Lessons learnt

- The NDMA's role is to help the counties respond more quickly and effectively to drought. The information generated by the early warning system is already guiding county decision-making, while the drought contingency funds complement the resources available to the sectors. However, it is important that contingency funds are not used to displace the regular allocations for basic service delivery that should be included in county and sector budgets.
- County drought contingency and response plans will have greatest impact if they are seen as a shared framework that guides the work of all agencies, including NGOs and non-state actors.
- Media coverage does not always reflect the complexity of a situation on the ground. Sometimes people suffer not because a drought is particularly severe, but because the failure to address the structural causes of poverty has left them vulnerable to comparatively modest shocks. It is for this reason that early drought response is now part of a broader, long-term strategy in Kenya called *Ending Drought Emergencies,* which aims to reduce vulnerability and help drought-prone communities become more resilient to its effects.

Conclusions

The NDCF has the potential to be an effective and accountable mechanism for timely drought response. It may also reinforce other interventions, such as cash transfers and climate change adaptation funds. Future priorities will include helping neighbouring counties develop joint contingency plans, since droughts are not contained within administrative boundaries, as well as ensuring sound evaluation of the impact of the funding on people's lives.

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Article was written by By Izzy Birch of NDMA

Kenya plans to tap into more geothermal energy

Well heads used for geothermal electricity generation in Olkaria in Kenya Rift Valley ©Isaiah Esipisu

The Government of Kenya has prioritized the development of clean electricity generation from to help achieve the goal of Kenya's National Climate Change Action Plan to reduce greenhouse gas emissions and mitigate against climate change.

Geothermal energy is a clean, renewable resource that is abundant in Kenya's Rift Valley. Geothermal energy is heat from the Earth. Volcanic activity heats trapped underground water and produces steam, which is captured through wells and moved by pipelines to turbines that convert the steam's heat energy to electricity. Geothermal energy is sustainable energy because the water used is brine (a concentrated salty solution) that does not compete with other uses such as irrigation and human and livestock consumption, and the water goes back underground after being used to generate electricity.

Geothermal energy has a prominent role in the Government of Kenya's plans for expanding electricity-generating capacity and reaching the goals of Vision 2030. Installed capacity of geothermal electricity is targeted to increase from 573 megawatts (MW) in July 2015 to 1,887 MW by 2017 and 5,000 MW by 2030.

Geothermal energy production is taking place at five sites in the Olkaria area near Naivasha, which is about 120 kilometers northwest of Nairobi. The Kenya Electricity Generating Company (KenGen) operates all but one of the production sites, which is operated by a private sector company. The Geothermal Development Corporation, a parastatal established by the national government, has played a significant role in geothermal development by helping to underwrite the cost of start-up, which is very high. The Government of Kenya has contributed significant financing for geothermal development. Other financiers include the World Bank, European Investment Bank, and the governments of France, Japan and Germany.

Potential of geothermal to reduce GHG emissions and build climate resilience
Geothermal energy is considered a low-carbon technology because modern geothermal power plants emit no greenhouse gases (GHG). An increase in GHG emissions, especially carbon dioxide, is responsible for climate change or a warming of the Earth's average temperature. This warming causes variations in weather, including changes in temperature, wind patterns and rainfall. In Kenya, climate change is increasing incidences of drought, flooding and water scarcity, and causing sea level rise.

Kenya's National Climate Change Action Plan 2013-2017 (NCCAP) identifies geothermal electricity generation as a priority low-carbon technology because it is much cleaner and has lower GHG emissions than electricity produced from fossil fuels, such as through diesel generators or coal-fired plants. The NCCAP notes that adding an additional 2,275 MW of geothermal capacity by 2030 (to replace fossil fuels) would reduce GHG emissions by 14 megatonnes (Mt). 14 MT is a significant reduction, being equivalent to the total amount of GHG emissions generated by the energy and transport sectors in Kenya in 2010.

The commissioning of two geothermal plants in 2015 meant that geothermal's contribution to the national energy mix increased to approximately 50 per cent. This increase in geothermal reduces the exposure of electricity consumers to climate change. Drought and low rainfall result in low water levels in reservoirs and rivers, reducing power supply from hydro electricity generating stations. Geothermal energy will help to reduce the reliance on diesel generation during dry spells, which increases greenhouse gas emissions because diesel is a fossil fuel. Geothermal energy production is not affected by the variability in weather created by climate change; and therefore increases in geothermal help to "climate proof" electricity supply and decrease

Economic benefits
Expansion of geothermal production increases the number of households and businesses connected to the national electricity grid. The cost of electricity for those consumers is lower by reducing the reliance on costly diesel generation. In addition, geothermal development creates jobs. Local job opportunities are created during exploration, drilling and construction. Building a geothermal energy plant typically takes four years. Permanent and full-time jobs are created when the power plant starts to operate. Local private companies also benefit. For example, KenGen has entered into an agreement with Oserian Development Company to supply geothermal energy (steam) to heat their greenhouses and generate electricity for their flower farm operations.

Conclusion
Geothermal energy power has the potential to provide reliable, cost-competitive renewable electricity to Kenyans. Geothermal energy has a small carbon footprint and reduces the electricity generation sector's vulnerability to climate change by decreasing reliance on hydropower. Expansion of geothermal is a critical action to achieve Kenya's national development and climate change goals.

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Kenya pioneers production of geothermal electricity from wellheads

Kenya has pioneered a technology that enables the direct generation of electricity using steam from stand-alone geothermal wells, known as wellheads.

Conventionally, it takes at least two years to construct a geothermal power plant. In the period between drilling and construction, steam from the individual wells remains untapped.

At the Olkaria area in Kenya's Rift Valley, KenGen has drilled 264 wells. 11 wellheads have been mounted that are already injecting 55 megawatts of electricity into the national grid. Four more wellheads are under construction, and experts say they will produce a total of 20 more megawatts in the next few months.

With the last two geothermal plants (Olkaria IV and Olkaria V) commissioned by Kenya's President Uhuru Kenyatta in October 2014, Kenya has become the world eighth largest supplier of geothermal energy with an installed capacity of 585 megawatts. This represents five percent of the total global geothermal production according to the World Geothermal Council.

Isaiah Esipisu

Planning for resilience and sustainability in East Africa

A woman milking a goat in Nguruman, Kajiado County ©Noah Lusaka, ©ALIN

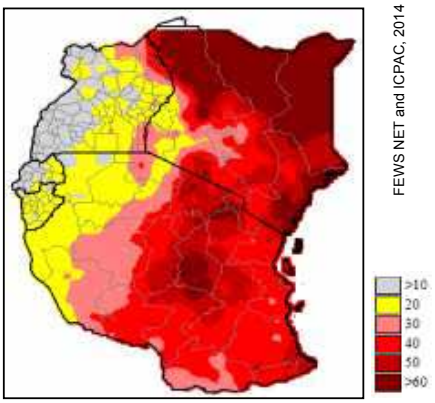
In order to develop effective plans and policies in the face of climatic uncertainty, decision-makers in the East Africa Community (EAC) region must have ready access to information that is timely, useful, usable and tailored to their specific decision-making needs. However, climatic prediction models and their application in various sectors in the region are still underdeveloped.

Planning for Resilience in East Africa through Policy, Adaptation, Research, and Economic Development (PREPARED) that works in East African region; Burundi, Kenya, Rwanda, Tanzania and Uganda focusing on the Lake Victoria Basin aims to build resilience in the EAC region . The project is funded by United States Agency for International Development (USAID).

Emily Ojoo-Massawa who is a Climate Change Adaptation Technical Advisor working with the PREPARED Project speaks to *Joto Afrika* highlighting the experiences in Kenya.

What aspects of climate change work in Kenya are you supporting?
Our role in Kenya is to strengthen the resilience and sustainability of freshwater ecosystems and communities by targeting three key development challenges: Climate change adaptation technical capacity, policy leadership and action readiness of regional institutions. We work closely with the EAC Secretariat one of its organs the Lake Victoria Basin Commission (LVBC), EAC Partner States, particularly Institutions and agencies responsible for climate change adaptation. The partner institutions in the program that we work with include: Famine Early Warning System Network (FEWS NET), Intergovernmental Authority on Development (IGAD) Climate Prediction and Applications Centre (ICPAC) and the Regional Center for Mapping of Resources for Development (RCMRD).

How is the work you are supporting aligning with NCCAP?
We (including the PREPARED program partners) are working with the EAC climate change Unit and the LVBC Secretariat in conducting a Vulnerability and Impacts Assessment (VIA) of the Lake Victoria Basin and to prepare an Adaptation Action Plan for the Lake Victoria Basin.



GeoCLIM map showing percent change in precipitation for long rains season (1981–2013)

Several methodologies are being used including community based adaptation assessments, making use of vulnerability indices covering exposure, sensitivity and lack of adaptive capacity as per the Inter-governmental Panel on Climate Change definitions to determine vulnerability. Data is an issue and we are using a tool known as *Geoclim* that combines climate station data and satellite data from which we generate information on exposure. The socioeconomic data has been made available by the partner states working in collaboration with the Regional Centre for Mapping of Resources for Development. We are supporting climate data rescue that will help the EAC and the Lake Victoria basin develop a Climate Action Plan Strategy that is robust as it will use historical data going back several decades.

We are working with grantees in all the five partner states, in areas that have been identified as climate hotspots. An example is Eco-Finder Kenya—we are supporting in promoting climate and ecosystem smart livelihoods for adaptation among Yala wetlands communities through participative research and sustainable community actions. The Yala wetland is a designated Biodiversity Significant Area (BSA) and an important bird area.

In addition we are supporting EAC Partner States on their preparations for COP21, capacity building events such as training in adaptation to be done in concert with the Global Climate Adaptation Partnership (GCAP) and climate finance readiness work.

What capacity building activities do you support?
We support training and capacity building activities to support various entities. For instances training communities and partner states on use of geospatial information for climate vulnerability work; training on after management and how to deal with non-revenue after losses in urban areas such as Kisumu, Training partners on data rescue, training on needs assessment for adaptation that will include various stakeholders and practitioners.

We are supporting the development of a Climate Information Network (CIN), which will serve as an interactive forum for Climate Information Users and Service Providers to share, adopt and adapt tools and products tailored to the needs of decision-makers and end-users of climate information in East Africa.

Collaboratively with the EAC's Directorate of Productive Sectors (DPS), we are establishing an institutional development process to assess and monitor the capacity growth of the Climate Change Coordination Unit (CCCU) to build relevant Information and Knowledge Management Systems (IKMS).

Do you have any recommendation?
Yes. There should be preparedness to deal with the adverse effects of climate change including the conscious building of adaptive capacity. Scholarly efforts should also be encouraged so as to better understand the EAC climate system and come up with adaptation plans that benefit from historical information and data.

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Interview was conducted by Esther Lung'ahi - ALIN

Samburu community

School children displaying solar lanterns for lighting at night ©LECB

The availability of adequate, affordable and reliable energy resources is essential for alleviating poverty and achieving sustainable development. Securing sustainable energy for all involves the development of systems that support the optimal use of energy resources in an equitable and socially supportive manner while minimizing negative environmental impacts.

The Low Emission Capacity Building (LECB) Project, which is the forerunner of the present Low Emission Climate Resilient Development (LECRD) Project, piloted the solar lantern and cook stoves energy aspect of Kenya's Nationally Appropriate Mitigation Actions (NAMAs) of Rural Household Energy (RHE). It sought to address problems associated with kerosene and wood fuels use among households in Samburu County, which is in the semi-arid areas of Kenya. The Samburu community is a pastoral community that relies on firewood as their primary lighting and cooking fuel.

Since Nationally Appropriate Adaptation Actions (NAMAs) are concrete projects, policies, and/or programmes that shift a technology or sector in a country onto a low-carbon development pathway, the Project aimed at distributing solar charged LED lanterns and improved cook stoves among households in off grid areas.
The target consumers as a pathway towards promoting low carbon initiatives at community level were primary school-going children of class seven and eight.

Promotion of the use of solar charged LED lanterns and improved cook stoves, guaranteed the right to a clean and healthy environment as provided for under the Bill of Rights, Constitution of Kenya (2010).

The approach
Kenya's National Environmental Management Authority (NEMA) officers based in Maralal identified the schools to benefit from the solar lanterns and improved stoves. Identified schools were Lolkunono, Loibor Nkare, Siampu, Nkorika, Ngamata, Lkiloriti primary schools. These schools are off grid, and located several kilometers from Maralal town, the headquarters of Samburu County. On average each of the schools had a population of 300 students. The project distributed 1,000 solar lanterns and an equal number of *Jiko Upesi* cook stoves to the student population in the six schools.

Several types of solar lanterns were presented to the community. Their functionality efficiency, portability and cost were explained and the community chose the Sun King Pro solar lantern as the most suitable. This lantern is solar powered and can provide up to 12 hours of light and has mobile phone charging capabilities provided for by a dual USB phone charging point. It is unbreakable and water proof.

Demonstration of the improved cook stoves among women in Samburu was carried out in primary schools in all the six target project areas. The use of local community members to demonstrate the installation process of the improved cook stove liners helped the community to better understand the technologies.

An evaluation of the Project indicated concrete benefits as a result of introduction of the improved cook stoves and solar lanterns as follows:

- There is less smoke,thus reduced rates of respiratory infections and eye diseases
- They significantly reduced time spent fetching firewood by men and women
- They use less firewood
- Improved academic performance due to use of solar lanterns
- Ease of charging mobile phones enabling household savings as it

Solar laterns and improved cook stoves in use ©LECB

embraces renewable energy technologies

Distribution of solar lamps ©LECB

would cost about Kshs 20 (5 US cents) to charge a phone at the market place

Impact

The solar lanterns distributed produced sufficient light for the children to study in the night. Previously students would not get homework done. With the LED solar light, teachers started giving the children work to carry home thus they could homework to be completed at home.

It has been observed that only a few children used to go to school in the past as many were sent off to herd livestock. However, the use of solar lighting has influenced more parents to take their children to school. Women appreciated that the new stoves significantly reduced the amount of firewood they required to cook. Trips to fetch firewood reduced from 3-4 times a week to once a week.

Recommendation

A transformation of energy systems is needed to provide sustainable energy for all, to satisfy rapid growth in energy demand, particularly in marginalized communities. Integrated national and county infrastructures for energy supply, efficient transmission and distribution systems as well as programmes that emphasize energy efficiency are necessary for sustainable energy systems.

Distribution of improved cook stoves liners ©LECRD

Distribution of solar lamps ©LECB

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Building a System for Land-based Emissions Estimation in Kenya

Data can play a key role in helping communities manage their land and improve livelihoods ©SLEEK 2010

Achieving long-term sustainable economic growth in Kenya in the face of climate change is a primary concern. There is need to use knowledge-driven insights to help communities effectively mitigate, prepare and adapt to climate change. In the current information age, with institutions and individuals producing new data each day, "big data," or large, complex datasets are being generated at high speeds. Understanding and sharing of these massive amounts of data provides an opportunity of addressing climate change. Shared information has the potential to inform, educate and usher a new wave of communication, innovation and opportunities.

Decision makers, land-managers and farmers need to have access to accurate data to effectively manage land, mitigate and adapt to climate change. However, data in Kenya is fragmented, incomplete or inaccessible providing little benefit to Kenya's development. For the last three years, Kenyan Government officials, academia and scientists have been working with the Clinton Foundation to address this problem by building a System for Land-based Emissions Estimation in Kenya (SLEEK). This program is supported by the Government of Australia and will help provide essential information about Kenya's land-sector.

The program's primary goal is to build a national emissions estimation system for Kenya. Emissions estimation systems play a key role in tackling climate change for a number of reasons. Firstly, they allow a country to understand their emissions with great precision. Without this precision it is impossible to know the impact of policies on a country's emissions. Secondly, emissions estimation like SLEEK allow countries to model and plan different scenarios. It allows countries to compare different approaches to make climate smart decisions. Finally, it builds confidence among donors and investors to invest in carbon reductions as they know that carbon reductions are being properly tracked and measured. This has the potential to unlock access to the $100 billion of climate finance funds that has been promised to help tackle climate change.

To achieve this, SLEEK will bring together five key data sets:

- Soil data providing information about soil nutrient and carbon levels;
- data showing forest distribution in Kenya and how much carbon is stored;
- Comprehensive weather maps, showing key climate indicators across the country;
- Information about Kenya's key crops including how much carbon is stored by different crops; and
- Land cover maps of Kenya showing how land-use has changed.

Potential impact

While these data-sets are primarily captured for emissions estimation, they can also be used to address issues ranging from food security, agricultural productivity to land-management. Kenya has already identified a wide range of applications that could be developed using SLEEK data. For example, the SLEEK data on Kenya's climate data, crop growth information and maps of Kenya's soils can be used to estimate the best crop to grow in a particular area. This information can be disseminated to farmers and land-managers through SMS, programs or mobile applications. As the climate changes, SLEEK will help farmers and land-managers adapt by giving them access to up-to-date information. By continuously providing cutting-edge advice on climate data, soils information and crops, SLEEK will help farmers, land-managers and communities to access cutting edge data that is key to adapting to climate change.

SLEEK can also help connect local databases with national infrastructure. For example, a forest tracker could help Kenya's forest managers track deforestation. Communities will also be able to use this data to help plan their own reforestation projects, allowing them to estimate the income they could generate by selling carbon credits to people wanting to offset their environmental impact. These applications show the possibilities of harnessing big data by the SLEEK program. Continuing to identify and capitalize on these datasets will be a key opportunity for all ministries within the Government of Kenya.

Conclusion

SLEEK is a program that has potential to an enormous difference it Kenya. The program will harness data to help the country tackle climate change and support sustainable development. This will help Kenya understand both its emissions and its land – which is so important to it's future prosperity and sustainability.

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Linking Counties through devolved climate finance

Samburu women fetching water from rehabilitated water tank in Mokori Oldonyiro Ward ©Peter Cacah

Significant financial resources are needed to help developing countries to adequately deal with climate change impacts by supporting low carbon growth pathways and enhancing the adaptive capacities of vulnerable communities. In Kenya, The Adaptation Consortium has successfully piloted an approach involving establishment of County Climate Funds (CCCFs) starting with Isiolo County to ensure prioritization of adaptation interventions is undertaken at the county level.

The Adaptation Consortium (ADA) in Kenya brings together a number of organisations working together in building adaptive capacity at county level. It is managed by National Drought Management Authority (NDMA). The Consortium is helping county governments' access climate finance and mainstream climate change into planning for climate resilient development.

The consortium seeks to address challenges that include: disconnect between community and government planning; poor coordination across sectors and levels of government; poor access and use of climate information; and low capacity to track impacts of projects on adaptation.

How the County Climate Fund works

At the commencement of the pilot stage in Isiolo County, the work involved four key elements as follows:

- Setting up the County Climate Change Fund (CCCF)
- Establishing a County and Ward-level Climate Change Planning Committees (WCCPCs)
- Carrying out participatory resilience assessment, resource mapping and integration of climate information
- Strengthening monitoring and evaluation system to capture progress with resilience building.

Investments in public goods were prioritized by representatives from WCCPCs against a pre-allocated but undefined budget. WCCPCs conducted participatory Resilience Assessments (RA) and Participatory Vulnerability and Capacity Assessment (PVCA) to establish factors that either strengthen or weaken the local economy and livelihood systems. Results from participatory assessment were then used by WCCPCs to prioritise public good investments whose costs fall within their allocation of CCCF. Investments had to meet criteria that promote climate resilient growth and adaptive livelihoods that had been agreed upon beforehand.

Investment proposals were submitted for review and approval by the County Adaptation Planning Committee (CAPC) that brought together representatives from WCCPCs, governments (both county and national) and other stakeholders. Once approved, WCCPCs negotiated and signed contracts with service providers that were paid from the CCCF in phases depending on the nature of investments.

The process of decision making enabled local people, through their ward committees, to remain in control of their development and adaptation priorities in keeping with principles and spirit of devolution. The relationship between higher levels of government and WCCPCs was more facilitative working towards strengthening proposals from the wards rather than vetoing. WCCPCs also oversaw tendering and implementation enabling ward-level committees to account for the good use of their allocation of the CCCF. The CAPCs used a monitoring framework known as Tracking Adaptation and Measuring Development (TAMD) to monitor progress with resilience building. The National Climate Change Action Plan (NCCAP) for Kenya recommended that TAMD be piloted in a number of counties before being adopted nationally.

Public good investments for resilience building

In Isiolo County, two rounds of investment consisting of 44 projects have been implemented over 2013-15. The interventions range from investments in governance institutions, county-level policy formulation to infrastructure for increased resilience. Examples include strengthening and legalization of local Natural Resource Management (NRM) institutions, community resource mapping and supporting development of sectoral plans; infrastructure for improved resilience such as construction or rehabilitation of water infrastructure and a livestock disease laboratory. Because of its inclusive nature, the County Adaptation Planning Committee managed to bring together all stakeholders in the livestock sector to develop a comprehensive county livestock strategy that looks at livestock production, marketing and disease control instead of developing these separately.

A County Climate Information Services (CIS) plan is currently being subjected to public hearing and validation. Once finalized, it will guide how Kenya Meteorological Department (KMD) provides information to users at the lower levels in a demand driven way.

Emerging success and lessons learnt

- There is evidence that WCCPCs are able to cost-effectively deliver projects with high adaptation impacts
- There is good progress with mainstreaming the devolved climate fund approach within county governments. Already, Isiolo County has a draft CCCF bill undergoing approval process to allow full integration within the county planning and budgeting process.
- The development of County Climate Information Services (CIS) plan enables KMD to provide more relevant information to the different county stakeholders in a coordinated and sustainable manner.
- Mainstreaming these approaches into county government requires development and implementing partners to continually reassess and reposition their role to build local ownership and seek opportunity to integrate leadership and accountability with local institutions.

Long-term climate finance is required to allow counties to consolidate the gains made in support of adaptation.

Lessons from Isiolo have informed upscaling of the work into four additional counties of Garissa, Wajir, Kitui and Makueni since 2013. Garissa and Wajir are arid while Kitui and Makueni semi-arid. All the five counties experience frequent droughts that need to be managed pro-actively as part of Kenya's adaptation strategy.

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See criteria for county climate fund on page 12

Kenya's Intended Nationally Determined Contribution (INDC)

Tree planting in Marigat, Baringo County©Noah Lusaka, ALIN 2015

Development of the Intended Nationally Determined Contribution (INDC) is based on the request for the countries that are party to the United Nations Framework Convention on Climate Change (UNFCCC) to submit their agreements in the context of their own national circumstances, capabilities and priorities, within the ambition to reduce global greenhouse gas emissions to below 2 degrees celcious of pre industrial levels. The Kenya's INDC was submitted to the UNFCCC in July 2015.

Kenya's INDC responds to Kenya's unique national circumstances, among them that:

- More than 80 percent of the country's landmass is ASAL, making the country highly vulnerable to climate change impacts as ASALs are some of the most fragile ecosystems.
- There are delineable signals of climate change from observational records, chief among them, increasing temperature trends, with the country generally showing a warming trend in recent years.
- Climate change impacts are already being experienced in the different sectors of Kenya's economy, albeit with differing manifestations.
- The commonest manifestation of climate change has been through an apparent increase in the frequency and intensity of extreme climate events, chief among them, droughts and floods, which are estimated to cause economic losses of 3% of the country's GDP. The average rainfall has, however, not indicated statistically significant trends over most parts of the country, but the increase in the frequency and intensity of extreme rainfall events implies that a large proportion of what may today be considered as 'normal rainfall' may in future fall as short-lived anomalously above normal storms. This coupled with the increased evapotranspiration rates resulting from higher temperatures will put a lot of strain on agricultural and energy production, among others, and lead to increased damage to infrastructure.

The INDC is in line with Kenya's blueprint for development (Vision2030) and its medium term plans (MTP); is anchored on the Constitution, the (draft) National Climate Change Framework Policy and Climate Change Bill (2014); and builds on the foundation laid in the development of the National Climate Change Action Plan (NCCAP 2013-2017) and the National Adaptation Plan (NAP 2013-2017). Further, the INDC recognises that individual and corporate action at all levels (international, national, sub-national) is required for the country to comprehensively and efficiently address climate change. It is in this respect that the INDC recognises that all stakeholders, including Government ministries, departments and agencies; and non-state actors will need to play their rightful role in its implementation. The INDC also recognises the roles of the two levels of Government, namely, national and county levels.

The mitigation component is in tandem with the low carbon, climate resilient development pathway articulated in Kenya's NCCAP (2013-2017) and the country's sustainable development agenda. The component seeks to abate GHG emissions by 30 percent by 2030 relative to the business as usual (BAU) scenario projection of 143 MtCO2eq. This is a clear demonstration of Kenya's determination to voluntarily contribute to the below 2-degree global mitigation goal, notwithstanding that Kenya's contribution to the total global emissions is a mere 0.1%; with per-capita emissions of less than 1.26 MtCO2eq compared to the global average of 7.58 MtCO2eq.

Under the adaptation component, Kenya will ensure enhanced resilience to climate change towards the attainment of Vision 2030 by mainstreaming climate change adaptation into the Medium Term Plans (MTP) and implementing adaptation actions, in line with the vision of the NAP. The component recognises that all the country's socio-economic sectors are vulnerable to climate change, and consequently proposes sector-level strategic adaptation actions for each MTP sector, with the assumption that lower-level actions will be determined at the implementation stage.

The INDC mitigation and adaptation planning process hinges on the institutional and implementation structures proposed in the NCCAP (2013-2017) and the NAP that shall be reviewed every five years to inform the MTP. The process also takes cognisance of the National Climate Change Framework Policy and the Climate Change Bill (2014) that proposes several institutional reforms to enhance coordination of climate change adaptation and mitigation. It is estimated that USD 40 billion will required for the implementation of the mitigation and adaptation actions across the different sectors by 2030. It is expected that this support will come from both public and private domestic and international sources.

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See also

County Climate Fund Criteria

- Must benefit many people
- Must support the dominant economy, livelihoods or important services on which many people depend
- Must be relevant to building resilience to climate change
- Must encourage harmony, build relations, understanding and trust
- Must have been developed after consultation with all potential stakeholders and aligned with County Integrated Development Plan.
- Must be viable, achievable and sustainable
- Must be cost-effective and give value for money

Kenya's Water Towers Protection and climate change Mitigation and Adaptation (WaTER) Programme

Webuye falls in Bungoma County ©Esther Lungahi, ALIN 2014

The Water Towers Protection and Climate Change Mitigation and Adaptation (WaTER) Programme was formulated by the Government of Kenya and The European Union. The partnership agreement was signed on the 14th of October 2014. The Programme will focus on two water towers; Cherengany Hills and Mt Elgon and will run for a period of 6 years. Kenya Forest Service (KFS), the Directorate of Environment (DoE), Kenya Water Tower Agency (KWTA) Kenya Forest Research Institute (KEFRI) and Kenya Wildlife Service (KWS), are the main institutions implementing this Programme under the Ministry of Environment Natural Resources and Regional Development Authorities. This Programme is designed to cover 10 counties hosting the two water towers and related river systems.

The overall objective is to support Kenya eradicate poverty through enhancing the productivity of ecosystem services in the project area and enhance resilience of her water sources to climate change. The expected results of the Programme include the following:

- The Ministry of Environment Natural Resources and Regional Development Authorities and county governments are strengthened with knowledge, skills and approaches to coordinate restoration, conservation and management of water towers.
- Kenya Forest Service in partnership with the Kenya Water Tower Agency, Kenya Wildlife Services and the Climate Change Secretariat will formulate integrated management and implement plans that address mitigation and adaptation to climate change.
- County Governments are supported to identify, appraise and implement rehabilitation, reclamation, restoration, incentive mechanisms and other relevant activities for ecologically and economically sustainable land use systems for the protection of the Mount Elgon and Cherangany Hills ecosystems.
- Kenya Forest Research Institute (KEFRI) will undertake analysis and characterization of the two
- ecosystems to inform the targeting of interventions and policy decisions (i.e. the grant Programme, result area 3).

Recognition of Kenya's water towers economic importance and threats posed by their degradation has led to several Government and community-led initiatives. Vision 2030, Kenya's long-term development blueprint, pursued conservation of water towers as a flagship project under the 2008-2012 Medium-Term Plans (MTP1as well as MTP2).

The Government of Kenya formulated a National Climate Change Response Strategy (NCCRS) in 2010 and a National Climate Change Action Plan (NCCAP) in 2013. The two documents advance proposals that include actions for promoting low carbon and climate resilient growth. To enhance provision of ecosystem services, the Constitution of Kenya also provides for a 10 per cent tree cover of the land area in Kenya.

Kenya's two-tier governance structure of national and county governments, foresees a role for counties in natural resource management. As counties are operationalized, their capacity to manage water towers that are shared among several counties presents several challenges. Given these challenges, the Government has sought resources and technical support to achieve the following outputs:

- A harmonized institutional architecture linking national and county governments for natural resource management
- Enhanced capacities and systems to establish an integrated approach to water tower conservation and management
- Incentivizing communities adjacent to water towers to optimize conservation and sustainably reap benefits accruing from the same

Improved linkages between providers of ecosystem services with the private sector The Programme therefore involves supporting implementing institutions of Government and ten counties hosting the watershed regimes that include the respective river systems that feed into lakes Victoria, Turkana and Baringo. The counties involved are: Trans Nzoia, Bungoma, West Pokot, Elgeyo Marakwet, Nandi, Uasin Gishu, Kakamega, Busia, Siaya and Kisumu.

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Kenya Climate Change Knowledge Portal

A virtual online platform in the form of a one-stop climate change portal is currently under development to ensure more widespread access to climate change information by the public. You can visit the portal on http://lecrd-km.org.

We encourage feedback and suggestions to make the portal relevant.

Watch out for a documentary on Low Emission and Climate Resilience Development – Kenya's INDC perspective showcasing how Kenya is committing to abating GHGs emissions by 30% by 2030. The documentary is being developed and will soon be out!

Climate Smart Manyatta

Eco Manyatta fitted with a tank to harvest rain water
©Isaiah Esipisu 2015

In a tiny village called Eluai, in the heart of Maasai land in Kenya's Narok County, Nkika Ole Mututua and his family of ten children are living a city life in a Manyatta (Maasai or Samburu traditional house). Ole Mututua's Manyatta the traditional version, but it has been crafted to be climate friendly.

The typical manyattas are made of a particular type of sticks that bend when fresh and harden as they dry without snapping. The roof and walls are made of a mixture of cow dung, ash, and earth found at the base of termite hills.

A traditional Manyatta has very poor ventilation with two or three small holes serving as windows. The windows are made small to keep out wild animals. This makes the inside dark even during daytime forcing occupants to use kerosene tin lamps throughout the day and night. The smoke from the lamps mixes with that which is produced during cooking using firewood worsening the air inside the Manyatta.

Benefits of the climate-smart Manyatta
From a distance, Ole Mututua's Manyatta, looks exactly like a typical Manyatta, the climate smart Manyatta also known as Eco-Manyatta is a permanent structure constructed using interlocking brick blocks. It is fitted with a solar panel to produce electricity that illuminates the Manyatta at night while serving other power needs such as charging of mobile phones. Children can therefore study using solar energy instead of carbon emitting tin lamps. The structure is well ventilated and connected to a biogas digester that produces cooking gas from cow dung. It is also is fitted with a 2000-litre water tank that harvests rainwater.

The Eco Manyatta is climate-friendly because no trees were used to construct it. And if millions of people in Africa who basically use trees to construct their houses would turn to using the interlocking blocks, then billions of trees will be saved.

"We are also looking at a bigger picture in terms of climate change mitigation," said Sheila Boit, the Project Manager for Eco Manyatta Housing Limited, which built Ole Mututua's house.

"If at all millions of households in Africa, which currently use kerosene for lighting and firewood for cooking would turn to solar for lighting and biogas for cooking, then we will save the world of millions of litres of kerosene burned each year for lighting, and save several tons of tree biomass used for cooking," she said.

Kerosene produces black carbon, which is known to be a very powerful absorber of sunlight, thus a contributor to global warming.

"It is a blessing for a Maasai woman like me," said Joyce Mututua's wife. Under normal circumstances, it is the sole responsibility of a Maasai wife to construct and maintain the Manyatta. "Before this new Manyatta was constructed, I used to wake up at night whenever it rained to ensure that my husband did not get rained on as he slept," said Joyce. It has also saved her from trekking several kilometers in search of water and firewood.

"I find it more comfortable to do my evening studies using solar lamps," said John Keko, Ole Mututua's nephew, a secondary school student at Olasiti Secondary School in Narok.

Origin of the innovation
The Eco-Manyatta was a dream of Sarah Tunai, the First Lady for Narok County, and her friends. The initiative is supported by the United Kingdom Department for International Development (DFID) in collaboration of the County Government of Narok together with the International Labour organisation. The project is implemented by a company known as Eco Manyatta Housing Limited.

According to Boit, Ole Mututua's Manyatta is a learning platform, now helping the company to better understand how such structures can be improved at an affordable cost.

"We are working closely with different architects with a view of making construction cost effective. We are also working with financial institutions so that we can find a way where locals can finance the construction by installments after selling livestock," said Ms. Boit.

Community members from many parts of Narok stream to Ole Mututua's compound to learn about the Eco Manyatta.
"I think it is a very good idea. Even though construction of Manyattas in our community is the duty of a woman, I have been challenged and am willing to sell some goats to have my Manyatta turned into an Eco Manyatta," said Daudi Koekae, a friend to Ole Mututua's.

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See also

Eco-Manyatta Feature on Property Show
http://bit.ly/1WB1ihf

Eco Manyatta feature Documentary
http://bit.ly/1QOLXG6

COP 21 Kenya's Side Event
Join the discussions!

Strategic climate change partnerships: opportunities and actions in developing countries

An interactive event to highlight the role of strategic partnerships and policies in implementing climate change actions in Kenya. Participants will discuss Climate Change legislation; low emissions development; Climate Smart Agriculture; renewable energy resources; and SLEEK-land sector Measurement Reporting and Verification system

Thematic categories

- Supporting global, regional and national action
- Adaptation; Agriculture; Mitigation (general); Sectoral approaches

Speakers: Prof. Judi Wakhungu, Cabinet Secretary, MENR Mr. Sam Bickersteth, CEO, CDKN Dr. Richard Lesiyampe, Principal Secretary, MENR Eng. Joseph Njoroge, Principal Secretary, Ministry of Energy Dr. James Kinyangi, ILRI CCAFS Dr. Harun Warui, UNDP LECRD Dr. Winnie Musila, SLEEK Program Coordinator

When Mon, 07 Dec 2015
Time 13:15-14:45
Venue Room: 6

UNFCCC COP 21

The 21st session of the Conference of the Parties to the UNFCCC is expected to take place in December 2015, in Paris, France.

Dates: 30 Nov. - 11 Dec. 2015
Location: Paris, Ile-De-France, France

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Read more: **http://climate-l.iisd.org/events/unfccc-cop-21/**

National Climate Change Resource Centre

The Government of Kenya has constructed a National Climate Change Resource Centre in Nairobi which is open for public use. It is the national repository for climate change information relevant to Kenya. The Resource Centre incorporates green building concepts such as use of solar power, biogas and water recycling. The Centre has a library, amphitheater and training facilities for dissemination of climate related information and an exhibition hall to host expos and showcase technologies and innovation that address challenges related to climate change. The centre is located at the Kenya Meteorological Department headquarters in Dagoretti, Nairobi. It is expected to encourage adaptation of innovative technologies. It will also display samples of innovative equipment, complete with the instruction for use manuals. The centre will organize exhibitions or workshops to ensure that the information is disseminated widely among the public.

The new National Climate Change Resource Centre in Nairobi, Kenya

Enhancing capacity for Low Emission and Climate Resilience in Kenya

Well heads used for geothermal electricity generation in Olkaria in Kenya Rift Valley ©Isaiah Esipisu

The impacts of climate change cut across socio-economic sectors; thus development processes must be more climate-resilient and lower in carbon emissions to meet the challenges and uncertainties of climate change. New and innovative approaches are necessary to leverage existing experiences and integrate climate and development planning, policies, and actions across multiple sectors at local, national and regional levels.

The Low Emission and Climate Resilient Development (LECRD) Project aims to support Kenya's efforts in pursuing a long-term, transformative development approach. Its other aim is to accelerate sustainable climate resilient economic growth, while slowing the growth of green-house gas emissions.

The project is funded by the United States Agency for International Development (USAID) through UNDP and implemented by the Ministry of Environment, Natural Resources and Regional Development Authorities (MENRRDA). It contributes towards the implementation of the National Climate Change Action Plan (2013- 2017), which has the overarching goal of enhancing low carbon climate resilient development outlined in Kenya's economic blueprint – Vision 2030.

The project milestones include:

- Improving the National Climate Change Coordination processes which have been achieved by the submission of Kenya's Intended National Determined Contribution (INDC) with an ambitious target of 30 percent reduction in emissions by 2030.
- Building capacity in mainstreaming climate resilience in development plans, at the national and county levels, through integration of climate finance and budget codes via policy review.
- Enhancing access to clean and efficient energy systems through supporting training on solar technologies and establishment of solar powered business and information centres for marginalized communities in arid and semi-arid lands to gain access to information relating to climate change and market access
- Development of a national sustainable Greenhouse Gas (GHG) inventory to monitor emissions. There has been capacity building on the development of the GHG inventories, and review of the institutional structure
- The operationalization of the National Climate Change Resource Centre (NCCRC). The facility was constructed with funding from the Government of Kenya to be a one stop repository of climate change related information which incorporates green building concepts like biogas use, water recycling and use of solar power. Importantly, the project through the Climate Change Knowledge Management System (CCKMS), will support dissemination through various pathways including; documentaries, magazines, awards, expos and investor fora.
- Capacity building of journalists and sensitization of editors on responsible and responsive reporting on climate change phenomena including El Nino and other related disasters.
- Establishing a Crop Insurance framework in Kenya through the State Department of Agriculture in collaboration with the County Governments, Insurance Companies and Financial Institutions.

Some of the notable successful initiatives include:

- The development agenda both at the National and County levels by way of embracing climate change in the planning agenda for efficient allocation of financial resources towards a low emission and resilient pathway is being realised.
- The review of Kenya's institutional structure on the GHG inventory integrates the institutions anchored in the new Climate Change Policy Framework by way of defining mandate for different key institutions in coordination and sharing of data by sectors.
- A crop insurance framework based on crop area yield index has been established and rolled out in the initial counties in preparation for the national launch in early 2016.

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This Special Edition is produced as a joint effort between ALIN and the Ministry of Environment Natural Resources and Regional Development Authorities (MENRRDA) through the Low Emission and Climate Resilient Development (LECRD) Project. The Project is implemented by the Ministry of Environment, Natural Resources and Regional Development Authorities, with funding by USAID through UNDP.

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ISSN 2075-5562

Government of Kenya
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Low Emission & Climate Resilient Development Project

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