

ADAPTATION OR MITIGATION?

The big question for Climate Change



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The effects of Climate Change are complex requiring global, regional and national interventions and cannot be handled by a single ministry or government.

The challenge of confronting the impacts of climate change is often framed in terms of two potential paths that civilization might take: adaptation and mitigation. Mitigation involves reducing the magnitude of climate change itself. Adaptation, by contrast, involves efforts to limit the society's vulnerability to climate change impacts through various measures, while not necessarily dealing with the underlying cause of those impacts.

The choice between adaptation and mitigation is in fact, in many ways, a false choice...meaning

that we will most likely have to do both. As we have witnessed in recent years, we are already committed to additional warming due to the greenhouse gases that we have emitted already. A useful way to look at the level of vulnerability to climate change is considering scenarios that involve no response measures at all i.e., no adaptation or mitigation, adaptation alone, mitigation alone, and a combination of adaptation and mitigation.

As is apparent from the above comparisons, much of the world would likely suffer extreme vulnerability to climate change in the absence of any mitigation efforts at all, regardless of what adaptive measures are taken. Yet mitigation alone, for example limiting CO₂ concentrations, would in the absence of any adaptive measures still result in great vulnerability, particularly in tropical and subtropical regions. However, a combination of adaptation and mitigation could reduce vulnerability to modest levels for most of the world.

Also Inside:

Elephants wreck havoc amidst challenges of Climate Change



Legislation gap derailing carbon credit approach



Kenya must infuse Climate Change in its Development Plan



Continued on page 2



Recent developments in both the policy arena and the climate impacts research community point to a growing interest in human adaptation to climatic variability and change.

Most often, human responses of one form or another are simply assumed in impacts research. Analyses that address adaptation use a variety of interpretation and perspectives resulting in an incomplete, and at times inconsistent, understanding of human adaptation to environmental variations.

This is the challenge that many developing countries face – it is infact the challenge of the world as a whole. However, the reality of climate change is such that whichever approach is taken, the climate change phenomena must be addressed. Urgently.

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Editors note:



It's hot over here; I hope hell is not getting closer!

A friend has the above quote as the face of his social media page. It is striking, yet disturbing – especially if you are to put the reality of Climate Change into perspective.

Is the globe getting hotter? Are we getting closer to hell?

These may be questions that are too evasive to be answered. These are questions which nonetheless have to be asked – and answered!

Climate Change is real and so is the necessity to do something about it. Once the bad news of the devastation has been spelt out, then the next logical step is asking the world to do something about it. The world must be urged to take a stand on Climate Change.

Adaptation or Mitigation? This debate will most probably remain in boardrooms and conference halls on Climate Change long after our generation has passed on. It will remain because it is vital and necessary to handle the challenges brought about by Climate Change.

It may not be in the place of this publication to declare a stand in this debate, what is clear to us however, is that adaptation and/or mitigation are both crucial paths that the world must take in addressing the challenges of climate change. Governments must harness these approaches within their national development plans to ensure there is continuity for humanity for unless this is done then food security cannot be guaranteed, neither can a supply of clean drinking water or the conducive environment to support productive life.

In this fourth issue of Climate Change News we discuss approaches to managing the challenges of Climate Change. We unpack adaptation and mitigation strategies and ponder on what is best suited for different locations.

There is coverage on the all contentious issue of managing carbon credits and what the global platforms are doing about it. We also take a peek into the constitution of Kenya 2010 and how devolution is apparently “derailing efforts to curtail climate change”. Elsewhere too in this publication we take on human vs animal conflict where elephants are terrorizing Coastal communities as the animals scamper to survive the challenges of drastic weather changes.

This is an issue that raises a myriad of questions about how climate change should be handled.

We are thankful to the entire media team that put together the content herein and we sincerely appreciate the Rosa Luxemburg Foundation for supporting this project. And while the globe sure does seem to be getting hotter everyday because of climate change, we certainly hope that we are not getting closer to hell than we would want to be!

Mildred Ngesa

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Is Climate Change Adaptation without Mitigation possible?

By Dorothy Anangwe



What is the best way to address the risks of climate change, Mitigation or Adaptation?

Should the world cut greenhouse gas emissions to lower the risks of harm from climate change (mitigation), or should we just get used to it (adaptation), spending to build seawalls, move populations inland, and figure out how to grow food for more than 9 billion people in a world of higher temperatures, droughts, and extreme weather?

Adaptation and mitigation are complementary to each other. For example, if mitigation measures are undertaken effectively, lesser will be the impacts to which we will need to adapt. Similarly, if adaptation measures (or the degree of preparedness) are strong, lesser might be the impacts associated with any given degree of climate change. In this case, adaptation without mitigation is futile. Economic development is widely viewed as the best way for developing countries to address the high levels of disease, hunger and poverty that afflict the billions of people who live in them. According to the United Nations; "The expansion of developing countries' markets appears to be creating a virtuous circle in

which mutually beneficial liberalization of trade and investment can become major means for generating the resources necessary for development and those developing countries which have achieved high rates of economic growth in recent years show that sustained economic growth is linked to an effective strategy for domestic resource mobilization." Not surprisingly, for the longest time, economic development has been and for that matter still is the top priority for political leaders and governments of developing countries.

Unfortunately, investing on proper infrastructure, and other adaptation measures consumes resources that could be spent on mitigation. Adaptation on the other hand doesn't do anything to capture the harmful externalities of greenhouse gas emissions by, for example, pricing carbon at its true cost, thus weakening incentives to invest in efficiency and renewable, low-carbon energy. When people have subsidized flood insurance or believe the government will bail them out after a disaster, they are more likely to build in the danger zone and less willing to reduce their risk. Similarly, if people believe adaptation protects them from the risks of rising seas or severe flooding they may be less willing undertake activities that leave them at risk of such calamities. Changes in the agriculture sector are essential to mitigate and adapt to climate change, meet growing food demands, and improve the livelihoods of poor smallholder producers. What

agricultural strategies are needed to meet these challenges? To what extent are there synergies among these strategies? Several practices emerge as triple wins, supporting climate adaptation, greenhouse gas mitigation, and profitability goals. Irrigation and soil and water conservation, for example, are essential for adaptation, mitigation, and profitability in arid areas.

The results suggest that agricultural investments targeted toward these triple-win strategies will have the greatest payoff in terms of increased resilience of farm and pastoralist households and global climate change mitigation. To reap the benefits of triple-win strategies will require that policymakers, researchers, and practitioners move away from isolated approaches focused on either adaptation or mitigation or rural income generation toward a more holistic assessment of joint strategies as well as their tradeoffs and synergies. We must create the change we need by being on the fore front on environment conservation. We must create the change we need by demanding that our elected representatives are fully on board on this course. If our leaders don't act, we must create the change we need by electing new leaders who will. We can do it, but we have to act, now!

The writer is a journalist and a Programs Officer at Peace Pen Communications

Readers Feedback°.

We have only one earth, let us preserve it! - By Irene Njoki



The planet is getting hotter!

This sounds almost impossible but it is the truth. Around the globe temperatures are climbing, sea levels are rising and we are all experiencing

unpredictable weather patterns. Meanwhile the earth must provide us and all the living things with air, water and a safe place to live.

Rising temperatures are changing weather patterns around the globe, forcing animal species to migrate to new cooler areas in order to survive. Experts predict that one-fourth of earth species is headed for extinction by 2050 if the current global warming trends continue.

As temperatures rise globally, droughts will become more frequent and more severe with potentially devastating consequences on agriculture, water supply and human health. High temperatures and dry conditions will also increase the occurrence of forest fires. The earth's landscape as we know it today may be no more in some few years to come. Melting of glaciers and polar ice caps will result in

rise in sea levels; this would cause islands to be submerged and the areas around the shorelines to disappear under water. As dramatic as the effects of climate change are expected to be on the natural world, the projected changes to human society may be even more devastating.

Agricultural systems will likely be dealt a crippling blow: Though growing seasons in some areas will expand, the combined impacts of drought, severe weather, lack of snowmelt, greater number and diversity of pests, lower groundwater tables and a loss of arable land could cause severe crop failures and livestock shortages worldwide. This loss of food security might, in turn, create havoc in international food markets and could spark famines, food riots, political instability and civil unrest worldwide. The effect of global warming on human health is also expected to be serious: The American Medical Association has reported an increase in mosquito-borne diseases like malaria and dengue fevers. Also, a rise in cases of chronic conditions like asthma, are already occurring, most likely as a direct result of global warming.

Climate change may increase the spread of infectious diseases, mainly because warmer temperatures allow disease carrying insects, animals and microbes to thrive in areas where they were once thwarted by cold weather. We may also start experiencing heat related deaths

Many of these expected impacts are the result of exhaustive scientific research and climate models, and the fact that most of them are already being observed gives additional credibility to the projected effects of global warming and climate change. These are just a few of the deadly consequences of global warming.

We all have contributed to this either directly or indirectly and we need to pause and assess what we are doing that is affecting our climate negatively. Individually we can change how we consume energy, our water usage and our garbage disposal techniques.

Do you view the responsibility to conserve the environment as the government's business or do you take it to be your personal responsibility as well? The government needs to come up with policies which can be implemented on how best to use the available resources so as to curb the damages that we are already inflicting on our environment.

There should be both adaptation and mitigation measures to ensure that the effects of climate change can be slowed down if not stopped altogether. There is no concrete proof that any other planet can accommodate the human race so why can't we preserve the only earth that we have!

Communities at the Coast become innovative in adapting to climate change

By Anthony Mwachiro



A woman sorting grains in a traditional granary

As global temperatures continue to rise, and both the intensity and frequency of extreme climate events increase, climate change adaptation and disaster risk reduction are becoming increasingly urgent and important. Measures to adapt to climate change and reduce disaster risks are gaining international attention, and will be essential for ensuring the wellbeing of the global population, both now and in the future.

However in Kilifi and Kwale counties in coast region, locals have come up with mechanisms that have seen them largely preserving their food and indigenous plants of medicinal value. Scientist warn that developing countries are hardest hit by

climate change mainly because they have fewer resources and low capacity for preparedness and response to climate change crises therefore being more vulnerable to hunger and food insecurity. Climate change poses countless challenges to farmers, pastoralists and others who depend on natural resources as a source of livelihood.

Poor rural communities in developing countries are most affected by climate related disasters and while most climate change adaptation strategies have focused on large scale infrastructure for physical protection, the local initiatives of communities offer sustainable innovations for climate change adaptation.

Many of the coastal communities have in the past depended on farming, livestock keeping and fishing but the trend is now changing to alternative livelihood. In Rabai, the community has partnered with their custodians of their culture to learn more about the ways they used to tackle problems in the old days as they gear towards use of their culture to earn their living. The community in collaboration with Rabai Museum came up with a cultural village inside the Kaya Rabai forest, named “Kaya Mudzi Muvya” (meaning new village) where the locals learn more about their culture while spreading campaigns on the importance of planting indigenous trees inside and outside Kaya forest at their homesteads.

“We have been concerned with the level of deforestation that’s why we believe who ever came up with this initiative. We no longer harvest as much as we used to in the old days but I believe this will play a critical role in conserving our environment.” Says Daniel Garero, a Kaya elder in Rabai.

According to him most of indigenous trees have medicinal value, calling on the need to preserve them and passing the same information to whoever visits the village and whenever they get an opportunity to address a gathering. A research by climate change news, noted that many communities along the Kenyan coast expressed concern over the decline in production for over the last two decades, a move that have resulted in retaining their indigenous crops believed to be drought resistant. Currently the crops regarded as cash crops include maize, cassava and cowpeas, which in the past were regarded as food crops with the coconut being the most popular for farmers. Farmers in Digo land, Kwale County have however come up with new mechanisms to naturally preserve their seeds without the use of chemicals. This is as a result of the high poverty rate in the area.

Adopted storage techniques

This innovation was developed as a seed storage technique whereby seeds mainly from grains are dried, stored in a sack after which it is tightly sealed and placed in front of the traditional fireplace and used as a seat by women when cooking.

According to them, the combination of high temperatures resulting from fire and friction resulting from movement during cooking prevents insects from attacking the seeds which are planted at the onset of rains.

“This method has been helping me to at least have something to start within the next planting season. It is effective and can preserve maize seeds for up to four months before planting while cowpeas, groundnuts and green grams seeds can be preserved for up to one year.” Said another villager mama Maua Suleiman.

Seeking innovative indigenous practices

In Kilifi County, Ufanisi conservation group from Watamu, have come up with measures to store cassava seeds by burying the full stem without cutting. Salome Jumwa, the chairlady of the group, which consists of traditional herbalist and midwives, has been educating the locals on the need to preserve trees and food crops that according to them have medical value. "We normally do not cut the cassava sticks but remove the tubes, dig a hole where we add manure and top soil, put the chunks upright with the small roots, cover with top soil and plenty of grass to support them." She explained.

The farmers in the community have discovered that it is safer to allocate more land under cassava than maize as cassava is more tolerant to drought compared to maize. In the past cassava was never planted in large quantities but due to the prolonged dry period the community is experiencing as a result of climate change, they have opted to plant more cassava. According to Jumwa this process is recommended under the shade to reduce the burden of watering which they said can be done once a week for about a year then from there, they are able to sustain themselves to the next planting season. This move that has guaranteed many farmers a steady flow of food.

Coconut planting

A coconut fruit has three spots (eyes) at the top of the fruit; one that is soft and often releases water when pierced and the other two that are very tough and almost impossible to penetrate. The side with the soft spot often appears bigger and protruded before being removed from the husk. In this innovation, the coconut seed is planted with the soft spot on the protruded side in the soil in a slanting position. This method enhances faster germination.

This method was invented three years ago by an individual farmer as a remedy to frequent termite attacks on coconut seeds upon planting.

"What is happening in the world today I believe is a challenge to human beings from God and we need to utilize the knowledge he blessed us with to survive. Now that the rains are unpredictable I came up with the idea of planting coconut seedlings under a shade using its own water without irrigation you can raise the seedlings even during the dry season." says Donald Kittu, a farmer in Kilifi County.

Kittu who has partnered with other farmers raising seedlings and bananas as their project, revealed that transplanting the seedlings at a young age has made it easier for them to adopt to the little rainfall or watering which may be done even once a month. "Personally I transplant my coconut seedlings even three months after germination as the roots are usually shallow making it easier to grow even with minimal rain." acknowledges the farmer during an open day held by KeFRI at Malindi in November. Due to increased pest infestation, many farmers are now forced to mix more than one variety of crops, local and highbred in the same farm to avoid the risk of total loss in case of prolonged drought, diseases or pests. The traditional varieties usually take long to mature but can tolerate the pests, diseases and dryness, both the improved and



Coconut seedlings that have been raised by Magangani Aquaculture project in Watamu. Photo by Anthony Mwachiro

hybrid mature fast but are more prone to diseases, pests and even drought. A research by our writer revealed that many farmers in Rabai of Kilifi County who cannot afford to get pest side are turning to the indigenous Neem tree and other plants to solve the pest problem. "Getting an agricultural officer might take longer time before your problem is addressed despite the fact that you might not afford the required pest side. That is why I prefer preparing a concoction by boiling Neem tree leaves and Aloe Vera then spray on my food crops. This method has proved to be effective." Says one of the farmers during an interview.

At the Kenyan coast, A project funded by European Commission (EC) dubbed "Smallholder Innovation for Resilience: Strengthening Innovation Systems for Food Security in the Face of Climate Change", which is spearheaded in by Kenya Forestry Research Institute (KEFRI) in collaboration with International Institute of Environment and Development (IIED), is documenting the innovations by locals in Kilifi and Kwale counties in addressing climate change and mitigation.

According to the project coordinator, Chemuku Wekesa, an ecologist at Kefri Malindi, the aim is to modify the innovation and add science to it for the farmers to continue enjoying their produce despite the harsh climatic conditions. "The project aims at improving the adaptive capacity of coastal communities to climate change impacts by use of existing indigenous knowledge which will be used to identify and disseminate innovations which in turn enhance productivity in the face of climate change." Added Wekesa. In an interview, he stressed on the need to have climate change adaptation strategies recognize the creativity of

local people in adapting to climate, strengthen their local adaptive capacity and channel adaptation funds to local organizations to support grassroots level adaptation initiatives.

The researcher called on the need policy responses to climate change to support and enhance local knowledge. The magnitude of crop farming and livestock keeping has also declined due to reduced farming and grazing land as well as in climate. Livestock production methods have also improved in the recent past; farmers combine indigenous traditional breeds that can sustain harsh climatic conditions with the new hybrids that have the ability to produce a lot of milk and meat. This has enhanced production of livestock products. Some new income generating sources have also been gained among them tree farming and sand harvesting. Tree farming can be attributed to increased levels of environmental awareness among locals while sand harvesting can be attributed to the increasing demand for the commodity for infrastructure development projects.

Fishing has largely been affected by the neglect of cultural beliefs that were traditionally used to conserve the ocean and ensure adequate fish reserves throughout the year while crop farming and livestock keeping have mainly been affected by the negative effects of climate change that have resulted to low crop and animal production.

Furthermore population increase has resulted to reduced farming and grazing land. Traditional income generating activities such as pottery have been lost while others such as weaving have significantly reduced in magnitude.

Kwale farmers challenged by irregular weather patterns

- By Alloys Musyoka



A small scale farmer near gisenyi

Irregular weather patterns which are attributed to climate change in the world are affecting farmers in Kwale County and its environs. Comparing current weather patterns to previous ones, farmers in Kwale claim that farming is no longer as lucrative as it was in the past. Due to unpredictable rainfall, most of them plant but are never certain of getting a bounty harvest at the end of the season.

Juma Saidi Golini, a resident of Matuga constituency in Kwale County explains how they (farmers) face a lot of challenges due to the weather patterns. He says that they now rely on agricultural extension officers who train them on ways to counter the issue of climate change which has seen them most hit by drought.

"We plant but we don't get enough food. This is as a result of poor timing caused by unpredictable rains. Climate change is affecting us and this needs to be addressed through sustained sensitization," he added. Although the agricultural measures like preparing for land and wait for rains before planting are not that successful they are forced to follow

them at times. Saidi said sometimes they prepare land for planting but the rains disappoint. In some cases the rains come before the actual planting season. He proposed that the county government of Kwale should embark on sensitizing its people on the irregular weather patterns and see ways of countering it and ensuring there is food security.

Matuga sub-county crop development officer Nicholas Mwambezi said that they are encouraging farmers to plant short season crops. The agricultural officer said that it is by so doing that farmers will be able to have enough food even during dry seasons. He admits that climate change has brought about change of weather patterns that is greatly affecting locals and that the only measure is adopting agricultural methods to counter the effects. He noted that it is better to plant crops that mature faster instead of relying on rains that are mostly unpredictable.

Kadzo Joto, a local farmer at Mazeras area in Kinango; the driest area in Kwale County, is perturbed by the governments' failed promises of

helping farmers which according to her are never honored. Making makuti (traditional thatching materials) has remained her main of income since farming has been highly affected and she was forced to abandon it. "The government can no longer be trusted because they have failed us before. Since independence there have been a lot of promises to locals especially farmers in the county but nothing has been done so far. We are here wallowing in abject poverty and we thought that by electing them our problems would be solved," says a visibly disillusioned Joto.

In her case she said that there is no more farming because there is never enough rain for crops to grow. The government usually promises relief food but never delivers. She said that if the government could introduce alternative solutions like irrigation, farmers in the area would have enough to feed them and their families. As opposed to his colleague, Saidi Joto attributes lack of rains in the area to continued murder cases of innocent elderly people by unknown youths. She holds the traditional belief that now the community has been cursed



A small scale farmer near gisenyi

because of the blood of the innocent. "The killing of innocent people is not good and we feel God is not happy and is punishing us by denying us rain," she lamented.

Apart from depending on makuti making Mama Joto also works as a casual laborer to provide for their family. The county government of Kwale is planning to purchase 20 tractors which will serve every ward to plough farms for large scale farming in a bid to improve food security in the area. Kwale Governor Salim Mvurya said farmers should not be worried now that the county government is in place since it will assist them as required. "We come from this region, we are familiar with the problems in this area, therefore farmers will be assisted to freely plough large portions of land so that we can have enough food for our region," he said. He further said the county will provide all required farm inputs to assist farmers.

Mwambezi said that the county government has already purchased 90 metric tons of certified seeds which will be distributed to 22,500 farmers in the area. "The seeds include fast maturing and drought resistant crop varieties like cow peas and green grams," he added. He says that it is good for farmers to adopt large scale farming so as to boost food security in this area because the county

government is helping them. Mwambezi said it is high time that locals know and adapt to the irregular weather patterns.

The issue of climate change that has brought about irregular weather patterns has not gone without other issues among them emergence of diseases and crop pests. Locals complain that most of the time army worms and stringer weed widely affect their maize. They said that the two types of crop pests are as a result of weather changes. According to Joto and Saidi, most of the time farmers are forced to use bull dog pesticide which is not affordable to most of them. "Maize crops are affected by the weed which is widely spread in this region while the army worms attack cereals," said Joto.

Saidi however welcomes the county government initiative to provide farmers with tractors but questions the manner in which it will be carried out. The agricultural officer says that they are trying to sensitize locals on how to control weeds and pests for a good crop production through public barazas. He said they are partnering with the county government of Kwale in ensuring they achieve food security in the area because the issue is a concern of everyone.

End

“The killing of innocent people is not good and we feel God is not happy and is punishing us by denying us rain”

New measures adopted by farmers due to irregular weather patterns

By Harrison Mbung'u



A farmer working in her farm

We may be making great strides in industrial revolution but the quality of our life is shrinking by the day.

With the industrial revolution in Kenya and other parts of the globe, most communities still do not have strategic measures to curb environmental degradation.

Despite the growth rate of urbanization in the beautiful city of Mombasa, several industrial hazards of climate variability and change pose grave threats to the area's livelihoods as well as to the country's socio economic development.

Scientists and environmental experts have warned that Mombasa is in danger of being submerged if the government does not take strong measures to combat the effects of climate change.

There are fears that the entire land surrounding the coast might be gone in future if climate change mitigation is not properly adhered to.

According to Richard Bosire a researcher and assistant director in the Kenya Marine and fisheries institute a governmental institution mandated to

“We used to go a few kilometres inside the ocean before filling our baskets with fish but nowadays we are forced to go deep in the sea to catch some more or sometimes end up empty handed”

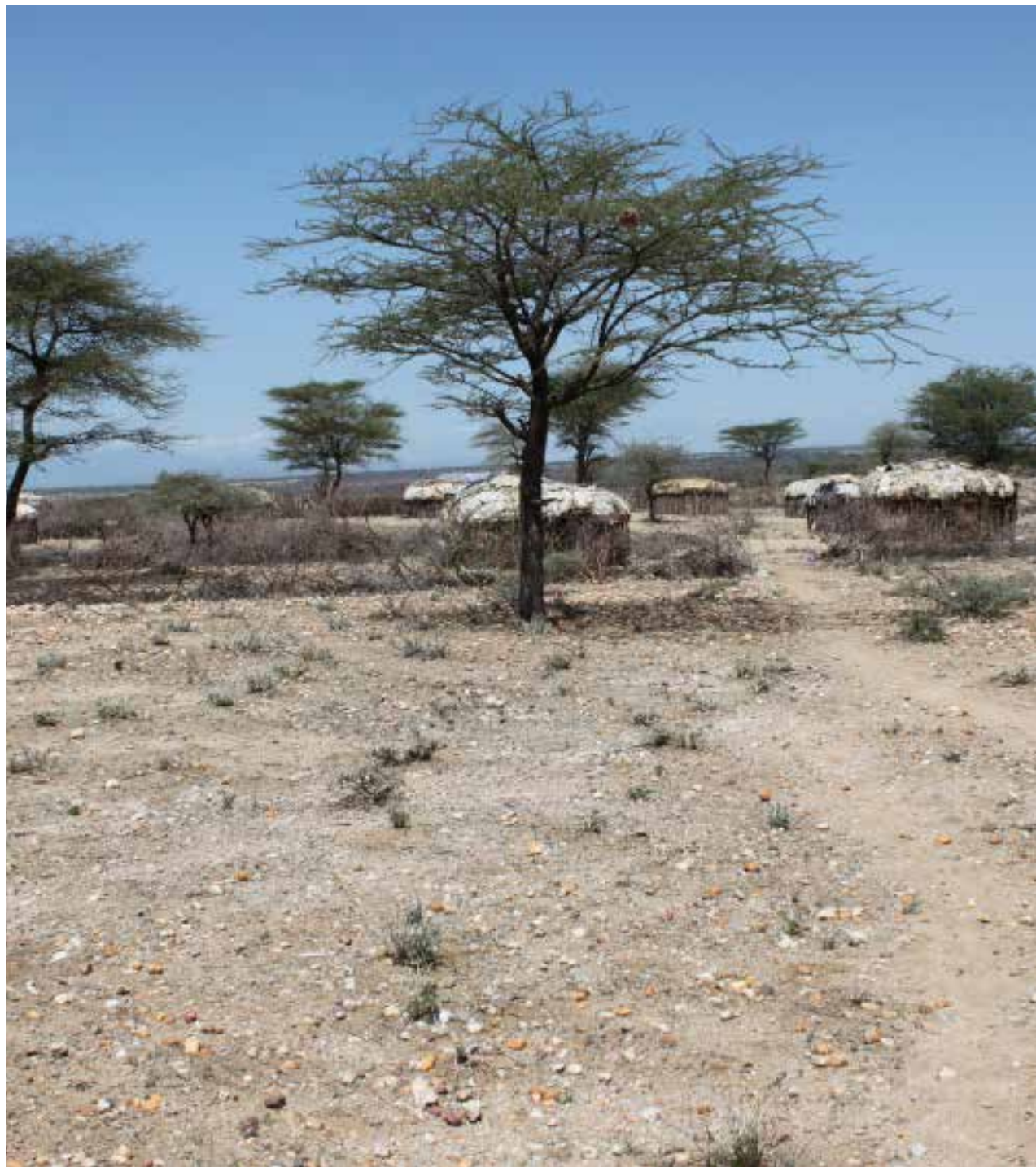
carry ocean research, a lot of factors attributing to climate change are human factors. Bosire said

cutting down of trees and the industrial revolution are the major causes.

Mombasa is already affected by sea level rise, flooding, high temperatures and humidity levels. These climate-related disasters are projected to increase in frequency and intensity with long-term climate change disasters as was recently experienced in some parts of Likoni, Ziwa la Ng'ombe in Bombolulu and Tudor areas of Mombasa County.

Like many developing cities, Mombasa has been experiencing an increase in rural-urban migration. A recent Survey shows that about 70 percent of the urban population in Mombasa town live in informal settlements (slums and shanties) that are prone to inland flooding, drought and water scarcity.

The adaptation of climate change in the informal settlements of Mombasa has been barred by industrial pollution occasioned by poisonous gasses emitted from nearby manufacturing industries of which the residents are unaware of. Seemingly, there could be no industrial growth without any negative impacts on the environment but with every skyscraping industrial chimney



Irregular Weather patterns in Northern Kenya

coming up in Mombasa, more destructive greenhouse gases are emitted into the atmosphere contributing immensely to pollution.

According to environment experts, these gases allow sunrays to freely penetrate land creating more heat. These emissions from fossil fuels combined with human activities and the explosive industrial growth in our towns and cities are affecting our weather patterns and also interfering with the air we breathe.

Following the weather anomalies experienced at the Kenyan coast and the whole country at large Climate Change News has established through weather experts that weather patterns have changed and doing the locals more harm than good. Abnormal weather patterns are raising a major concern in the whole of Africa as a whole. In the Kenya Coast for example, annual rainfall was received in the middle of the year, but today, the rains come in the months of October and November. Initially Farmers have also cried foul over poor yields due to flooding after very heavy and consistent downpours.

Tourists and hotel operators have also raised concerns about what impact the weather patterns

“We are working closely with the land commission to establish these lands where these structures will be constructed”

have on the tourism sector. Many tourists flock the Coast during the August holidays to enjoy the sandy beaches but this time the arrivals have been delayed due to the current rainfalls.

Fisheries at the coast that depend on fishing are now counting losses since fish production is on the decrease. Most of them say that they are forced to fish deep in the sea which sometimes can be difficult. Mwalimu Omar a known fisherman in Mshomoroni area explains how fishing has

declined in the first one year. He says they used to catch multiple fishes but due to the changing weather patterns this has drastically decreased.

“We used to go a few kilometres inside the ocean before filling our baskets with fish but nowadays we are forced to go deep in the sea to catch some more or sometimes end up empty handed”. Said Omar. However the county had established some strategies to combat persistent climate change.

Farmers in Mombasa County will get a boost from the Mombasa county government as stipulated in the regions strategic plan to boost fish production in the county. The plan which was launched by the Mombasa County Executive for Livestock Agriculture and fisheries Binti Omar alongside the Hazina ya Maendeleo ya Pwani and which is funded by World bank is aimed at providing grants to groups, support capacity building and offer technical support to the members.

The project that received an overwhelming support from all farmers in general will see more than 200 registered members benefit from it.

Binti said Mombasa County plans to establish some new land sites to construct borders in every sub-county which in turn will help fish farmers and boost production.

The move comes after the county government in collaboration with world bank plans to offer capacity building to fisheries as well as buying boats for the beach management units in Mombasa County. According to Binti Omar, the county government is working closely with the land commission to identify and establish this land sites where the borders will be complete.

“We are working closely with the land commission to establish these lands where these structures will be constructed,” Said Binti. However she said that already some 14 sites have already been identified. Some of the areas identified are the Kipevu in Jomvu constituency and Likoni in Likoni constituency. The project which is initiated by Hazina ya Maendeleo ya Pwani (HMP) is open to farming groups who would want to acquire more land for production.

According to the Kenyan coast development project regional co-coordinator Jackline Uku, this initiative will facilitate groups with loans, offering training lessons on agricultural development, project management and capacity building. Uku said this year’s financial year will benefit around 200 groups that will have been registered by the time of implementation. “We want a group of 5-10 people to register for these funds”, Said Uku.

Addressing at the launch of the project in Mombasa Uku said that already, the World Bank has promised to fund the project She added that 40 million US dollars has already been deposited to facilitate the 5 year project calling on those groups interested to register themselves.

The project is aimed at fast-tracking the increase in agricultural and fishing production in Mombasa Country and the whole of Coast region.

Elephants wreck havoc amidst challenges of Climate Change

- By Ruth Keah



Journalists and Local tourists watching wildlife at Mwaluganje elephant Sanctuary in Shimba Hills, Kwale County

Climate Change results in environmental degradation leading to loss of wildlife habitat in many vulnerable places. Wildlife have been forced to migrate to new areas as a way of adapting hence giving rise to human-wildlife conflict in most parts of the Kenya Coast. Coastal region in Kenya have been known to be among the area mostly visited by tourist both locally and international, due to its rich pristine beaches, exotic cultural practice and wild life.

However, communities living near the game and national reserves are exasperated by wild animals reigning havoc on their farms. Abeid Abdhallah Mtsumi from Ziواني village In Gollini location in Kwale County and the chairman of Kaya elders in Kwale admits that human-wildlife conflict in the area has been a long time problem especially threats by elephants. With Shimba Hills National Reserve and Mwaluganje elephant Sanctuary in the county, Mtsumi admits animals are facing hard times in their habitats due to change in climate especially during dry season. They are therefore venturing out of their regular zones in search of food and water. The animals are also chased away from their natural habitat by poachers.

According to Mtsumi, efforts to put up fences around are yet to yield any fruits as destruction of farm produce is rampant. 'Some electricity fence had been put up, but by bad luck the elephants step on the logs which then lead to a disconnection of electricity which makes it impossible to control the elephants'. Locals noted that poor performance among students in the area has been as a result

of the human wildlife conflict causing children to fear walking to school for fear of being attacked by wild animals. Similar views were shared by Mwanaamina Hassan of Kirewe village in Kwale County who, like many others has abandoned farming. She said she lost a neighbor who was killed by elephants. "The late mzee Rocha Mangale was attacked by elephants when he was coming from answering a short call outside his house and by bad luck elephants mauled him killing him instantly". She Said.

Electric fences the only solution

She called on the Kenya Wildlife services with the help of the county Government to make sure that they put up electric fences which will prevent the elephants from getting out of the park to the community. Locals are worried that failure to combat the problem might result to rampant food shortages and will also affect the education levels in the area. Speaking to Climate Change News, the Governor of Kwale County Salim Mvurya agreed that human wildlife conflict caused by wildlife especially elephant has been a challenge in the area and promised to work closely with the central government to address the problem.

'It is true we have seen elephants come as near as in Kwale Town, we have seen them near my office and broke down the fence, sometimes even in the county commissioners home and other places of Kwale County,' He Said. Mvurya noted that already about 50 million Kenyan money has been located to fence Shimba Hills National Reserve and urged

the community to give it full support in making sure that they take good care of the fence. 'Improving our responses to human-wildlife conflict requires greater consultation not only among wildlife professionals, but also with economic and social development organizations, community and other key decision makers.' He said. In Taita Taveta County the situation is not better due to the presence of two major parks in the country, Tsavo East and Tsavo West National Parks.

Disappearing rain

The residents lament of the same problems and with the poor infrastructure in the area it has been very difficult for them to get good services for fear of being attacked by elephant especially during the dry seasons. Flumence Mdwadumisha the county representative in Bura Ward in Taita Taveta County says climate change has seen many residents migrate from hills to lower areas looking for greener pastures in terms of farming, since many parts have dried up. He said they have faced many challenges as the place grows dryer and dryer and there is no enough produce they get from their farms unlike the olden days when they used to harvest more than enough food. 'When we came here there by then there was a lot of rain, it was a very beautiful place we got a lot of farm produce but with time rain started to be limited until now we rarely have rains,' He said. With the place being a corridor for the elephants during migration time, it has been hard for them to control the situation. H said the fence which is located in Kishushe area is not complete hence making it easy for the elephants to pass through and terrorize the residents.

Mama Mshila who owns Villa 16 an orphanage home at Bura in Taita Taveta County and lives with 21 orphan children of whom some live with HIV Viruses said sometimes the kids are forced to go on without food.

The only source of food or feeding the children apart from donations by well-wishers who visit her occasionally is the small farm they plough. However, elephants have also been a menace here, eating up and destroying all they have planted. The children suffer without food. According to her, human wildlife conflicts especially the elephants have made life very hard for her and the children who sometimes miss out on school when elephants are out and about looking for food and water. According to her, fencing the area completely with an electric fence is the only solution to the elephant menace.

However, Mshila says they have been accused of being inciters every time they raised the issue with Kenya Wildlife services. He said almost every year there's is one person to two who lost their lives by being attacked by elephants. The mode of compensation by KWS is also very poor. He added that they are still following on with the KWS in making sure that the electric fence is put up

but with the condition that the fence is not a border but only as a protection measure.

Wildlife tourism

Taita Taveta Governor John Mruttu said the county plays a big role in Wildlife tourism since 62 percent of the land is inhabited by wildlife. He agrees that human-wildlife conflicts exist especially in Bura and Mwakitau Locations and he noted that as for now they are putting electric fence in Mwakitau to Kishushe which will separate wildlife with human beings. Mruttu urged residents to welcome a fencing project by KWS as the fencing will prevent the elephants from straying from Tsavo National park to their farms. Mruttu said despite KWS using all means to stop the elephant from going into the farms, they always strayed back after a short while because there is no fence to stop them. 'An elephant can walk many kilometers a day, so the only solution to this problem is an electric fence that will solve the human wildlife conflict in the county,' He said. According to the deputy director for devolution and community Services in KWS Benjamin Kavu, Kwale is the highest among the biggest hotspots in human-wildlife conflicts in Kenya others include Laikipia, Taita-Taveta, Rumuruti, Narok, Transmara, Rombo, Lamu, Imenti South and Njukini.

Speaking during the launch of the sable Antelope conservation Strategy at Shimba Hills National Reserve in Kwale Benjamin said each year the government has sent aside money for fencing the parks. He said they have come with a new way of fencing which has some wires around which the animals will keep them away from the logs which they used to break them down and pass through the electric fence. He said they will do that in all parks to help residents who practice farming continue with their activities and added that with the increasing levels of conflicts has forced the government to come up with policies of conflict mitigation for instance elephant Trans location which involves moving problematic elephants from conflict zones.

Benjamin agreed that climate change has greatly contributed to human wildlife conflict since nowadays wildlife have been going to places where they initially never used to venture. He agreed that climate change has been a challenge to them since they find animals in areas they never thought they would go. Population increase has also contributed to a change in animal and human co-existence.

'The high population has resulted to encroachment of areas formally used by wildlife thus increasing the chances of encounters with wild animals' He said. About the compensation mode of people who have been injured by wildlife, Benjamin showed some hope that when the Draft Wildlife Policy Bill is passed by parliament the ones affected will be paid according to the damage incurred.

However, some activists have been blaming KWS for putting on hold the bill since its development in 2008. KWS on the other hand points fingers at Parliament and the office of the AG for the delay of the Bill. Among the issues that this bill aims to address include compensation. Between 1971 and 2007, compensation for loss of life from attacks by wildlife to the family of the deceased stood at Ksh30, 000. This has however been raised to Ksh200, 000 in the new Bill. Injury had been pegged at Ksh50, 000. The bill has also factored in compensation for loss of crop and community participation.

Legislation gap derailing the Carbon Credit approach

By Lilian Mukoche



Scouts in a tree planting exercise

Tree planting is a major activity in mitigating the effects of climate change. It is an activity which brings together all sectors both private and public. One way or the other, we find ourselves in need of trees be it for shelter, energy, or economical gain. In relation to climate change mitigation, trees absorb carbon and reduce the effect on ozone layer. This has necessitated the carbon credit trade where farmers can benefit economically from the trees they have planted. According to Dominic Otieno, the head of western forest conservancy, carbon credit is an opportunity to reduce deforestation and thus address climate change challenges. "It is an incentive to lure farmers to plant trees with a hope of gaining economically without cutting down the trees", he said.

The process is however facing lots of challenges paving way for the continued threats of climate change effects. "First of all, farmers want immediate economic gains but with the carbon credit, the impacts are to be felt in future", said Otieno adding that this is discouraging farmers who feel it is only a project for the future. He says that tree planting is a habit in many places but the problem is that people are planting the trees for other uses. "When you plant a tree with an intention of cutting it down be it for firewood or timber, you are not engaging in carbon credit", he said associating the problem to increased poverty levels.

No legislation on carbon credits

There is however no legislation to govern the process thus making it ineffective. Otieno wants the concerned ministries to come up with clear policies so that farmers are sure of how they can benefit economically when they plant trees which

will not be cut down. "Currently we only have one community forest association called MUILESHI in Shinyalu around Kakamega forest which is engaged in the project. Beyond the group, the project has not been felt because there is no group championing it within Western region", he said. As the Kenya forest service, they are embracing the tree planting to see that even the human wood needs do not affect the forest cover. Otieno says that within this year, they are almost achieving the ten million plus seedlings with the government taking about 2.5million seedlings while the rest taken by farmers. "This is the only way to ensure we have enough trees to compensate countries which are not in a position to sustain trees that can absorb the carbon thus promoting the trade".

He admits that it is a challenge as over 75% of wood is used to satisfy human demands. "The land size has also reduced due to population growth but we are collaborating with the Ministry of Agriculture to see that farmers can meet the 10% forest cover on their farms and also plant viable trees for agro forestry".

The high rate of deforestation is to blame for the situation. Despite the heavy crusade to plant trees, it is like most of the trees are covering up for the loss before they can now surpass the current level. The seedlings are in abundance but the forest department is discouraging distribution of seedlings for free. "For a long time we have been issuing seedlings for free but the care has not been at par. We are selling to farmers to coax their commitment to take care of the trees and we are realizing the benefit", said the head of Western forest conservancy.

Planting trees

The county government is also engaging the youth in promoting tree nurseries and in turn purchasing them. The executive officer in charge of environment says they are luring the community to embrace carbon credit. "We want the youth to form community forest associations and establish nurseries because as a county we have allocated close to 50million shillings towards forestry. Our approach is to collaborate with learning institutions as they can guarantee the protection of trees", she said. The tree seedlings are also sold to farmers at a subsidized price and more sensitization is on going to open up their understanding on carbon credit. Other than that, tree planting is also promoting income generating activities like bee keeping and dairy farming.

On the other hand, the Kenya forest service is promoting bamboo planting as another way of ensuring people plant trees for carbon credit and not with an aim to cut them down. According to Otieno, bamboo species propagation is vital in realizing the vision 2030. "With bamboo along the river banks, we are assured of protecting our water sources, and furthermore, bamboo is the potential alternative for wood products. This is a clear way to be sure that trees are planted for life", he said. He says they are networking with other stake holders in sensitizing the community on viable trees to plant along the river banks, on the farms and forest land. The challenge however is the fact that water sources are on private land and these limits extend of effecting. "But with commitment

we have, it is hope full that there is light at the end of the tunnel", concludes Otieno. The executive officer in charge of environment, natural resources, water and forestry at the county, Penina Mukabane, says engaging the community is the only way to resolve the matter. "We cannot confirm that the complainants are doing it for the benefit of the community. That's why we feel it's important to visit the site and listen to them," she said. She said according to the information within her reach, the project implementers were to compensate those within 80 metres radius from the site but others want the radius to be extended to 500 metres. She attests that the project will go a long way in mitigating waste management within the county "as currently, the attention is on recycling waste to minimize its effects on planet earth". The objection of the project is delaying another phase of funding, which the donor had pledged to give Sh450 million to implement other environment projects around the sewage.

Efforts to get further information from LVNWSB were fruitless as the communication officer, Daniel Owino, declined to comment on the matter, citing the fact that it is being handled by the tribunal. He said it is not known when the matter will be resolved as the tribunal's tenure has expired and another one is being constituted. A source from the company, who chose anonymity due to sensitivity of the matter, said the project "has met several obstacles, which are deemed to be selfish". This is the third time the project is being challenged despite NEMA having issued a license after carrying

an Environmental Impact Assessment. "Some residents are complicating the compensation process but it cannot be standard as each case was different depending on the land size and whether one was being displaced or it was simply a pipe passing through the lands," said the source.

Attempts by CC News to get a clarification from the local NEMA boss Omondi did not bear fruit as he was said to be on leave and whoever was in charge at the time could not be reached as he was said to be engaged in meetings.

The local provincial administration is also in support of the project. The area assistant chief, Ernest Mayula, is rallying for the project and is accusing some few individuals of "constantly feeding the donor with wrong information to stall the project". "We cannot have any serious development without a sewerage system. One of the complainants wants compensation yet the project does not touch his land," he said, adding that they are collaborating with the relevant authorities to settle the matter.

On their part, however, the residents' association claims that those pushing for the project are not from the area. "They will lose little or nothing. It is the shoe-wearer who knows where it pinches most and they should be informed that this is a permanent project which cannot be changed once it has been completed," said Olumasai, who also cast a doubt on how the funds for the project have been spent.

Entrenching Climate Change Mitigation in Western Kenya

By Cyrus Akhonya

United we stand, divided we fall : This is a common phrase which may not have found its way in the climate change arena. Many organizations and departments have been working in parallels while addressing climate change mitigation and adaptation. However, the players have now "been conjoined" thanks to the governments initiative to establish the Agriculture Sector Development Support Program – ASDSP. This is a 5year project co-funded by the Kenyan government and Swedish International Development Agency –SIDA designed to cover all the agricultural sector players. This has seen issues of climate change addressed in relation to the farming activities which have adversely been affected by climate change.

Failure to monitor climate variability is a big threat to food security in the country. Tobias Anyanje, the ASDSP natural resource management officer in Kakamega County says their major role is to convene and coordinate stake holders dealing with farming. This has seen the Kenya Metrological department, Agriculture sector departments and other experts working together in ensuring farmers are made aware of the existing climate

variability. "We are not old enough but as at now, we are holding forums and inviting experts to talk to farmers about climate change issues", he said. The program is not dealing directly with farmers but through the respective sectors and their staff, the information reaches the farmers. Anyanje says they are guided by three key components namely; sector wide coordination, natural resource management and value chain development. "The program is running in all the 47 counties in Kenya and in Kakamega, it was officially launched in June this year", he said adding that it has concentrated on creating awareness to stakeholders who are expected to circulate the information to farmers. For a long time, metrological information has been solely relayed through the media without touching base with farmers and the program is an opportunity to farmers and metrological experts to engage.

The climate variability has adversely affected the situation within the region of western Kenya. "Even in Kakamega County, you will find that it may rain in Kakamega, and just some 40kilometers away in Mumias, there is no rain. The rainfall season has even changed", he said. The Kakamega central

sub county agricultural officer Flora Musanga attests that climate change has really affected farmers and they are now encouraging farmers to plant traditional crops which are more resistant to unpredictable climatic conditions. "We have crops like cassava and sweet potatoes and local vegetables which are less affected by weather changes and through the program which has brought us together, we advice farmers relatively" She said.

The county executive officer in charge of environment, who is also the acting executive officer of agriculture Penina Mukabane adds voice to the sentiments saying that there is combine effort in passing information to farmers. "Through ASDSP, experts assemble information vital to farmers and we are also encouraging farmers to engage in diversification so that incase one project is affected by irregular weather changes, he or she can be cushioned by the other", she said. The challenge however has been finances but Ms Mukabane says plans are in the pipeline to establish a giant co-operative society which will bring together all agriculture sectors. This will enable farmers to access loan services to meet their needs especially



Photo courtesy of: <http://www.elearning.strathmore.edu/mod/forum/discuss.php?d=6577>

those who engage in environment unfriendly means to access income like cutting down trees. "Others also fail to sustain the natural resources due to lack of capital and we hope that through this initiative, we will promote friendly projects like bee keeping". She explained. There is no stone being left unturned as the players have realized that small things being done by community members are contributing to the changes in climatic conditions. "Selling a tree to earn income, lack of information on our role in mitigating climate change, and even poor crop and soil husbandry are some of the neglected issues which matter and indeed a stitch in time saves nine" She added.

The project also faces a number of challenges. Anyanje says that many people are used to hand outs and the fact the project is mere capacity building, the economical value is not openly felt. "Our people have a culture that any new project with a foreign hand should be accompanied by money. Holding them in forums day long without money to take back home is an uphill task". He said. However, he encouraged farmers to be positive saying that climate change effects are a slow poison whose damage is only felt with time, and the same applies to redressing the cause.

Part of the capacity building within the project is to enlighten members that information is power. To

substantiate the effort, the government through the Kenya forest service is soon deploying an expert on climate change issues to the region. The head of Western forest conservancy Dominic Otieno says the expert will join other stake holders in championing climate change sensitization to the public. "We are in charge of a very key sector in climate change mitigation. That is trees. But we have to engage expert knowledge so that people can change their traditional ways of looking at trees just as a source of energy and construction material", he said.

Otieno appreciates the combine effort being witnessed among stake holders in addressing the issues and is hopeful that the end result will be rewarding as "nothing is as good as joining hands in combating a disaster". He says that farmers are supposed to meet the 10% forest cover on their farms and with limited land due to high population; there is need for sensitization on viable trees for agro forestry.

The Agriculture Sector Development Support Program has prioritized three major value chain projects in the region.

"We have dairy, poultry and maize which are most at risk courtesy of climate change", said Anyanje. Already maize has been affected by the Maize

Lethal Disease and many farmers in Western Kenya have experienced poor harvest thus threatening the food situation in the entire country.

Already a baseline survey has been done by the University of Nairobi and the report is due to be released for use by technical working groups. Each value chain project will be handled by a specific technical group.

On the other hand, Ziporah Mugonyi, the ASDSP Kakamega County coordinator says they are plans to engage the media in dispensing the information to the locals, and she is appreciative of the Climate Change News publication. "We are glad that such publications are coming up because we rarely get space in the mainstream media yet the issues on climate change are here to haunt us", she said. She urged the media to give priority to climate change information as it is about survival since it affects daily life.

On his part Anyanje gives a cautionary parting shot; "Nobody can claim that he or she is not affected by climate change, even a driver may be neglecting such information only to find that a bridge ahead has been washed away. Climate change is real, running away from it is just as good as running away from your own shadow!"

Devolution hitches derail environment conservation in Western province

- By Lillian Mukoche



Photo Courtesy of: <http://www.50treasuresofkenya.org/kakamega-forest>

The promulgation of the new constitution in Kenya was about giving Kenyans more responsibility to take care of activities around them. It meant that there will be no more single handed decision making on issues affecting all Kenyans. Simply put, Kenyans took charge of Kenya. But as any new idea, devolution as enshrined within the new Constitution has met resistance from those who still feel the status quo should prevail. Many functions which the constitution devolved as per schedule IV have been upheld by the transition authority to remain within the national government. Therefore issues concerning climate change have been affected.

Penina Mukabane, the executive officer in charge of environment in Kakamega County says the move by the Transition Authority to hold on some functions has delayed the focus on environment issues. "The constitution stipulates that forestry and water are functions of the County governments but the transition authority opted for the contrary", she said dismissing the reasons given by the authority in defense of its move. "The county government is only in charge of farm forest, community forest and county forests some which do not even exist. We can't continue to uphold such functions claiming that the County governments lack the capacity to run the dockets and yet they are key in realizing efforts in addressing climate change effects", she said.

Devolving forests

The move by the Transition Authority to only

devolve farm forest and retain gazetted forests has not sunk well with the community. According to residents, the lands on which the forests are lying belong to the community and should be taken care of by the community. "We are unhappy with the fact that strangers have been given the upper hand to manage our forests yet we are the ones who understand the importance of these resources", said Andrew Mukoto, a resident in Shinyalu, where Kakamega forest is situated.

Ms Mukabane says that the Kenya forest service has been responsible for the current rate of deforestation. "It is the one licensing people and companies to harvest trees without considering the effect on the planet. As a County government, we have nothing to do because they report to the national government", she said. Mukabane feels that those licensing and being licensed have no touch on the ground and the repercussions are felt by the community as those cutting trees are non residents. "It is wrong to deny us the duty to take care of Kakamega forest, and even the community forest associations which are supposed to co-protect the resource have in many cases been sidelined. Who understands the importance of protecting this forest more than the residents?" she paused. The county government wants the senate to take charge and ensure the constitution is fully observed.

Many functions which are supposed to be undertaken by the County governments in relation to natural resources have not been released by

the transition authority. "We also have the water docket which has been constitutionally devolved but the national government is coming up with bodies to take up the function", she said citing the move by the national government to empower water resource management authority and some basin authorities licensing water use and signing contracts thus leaving the County governments with less to do. The executive officer insists that the constitution is supreme and the senate must play its role to ensure that counties are not frustrated. Speaking after meeting the executives from the four counties in the former Western province –Vihiga, Busia, Bungoma and Kakamega, nominated senator Daisy Kanaiza assured the county governments the commitment by the senate to ensure that devolution stands. "We are moving round the country to take notice of the frustrations experienced by county governments so that we can ensure devolution is not derailed", she said after the meeting which happened in Kakamega town. She said they will push the transition authority to ensure the functions are transferred to the counties together with respective funding as it is all for the benefit of the residents.

Protecting the rivers

The provincial administration has not been spared by the new constitution. The chiefs Act which used to empower them over river bank protection has become toothless. Walter Mukungu, the chief Kisa East location in Khwisero Sub County says the current constitution demands for public participation and thus paving way for unnecessary politicking. "Something which is clear for implementation is converted into political agenda where people want to settle personal scores", he said adding that a lot of environmental degradation has occurred courtesy of politics. During the earlier days, the chiefs were in authority and issues of protection were simply an order. Mukungu who is also an environmentalist however feels that it is right for the national government to man gazette forests. "We have our own Misango hill here which has been subjected to encroachment courtesy of local politics. People are have turned the world into a man eat man and no one cares for the effects on the next generation", he said.

However the administrator feels there is need for collaboration between the two governments and they should not treat each other as competitors. For instance since the gazettelement of Misango hills, the national government has not taken any step towards its rehabilitation and there is no harm in county government stepping in. "There is need for proper legislation to ensure there is mutual management responsibility in such resources", said Mukungu.

Global carbon market 'toolbox' in sight at U.N. climate talks

- By Boniface Otieno



chimney emitting toxic fumes-www.telegraph.co.uk

Governments want to launch a platform at United Nations climate talks to help set common standards and accounting rules that tie together national and regional emissions trading schemes. Developing countries and green groups however warned that talk of a global carbon market is premature. Almost 200 nations were in Poland last month for a meeting to plan a 2015 U.N. deal in Paris that would start to tackle climate change in 2021.

Most developed countries see carbon markets as crucial under any new agreement because they seek out the cheapest emissions reductions, making climate change targets more achievable.

More than 40 mainly developed countries, including New Zealand and members of the European Union, have, or are in the process of developing, markets to help cut their output of climate-warming emissions by putting a price on carbon dioxide.

As those schemes are disconnected from each other, governments have proposed launching a framework to unite them under a single voluntary platform to share ideas, with a view to eventually launching a global market to battle climate change. Markets for Carbon credits

"Markets are vital and it's not premature (to be discussing them). It's more than timely to be thinking now, in advance of 2015, about how to manage their intersection," said New Zealand's climate change ambassador Jo Tyndall, adding

there was a clear link between carbon markets and channeling climate finance to poor countries. Tyndall said the platform, a concept floated by Poland earlier this year, would be a "toolbox" that provides a variety of tools to help develop technical standards and best practice approaches to build trading rules that could underpin a global market.

It would also codify transparency and accounting standards that are "fundamental to ensure all mitigation tools and options, including carbon markets, have environmental integrity and will avoid double-counting (emissions cuts)," she added.

"We have a whole series of different mechanisms all over the world ... (so) should we wait until Paris to start thinking what would be useful to have in 2021, or should we look at what we are doing already?", said Poland's Tomasz Chruszczow, chair of one U.N.'s negotiating streams.

More pressing issues

But poor nations argue that more pressing issues need to be ironed out, for example the overarching dispute between rich and poor countries over how to share efforts to cut emissions, before more market-based mechanisms are developed or the groundwork for a global trading scheme is laid.

"A market is important but it's premature to deliver it now with so many other issues that have to be resolved before 2015," said Khalid Abuleif, an advisor to Saudi Arabia's ministry of petroleum

and mineral resources and the country's lead negotiator at the U.N. talks. "Let's not bring markets in to influence that process." Emerging economies like Saudi Arabia and China, the world's top emitter, want rich countries to commit to doing more to cut greenhouse gas output while allowing poorer nations to burn more fossil fuels to build their economies and end poverty. "We need to know the nature of those commitments before we can design a credible market. We cannot afford to have failure," Abuleif said, citing existing U.N.-backed carbon trading mechanisms such as the Clean Development Mechanism (CDM). The CDM has since 2005 helped channel more than \$315 billion to poor nations to help them cut their CO2 emissions or adapt to the effects of climate change.

But the failure of nations to craft a new global pact has caused demand for the CO2 offsets generated under the U.N.'s carbon markets to dry up, sending prices crashing and nearly bankrupting many of the companies that invested in the schemes.

"(The toolbox) is not about establishing yet another mechanism to produce units that no one will buy, it's about understanding what we are doing collectively, which is very helpful in understanding how a new global agreement might work," Poland's Chruszczow said. Green groups including the Third World Network have called the idea a "recipe for disaster", saying governments are pushing forward with building new markets before studying and learning from the failings of existing ones. Ends

Adaptation “inevitable” for Kenya

By Jane Okoth



Kenya, North-Eastern Wajir drought famine humanitarian arid adaptation farming, Courtesy of www.robinwyatt.org

As Kenya is still a struggling nation and amongst the poorest in the world, resource allocation is one of the major challenges the country is grappling with.

Climate change is a crosscutting development issue that requires high level political goodwill and support to effectively address the risks and maximize the opportunities it presents. As a developing country, Kenya has been affected by the impacts of this global phenomenon. For the country, adaptation to climate change remains a top priority to reduce vulnerability and enhance resilience of the social and bio-physical systems, especially the vulnerable communities and groups. The national debate on climate change has been slow in taking shape in Kenya. It has long lacked the priority it deserves. Nevertheless, the national climate change adaptation and response strategy has been developed. As far as the changing weather patterns and predictions are concerned, it is up to the specific authorities and sectors involved to ensure that the solution of adaptation is involved.

Under the ministry of environment and mineral resources, the government of Kenya seeks to coordinate climate change issues to be implemented by various sectors and parastatals in conjunction with the National Climate Change Action Plan.

According to Lucy Kamande, the senior assistant director of the Climate Change secretariat under

the ministry of Environment and Mineral Resources, the climate change policy which is very critical is due to be processed next year. The ministry works with the meteorological department of Kenya on implementing this process.

“We normally receive the forecast from the meteorological department of Kenya which is a governing authority. We then alert the specific ministries involved in case there is a pending or progressing disaster involved. If there is going to be severe drought or very heavy rains this means that it is a desperate situation and we have to alert the Ministry of Special Programs” Ms. Kamande explained. “Our work is to coordinate activities from nationwide to county level and we leave the rest to the specific ministries for implementation”. Once the ministry of special programs gets this information the message is then passed to other sectors including non-governmental organization and the people likely to be affected.”

Rain fed agriculture which accounts for 98% of the agricultural activities in the country is the back-bone of Kenya’s economy and if not properly dealt with is going to threaten the livelihood of farmers. According to the National Climate Change Action Plan, climate change has increased vulnerability in Kenya. Farmers and communities or individuals with substantial exposure to climate change elements are rendered vulnerable, often facing serious crop failures, income losses and

collapse in livelihood. “Kenya is now working on different adaptation strategies so as to reduce the impacts of climate change” Ms. Kamande further explained. “Adaptation involves changing the way we do things to prepare for the potential impacts of climate change. This means we will be better protected against negative impacts like flooding and extreme drought. For instance in a place like Budalangi in western Kenya where extreme flooding has been a major issue, through the ministry of special programs we would coordinate to see that the people are moved to safer ground before the flooding starts. Adaptation would also mean that Kenya will be better prepared for new opportunities like the chance to grow different crops in drought prone areas”.

According to the National Climate Change Action Plan, actions to improve climate resilience in disaster preparedness include modernization of meteorological systems and an early and appropriate response to emerging drought that include a well maintained early warning system. In a developing nation like Kenya, achieving this is a big challenge. “Sometimes they tell us that it is going to rain and then it does not.” laments Stephen Kamau, a secondhand cloth dealer at a local market in Nairobi. “Nowadays one does not know how the weather works. We buy all the warm and heavy clothing during the cold season expecting to make a profit in our business but that is not always the case. Things have become



Kenya, North-Eastern Wajir drought famine humanitarian arid adaptation farming, Courtesy of www.robinwyatt.org

unpredictable and confusing and we just have to deal with any change in the weather" He grumbled.

Abraham Odari Changara, the principal meteorologist at the Meteorological Department of Kenya thinks that there is no need to worry in determining the changing weather patterns. "This

is the best department in the whole country, the best meteorological department in the whole of Africa." He boasts as he explains how the Met Department works. "There is no day that we have forecasted it is going to rain and it becomes the opposite. I would put our forecast to about 90% accurate. So far, we are the headquarters of this department and we do deliver our forecasts countrywide.

We normally disseminate the forecasts to various sectors and also distribute information to specific county officers on the grounds who deliver the information to the people concerned like farmers and also ordinary citizens. Once we deliver the forecasts we also have to monitor and see if it is

accurate. Whenever there is change in weather patterns and we have to warn serious farmers who depend on the weather patterns for their harvest, our officers on the ground are best suited for this job. They communicate with various non-governmental organizations who in turn alert the affected farmers so as to find an amicable solution to adapt to this kind of changes." The weather-man explained.

The effects and impacts of climate change are already felt both in the rural and urban areas. Already, Kenya is well conversant with these effects. Ms. Kamande emphasizes this point.

"We cannot say it will not affect us because we are in the urban areas and we will not suffer the consequences of poor harvest. It will come to haunt us because food prices shoot up due to low supply from farmers. It is therefore up to the various stakeholders to use adaptation as a way of dealing with climate change" She affirms.

Kenya must infuse Climate Change adaptation and mitigation in its development plan

- By Edward Kusewa

It is important to integrate Climate Change into Kenya's development plan so as to assist in transitioning the country to a low carbon climate resilient country. This is according to Mr. Otula Owuor, a senior science journalist and environmental analyst who was speaking during a media workshop on climate change organised by Peace Pen Communications. "In Kenya it is important to mainstream Climate Change Development Planning to mitigate and adapt its impact and sustain Agricultural Production which is 70% a key requirement for food security." Said Mr. Otula. In this context, harnessing ecosystem based adaptation in response to, Climate Change impacts in agriculturally dominated areas is timely and opens a window of opportunity for taking stock of eco-system based knowledge for food security in the country. Mr. Otula further adds that we need to build commonalities shared within the country, to share lessons of ecological approaches for climate change adaptation. He further states that we need to foster national co-operation through knowledge-sharing among different stakeholders that could boost and enable institution processes for integrating Eco-System based adaptation approaches into development planning policies.

Depending on the Social-Economic situation, a mix of these policy options needs to be tailored to local settings and the food security issue should be bridged in order to address Climate Risk using

consolidated solutions that serve communities now and in the Future.

During the workshop, discussions arose that stimulated the debate to aggregate the lessons shared into common solutions for climate change adaptation across country applications in building the capacity of practitioners and supporting policy processes at all levels. Prof .Chris Shishanyu of Kenyatta University, speaking during the 1st African Food Security and Adaptation Conference 2013, said that because of the link between biodiversity, land degradation, pesticides usage, food security, human health and generally the environment calls for interventions that are not only beneficial to local communities but are sustainable and raise their resilience to Climate Change. According to Mr. Stephen King'uyu from the Ministry of Environment and National Resources, the first step towards Development Planning is mainstreaming Climate Change in the Medium Term Plan 2013-2017. The Government may need to intervene to encourage investments in adaptation actions, ensuring that climate resilience is the priority response action. The total estimated investments costs required to adopt to climate change impacts and to implement the low carbon development options presented in the National Climate Change Action Plan 2013-2017 (NCCAP) is estimated to be one trillion Kenyan shillings(US \$12.76 billion) from 2013 to 2017. As a result, capacity building is a key element and the



Photo Courtesy of: http://www.worldvision.com.au/Issues/Climate_Change.aspx?lpos=top_drop_1_Climatechange

knowledge gap narrowed to grasp the realities of uncertainties regarding climate patterns. Elements such as wind, precipitation and temperatures will determine the, 'microclimate' and implementing a comprehensive Climate Development planning process is a must to build a low Carbon Climate Resilience in the country.

Domestic, bilateral funding, as well as international climate finance mechanisms such as the Climate Fund, Adaptation Fund and emerging funding for Nationally Appropriate Mitigation Action (NAMAS) and REDD+ (Reducing Emissions from Deforestation and Forest Degradation) will be required to implement the Action Plan, for development planning in Kenya.

“Climate Change media clinics were absolutely useful!”



Photo Courtesy of: <http://alwaysproventrue.com/2013/05/>



Photo Courtesy of: http://www.picgifs.com/wallpapers/storm/wallpaper_storm_animaatjes-12-970505/

Edward Kusewa

“I am better equipped and more knowledgeable on matters concerning climate change. Thanks to PPC, through their forums, I have been able to create a new passion which is covering issues of environment and climate change. The issue of climate change is everyone’s responsibility since at the end of the day all of us are affected whether directly or indirectly. It is therefore our responsibility to protect and defend the environment since it is our only home”.



Ramla Abdi

“Working with PPC for the past few months has really helped me change my thinking when it comes to climate change. In the first forum I attended, PPC director asked me whether climate change had an inner meaning. I was unable to answer the question then but as time went by I gained momentum in the field and am hopeful of becoming a renowned environment journalist. It is also my hope that next year we can come up with fresh ideas that can impact and attract coverage from mainstream media”.

Henry Owino

"Climate change is a thorn in the flesh for every living organism. Nature is changing and should the trend continue for the next few years, the earth will be completely depleted. For Kenya as a country to achieve its Millennium Development Goals, climate change should take the centre stage. Countries like South Africa and Egypt have fully incorporated climate change programs into their constitutions. Taking charge of our environment makes the earth a better place to be".



Jane Okoth

"Climate change is becoming unpredictable by the day. The issue of covering climate change is even worse since most journalists shy away from the topic. Our attitude towards covering such stories should change because the issue of climate change generates major calamities when ignored. The faster the world recognizes climate change as a global problem and creates a lasting solution; the earth becomes a safer place".

Douglas Mwanga

"It has been a wonderful experience working with PPC and being a regular contributor of the Climate change news. I have learnt a lot from fellow journalists and the different experts PPC brought onboard during their forums. Thank you PPC for choosing Climate change because it is the biggest challenge we face as a nation and even globally".



Kiprotich Koros

PPC has created a much needed focus on climate change environment reporting and has therefore helped bridge the gap when it comes to media coverage on climate change. PPC is among the leading organizations building a new brand of climate change communicators and influencing the much needed policy change the government and attitudes of journalists as well".

Scovian Lillian

"The surroundings of where we reside matters a lot. Take for instance pollution, a key hindrance to man's healthy living. Climate change has been and still is a largely neglected issue yet the most important. The media, being the most reliable institution for relaying information, has also failed to give keen interest on the matter. However, PPC has taken the affair to heart and is playing a pivotal role in tackling issues of environment and climate change. The institution is doing a commendable job by publishing stories on different aspects that affect the environment. Kudos PPC".



Njenga Hakeena

"Personally, I think we as journalists need to be more innovative to make climate change sell. Mildred has a wealth of experience and contacts so I think it'd be ideal if she hooked some of us small writers with some editors whom we can be contributing to. Secondly, an award scheme recognizing contributors would go a long way in encouraging active and consistent participation. An award system could work towards this end. Thirdly, some stipend would help some of the writers who are struggling in remaining committed to the cause. This is in addition to the facilitation that they get towards producing stories. Finally, sending people outside of Nairobi by providing grants for reportage? This will be invigorating and encouraging writers to always think beyond the box. It should be based on merit and awarded to the most deserving case. Also, the website can be a wonderful place for regularly updated stories. I would offer my services to keep it updated and also marketed on the social media which could increase traffic. Thank you for all the opportunities this year and I look forward to another year of great doings. Do have a wonderful break and enjoy a productive 2014".

Mombasa tightens its belt on environmental management

By Moffat Mutero



Photo Courtesy of:
<http://jitoleeglobal.wordpress.com/2012/05/24/mombasa-recycling-initiative-mri/>

Despite making significant strides in improving its environmental health, Mombasa still has to do more to address its waste management. This is according to James Kithome, the Trustee of Jomvu Integrated Youth Action (JIYA), one of the leading youth networks in Mombasa County with over 32 youth parliaments which deal with environmental programmes.

Speaking to Climate Change News during the group's end of year cleaning exercise in Jomvu Madukani, Kithome said it was very embarrassing to see the second Kenyan capital city being on the limelight both locally and international due to devastating garbage and waste mismanagement. According to Kithome, many local and international tourists visit Mombasa due to its fame in terms of location, environment and tourism attraction sites. However the negative reputation emanating from various factors including waste mismanagement tarnishes this good reputation for Mombasa. Its ranking and international standing is lowering due to this negative perception.

He insisted that, environment is the key factor in any developing city and to keep Mombasa city in order and replenish its lost glory, most of the investments should focus on environmental conservation particularly garbage and waste

management. "People just think of deforestation as one of the major factors in climate change. Infact accumulation of methane originating from biodegradable municipal wastes and carbon dioxide caused by burning of fossils is more dangerous. These two greenhouse gases continue to interfere with the earth's energy balance and this means global warming will prevail if all cities do not manage garbage and waste accordingly." Explained Kithome.

He further said the garbage and waste problem witnessed in Mombasa County some few months ago was a sign of poor leadership and corruption exercised by some former leader. He praised the current new government of Mombasa Governor Ali Hassan Joho which he says has made a big difference.

He said that placing garbage trucks in most dump sites within the city has helped a lot unlike earlier this year when the city was rotting with garbage everywhere even along the Central Business District. "It was really pathetic. I was even more shocked that a container full of garbage was intercepted in Mombasa port after being imported from United Kingdom when trash was everywhere in the city at the time. I thought may be Mombasa was gazetted as an international dumping site

Facts on

- Most adaptation options build on existing practices and sustainable agriculture, rather than new technologies (Jarvis et al. 2011).
- Many adaptation options—such as agroforestry—are also beneficial for mitigation, though the exact balance of benefits depends very much on local conditions (Jarvis et al. 2011).
- Changes to water and soil management will be central to adaptation for most farming systems. Pest and disease management will also be critical (Vermeulen et al. 2012).
- The selection or development of new crop varieties is an important adaptation response, and entails seeking out or breeding for specific traits depending on the local changes in climatic conditions (e.g. tolerance to heat, water stress, salinity or waterlogging) (Thornton et al. 2012).
- Breeding—such as breeding beans for drought tolerance—may be a limited adaptation option when climate change is associated with multiple, interacting environmental stresses (drought, heat, and low soil fertility) (Beebe et al. 2008).
- Breeding for future climates requires access to sufficient genetic variability in farmers' fields, the wild, and genebanks. About 90% of all genetic traits for rice, wheat, and maize are available in genebanks across the world, but only a much smaller percentage is accessible for many non-staple crops that supply vital micronutrients (Lobell 2009).
- More work has been done to develop drought-tolerant crops than heat-tolerant crops, even though many crops, including the major cereals, show major reductions in yields when exposed to high temperatures within the range of current and near-term climate change (Lobell 2009).
- Supplemental irrigation could help to mitigate the negative impacts of water scarcity, the most growth-limiting factor for wheat. It would allow for earlier planting and thus avoidance of (terminal) heat stress during the grain filling period. However, more irrigation water would be required in the future—on average 181 mm per season from 2080 to 2099 compared with only 134 mm historically—to satisfy basic crop water requirements (Thornton et al. 2012).
- Adapting to long-term climate trends may need different adaptation actions than adapting to increasing climate variability. In general, long-term climate change requires advance preparation such as long-term forecasting, anticipatory policies, and breeding for future climates. Increasing climate variability requires risk management tools such as improved seasonal climate forecasting and crop insurance (Vermeulen et al. 2012).

<http://ccafs.cgiar.org/bigfacts/crop-and-farming-adaptation/>





Photo Courtesy of: <http://kcdnkomarockswatch.blogspot.com/2012/02/let-us-keep-mombasa-clean.html>

without our knowledge!" he gasped! According to him, Mombasa County Government got a lot of criticism from the opposition after the workers went on strike leaving mountains of garbage all over, but it seems that situation gave the county leadership sleepless nights. He insisted that it's that pressure that made Ali Hassan Joho to act and ensure garbage accumulation in the city became a thing of the past and now he is close to achieving that.

"We can now see what the critics gave birth to. Today we can see many green semi-trailers stationed in every dumpsite within the city and suburbs. When these Lorries are full, the public can use the cell numbers written on the sides to call the authorities who immediately transport the garbage to required locations. Although our city is now in order due to this noble strategy, we expect more from the governor and his team" he said.

By fighting impunity in all the departments mostly the environmental docket, Kithome said Mombasa can be compared to Rio De Janeiro, the second capital city of Brazil which is known for environment conservation mostly through town beatification, garbage and waste management.

Kithome on the other hand urged the Mombasa county government to make use of all youth groups which have environmental programmes to achieve the reality of making Mombasa city attractive. According to him, youth groups have the potential of even doing better than those employed in the county government if only they are well

equipped, empowered and given the opportunity to participate. "When Mombasa was in crisis after workers went on strike, we saw youth groups in all six constituencies led by Jomvu Constituency participating in clean up exercises every Saturday in strategic areas and I strongly confirm that a drastic change was seen. "In our case, our area M.P Badi Twalib Badi did his best to ensure all groups got equipment from the County offices and within two weeks we had already cleared all garbage in the whole area. What changed now that those programmes are no longer there?" He questions.

On her part, Amina Khamis Ali the Chairperson of Big Ship organization which still carries the day on environmental issues in Mombasa County supported the efforts exercised at county level to ensure garbage and waste management is successful.

Amina said although the Governor and his team still have a long way to go, the far they have gone clearly shows Mombasa has a chance to shine if like-minded people work collectively without prioritizing their personal interest.

According to her, after the county government succeeds fully in garbage collection and transport, then another assignment is to relocate Kibarani dumping site to another location. She claimed that Kibarani is so polluted by the presence of the dumping site and apart from emitting gases that cause global warming; it is also a health hazard to locals residing nearby. "The only test remaining is where do they take garbage after collection? I

advise them to either relocate Kibarani dumpsite or they opt for recycling because that area is the gateway to Mombasa Island and that dumpsite portrays a bad picture to our beloved city. Recycling is even more advantageous because it will create employment for the youth. Let's go for what adds value to our generation." She urged.

She also asked the Governor to liaise with Jomvu Constituency MP Badi Twalib to ensure the first ever recycling plant which was established in Jitoni area becomes operational. If that plant works, Amina said most of the garbage collected in Mombasa County will be recycled there and that will be a big step in garbage and waste management. She cited that the plant has double benefits since it will help youth grow economically through employment and selling of by-products. Secondly it will help in environment conservation.

On the other hand the NEMA enforcement officer in Mombasa county Benson Wemali also confirmed that the county government is moving on the right track in management of garbage within the city and promised to assist the key players in ensuring Mombasa regains its lost glory.

"I think we have seen some changes unlike in the past few months when almost everyone was mad at the current leadership for allegations of failing to manage garbage. Now I can see trucks everywhere and that is a sign that if we give our Governor enough support, Mombasa will lead other towns in environment conservation." concluded Wemali

ENDS

Effects of Climate Change in the arid and semi-arid North

-By Ramla Abdi



Photo Courtesy of: <http://weadapt.org/knowledge-base/vulnerability/food-security-and-climate-changekenya>

Climate change has over the years had a negative effect on the communities living in the north. Due to the extreme harsh weather and lack of frequent rainfall, the communities in the north have been forced to adopt a certain livelihood – Pastoralism, in order to avoid the common shortage of food they face that results in numerous deaths of both human and livestock annually.

In the recent past, communities in these areas have been in wrangles, frequently fighting each other due to the reduction of pasture and water for their livestock.

According to World Health Organization (WHO) the drought in the horn of Africa has not only sparked severe food crisis but caused high malnutrition rates with Kenya and Somalia experiencing severe pre-famine conditions.

Kenya's pastoralists livelihood is based on persistent rainfall, but following the recent unpredictable rainy seasons, even pastoralists cannot fathom the seasons anymore. This change

in rainfall patterns is now being associated with Climate Change. The situation seems to be worsening every year with the local community unable to come up with long term solutions. Following the recent high inflation rates in Kenya and the rest of the world, food and other basic commodities have risen substantially making the lives of Kenyans living on less than a dollar a day even tougher. The situation has been worse for the drought-prone regions like the North Eastern Province.

Good news for these drought prone areas is that over the years the agricultural sector has provided these communities with drought tolerant seeds together with suitable fertilizers that are able to make use of the short rains received.

Issa Ndegwa, a renowned environmentalist based in Nairobi argues that if countries in Northern Africa such as Egypt are generally dry lands, yet they are able to produce enough surpluses for the country and even export to other countries, then why do we still have people dying of hunger in Kenya? "It is all about implementing policies to favour the

agricultural sector, because at the end of the day if there is no agriculture, there is no survival" He said. Kenya and many other African countries are known best to spend millions of shillings when a food crisis strikes. Questions are being asked by people living in these areas with little or no answers being given, e.g. "Have we forgotten about these people?", what happened to bills like drought management authority bill, drought contingency fund bill, climate change bill among others that have a direct bearing on issues of drought especially mitigation and adaptation of the situation?

The government of Kenya and Africa in general has for years turned a blind eye to communities living in arid and semi arid areas like in Kenya's North Eastern Province.

Despite climate change the government should ensure long term measures are taken to save the lives of these people. The only time the people of these areas become important to our leaders is during election period, where the communities living in these areas are filled with false and empty promises just to secure a vote.

Food “insecurity” a harsh reality for many

- By Barbara Nyende



Photo Courtesy of: <http://ag4impact.wordpress.com/2011/11/23/future-faces-of-food-security-in-africa/>

It's 10 A.M in the lush villages of Bungoma in Western Kenya in a remote village, Floice Wasike is going to her farm to plough her beans. She's quite skeptical if her crops will flourish as it was twenty years ago. Her heart is drained. If the short rains do not come as expected then well she will just have to brace herself for tough times ahead. She complains that days are no longer the way they used to be. She reminisces on the days she could plant her maize and beans long before the rains would set in and still it would rain as it was expected.

These days the rains either comes to early or too late and to make it worse the rains are quite unpredictable. She can no longer predict on the rains. Her weather instincts seem to be letting her down these days.

What Floice does not understand, is that the erratic rainfall patterns are due to emerging climate changes. In 2011, Kenya had one of the worst droughts that saw over a million of people especially in the arid and semi-arid areas face starvation. These indeed called for the government to set up the National Climate Change Response Strategy in 2010, to ensure the adaptation and mitigation efforts are integrated into all government plans and development objectives. These however suffered a thorough blow when the president failed to sign into law the climate change authority bill which sought to deal with global warming and

greenhouse emissions in Kenya. Global warming is the main culprit to climate changes in the world. Its effect on agriculture and human are indeed frightening and there's too much debate on it in politics and even the media, but unfortunately as we disagree about the causes, global warming effects are real, global and measurable. The causes are mainly from us the human race and the effects on us are severe.

Recently there was a climate conference in Warsaw, Poland there was too much blame game, African countries blaming the Western countries for the global warming menace, The African countries demanded for compensation, but so what if there's compensation and yet the damage has been done. When it comes to climate issues nothing can be compensated to the loss of lives due to starvation and floods. When it comes to climate issues Kenya and the rest of Africa does not need to debate about it but rather come up with mitigation and adaptation measures in order to be considered as a food secure continent.

The same way we fighting over oil wells in a half century's time we might be fighting over water wells may sound like a curse but that's the bare truth.

So much has been said about food security and yet no one has ever taken the leap of faith to walk the talk and and completely ensure that food is

secure for Africa and all its people. The reality of food insecurity can be felt at all the corners of Africa. Yet the linkages to this and Climate change has not been clearly outlined. Farming and food-production patterns have been largely altered. Africa needs to retrace its foot and see where the sun started becoming too hot for even plants and animals to survive. Industrial development which we have so enthusiastically embraced came with its myriad of challenges and it "killed our rains

With all the challenges of climatic change can we still be secure when it comes to food security? The World Health Organization defines food security as "existing when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life" but this is not the case in most African households.

A case of food existing to all people is a dream that can never be true unless we focus more on averting the drastic climatic changes that are now rocking the world. It is common knowledge that in Sub-Saharan Africa this term can only be heard when our politicians are campaigning for elections or in major world conference where leaders pay lip service but with very minimal results.

Kenya has not been left out when we talk about food security. most of the subsistence farmers rely solely on the rainfall patterns for food production.

Grooming the young to conserve the environment

- By Cyrus Akhonya

You cannot teach old cat new tricks!



<http://fountainyouthkenya.wordpress.com/projects/>

Simply put, we are what we were taught during our childhood. This must have run across the minds of civil society organizations in Kakamega County that have opted to engage the young generation in conservation activities through learning institutions.

Humphrey Buradi from the Western water and sanitation forum says they have engaged the young ones in primary schools with an aim of implanting a positive culture towards conservation.

The organization is partnering with schools to install water tanks to harvest roof water which mostly runs to waste during rainfall. In addition, they encourage hand washing and use of latrines. "We have realized that some virtues will never be absorbed even if the dead were to resurrect and teach us! Our approach has been wrong, trying to change people who have lived with certain habits for decades", he said.

The trick is to engage the younger generation so that they can grow up with a positive mind in taking care of their environment. The project is in collaboration with donors and partly supported through

community contributions. The organization spends over 3million Kenya shillings on the project which involves installation of water tanks, pit latrines, hand washing facilities and spring protection.

Buradi says that the danger posed by lack of sanitation in schools means that the same is being reflected to the community. "Lack of pit latrines means our water sources are threatened. For instance the Unicef recommended ratio of such facilities is 1:25 for girls and 1:30 for boys but in our schools, it has over stretched to over 1:40 and 1:55 respectively", he explained. He says that such a scenario of lack of proper latrines forces some pupils to relieve themselves in the bushes and in the long run, the waste finds its way to the water sources. This increases threat of water pollution.

To ensure that proper sanitation is followed up in the village, the organization funds spring protection by cost sharing with the community members.

"Most of the schools are day schools and it is useless for a pupil to learn sanitation at school only to lack it in the village. This is why we support the communities in protecting springs so that they

Most of the schools are day schools and it is useless for a pupil to learn sanitation at school only to lack it in the village. This is why we support the communities in protecting

can access clean water”, he said. The community is also sensitized on sanitation and the use of preserving clean water.

The director says that the project involves tree nursery planting in schools through the 4-K clubs to lure the children towards embracing the ideals of preserving the environment. One such school is Mwiya primary which has close to nine hundred pupils. The initiative targets to reach all the children and more from other schools. They encourage all the children to take up the act of planting trees.

“We appreciate the positive attitude from the county government that is willing to work with civil society organizations and we hope that by 2014, we will have planted at least 5million tree seedlings”, he said.

The organization is also counting on the new collaboration among stake holders in reaching the community hoping that people will internalize how to respond and adjust to water changes.

The challenge is shortage of funds as compared to the demand as many people are financially challenged and even their will to actively participate in environment protection is limited. There are also constraints of natural resources due to limited space. Wild animals have been pushed out of their habitat due to human activities and even the domesticated animals are not enjoying ample space.

Another key water source within Kakamega County is river Lusumu which runs across the county. The rate of dilapidation of the river has coaxed the Mumias Water Resource Users Association to engage doors in its rehabilitation. According to the chief executive officer of the organization who is also an environment planner in Kakamega County Simon Wesechere, the river flows a distance of over 70kilometers from Cherengani hills down to river Nzoia and plays a major role in the Kakamega County and its protection is inevitable. “We currently have a 1.6billion water supply project funded by the World Bank and river Lusumu is the key supplier. Without its protection, the project may be discontinued”, he said.

The association has embarked on rehabilitating the river banks and involving the community in the process. “The communities along the river have cultivated beyond the recommended reserve area and we are sensitizing them to plant friendly trees and engage them in income generating activities which can ensure its sustainability”, he said.

He says they received 875,000/- Kenya shillings for capacity building through the water services trust fund in 2011 and an additional 996,000 has been received from the government through the ministry of special programs. With more funding, He said, the project can support the community to start projects like bee keeping and dairy farming as a source of income so as to discourage deforestation. While ensuring that the community members take personal commitment in protecting the environment, the association boasts of positive collaboration from stakeholders including the ministry of agriculture, Kenya forest service and county government among others.

Understanding Climate Change

- By Scovian Lillian



Photo Courtesy of: <http://uenr.edu.gh/owsd/a-vulnerable-continent/>

One of the biggest threats to humanity and nature is climate change. However, this is a topic that many tend to ignore including the media. Sadly, it is mostly reserved for environmentalists although Climate change affects all of us

Climate change is a situation that occurs due to natural or human causes for instance changing weather patterns and emission of gases in the air especially exhaust fumes. It is a global catastrophe and Africa has experienced its implications both directly and indirectly.

It is a long-term shift of weather conditions illustrated through winds, temperature precipitation and other gauges. It can involve changes in both average and variability including extreme events since the earth's climate is naturally variable on all time scales.

Its lasting state can be regulated by the balance between incoming and outgoing energy which determines the earth's energy balance. Climate change poses geographical and economic impacts of which all do not stabilize a region.

Carbon dioxide is the main cause of human-induced climate change. It has been emitted in massive quantities from the burning of fossil fuels and it is a very long-lived gas, which continues to affect the climate system during its long residence time in the atmosphere.

However, fossil fuel combustion, industrial processes, agriculture, and forestry-related activities emit other substances that also act as climate forcers. Some, such as nitrous oxide, are long-lived greenhouse gases like carbon dioxide, and so contribute to long-term climate change.

Other substances have shorter atmospheric lifetimes because they are eliminated fairly quickly from the atmosphere. Therefore, their effect on the climate system is similarly short-lived.

Together, these short-lived climate forcers are responsible for a significant amount of current climate forcing from anthropogenic substances. Some short-lived climate forcers have a climate warming effect ('positive climate forcers')

Otula Owuor, a renowned Kenyan environmental journalist says that greenhouse gas and



<https://about.futurelearn.com/blog/climate-change-in-the-news/>

greenhouse effect comes as an effect of climate change whereby gases absorb abundant energy and re-emit it as heat.

“Major sources of greenhouse emissions include any human activities that burn coal, oil or gas. This includes transport, power generation and industrial activities such as cement production,” he says.

Although Kenya has little historical responsibility to climate change with insignificant emissions relative to the global emissions, the country is highly vulnerable to the impacts of climate change. Most of the population’s livelihoods and economic activities are resilient to climate change.

Nature is unforgiving and by abusing it we reap what we sow. The impacts are usually very harsh and the region’s demography is affected immensely. This too results to shaky economy that leads to loss of lives.

When climate change occurs it results to increased energy costs as true cost of coal is taken into account and much more energy lost. We can mitigate renewable energy to lessen effects.

Increased public health costs is another impact of climate change since change in climate leads to ailments for instance asthma that affects the population of a place. Seemingly the population ought to seek medical help which is expensive and thus unstable health cripples down human energy to give economic output.

Other climatic change catastrophes include reduced food production, poor rainfall, bad temperatures, floods, drought, lower food production. Poor agricultural lands, sicknesses and low tourism counts due to changing weather patterns. This impacts in a much negative way since tourism is a much vital economic organ for a nation. The Country then lags behind economically.

Adaptation to Climate Change is vital in order to reduce the impacts of climate change that is happening now and increase resilience to the future impacts. Various issues have been addressed by parties under convention bodies including The Cancun Adaptation Framework, Nairobi Work Programme on impacts, vulnerability and adaptation to climate change.

Issues related to National Adaptation Programme of Action (NAPAS) and supporting adaptation through finance, technology and capacity building under the Subsidiary Body for Implementation are as well in line with adaptation efforts.

For Kenya, adaptation to climate change remains the priority to reduce vulnerability and enhance resilience of the social and bio-physical systems. Mitigation actions that deliver sustainable development benefits of importance as the country strives to remain a low emitter in the context of national development.

The national Action plan set to achieve vision 2030 establishes enabling climate change policy and law, governance structure capacity development as forms of mitigation.

The adaptation fund and emerging funding established is geared towards vision 2030 and aims at helping International Partners to align their funding and investments with Kenya’s climate change priorities.

Africa governments must ensure climate change mitigation which includes partnering with other Continents since the catastrophe is a global affair, putting in efforts to curb emanating imminent disasters for instance floods, indulging in debates and conferences based on Climate Change mitigation, and the National Climate Change Action Plan.

Facts on Integrating Adaptation and Mitigation

- There are technical and institutional strategies for integrating adaptation and mitigation to achieve food security. Technical strategies include land and animal management practices. Institutional strategies focus on communication, governance and financial services.
- Sustainable intensification can increase agricultural yields per unit of land, water, nutrients and energy, within a holistic land use and food system framework that accounts for ethics and social equity (Garnett and Godfray 2012).
- Sustainable land management practices include soil and nutrient management, improved water harvesting and retention, pest and disease control, improved ecosystem resiliency, preservation of genetic resources and efficient harvesting and early transformation of agricultural products to reduce post-harvest losses (FAO 2010).
- A technical strategy for irrigated rice, Alternate Wet and Dry Irrigation (AWDI) allows rice fields to dry intermittently during the rice growing stage—instead of keeping the fields continuously submerged (Chapagain et al. 2011).
- The use of nitrogen-fixing leguminous trees in agricultural systems (agroforestry) improves soil fertility and soil moisture.
- Integrated livestock strategies—including grassland management practices and increased ruminant productivity and efficiency—can improve production efficiency and resilience.
- Other technical strategies include the restoration of degraded lands (by improving vegetation cover, soil organic matter, biodiversity and productivity) and the development of diverse, improved plant varieties that draw on local varieties, wild relatives and breeding.
- Needed institutional strategies include strong integrative policies and national-level plans for climate change across all sectors.
- Farmers need better and more easily available information, particularly on climate and weather, but also on policies and services. This would necessitate improvements in research, data and decision tools.
- Other institutional strategies include improved incentives and enforcement in forest governance and clear land allocation rules, including clear communal or individual land tenure for smallholder farmers.
- Community-based innovation, such as Farmer Field Schools for farmer education and empowerment, should be supported, along with local organizations and their capacity for collective decision-making and action.
- Voluntary standards, protocols and metrics are also among the institutional strategies for integrating agricultural adaptation and mitigation.

<http://ccafs.cgiar.org/bigfacts/crop-and-farming-adaptation/>

Urbanization challenges choking Nairobi

- By Biko Rading



Photo Courtesy of: <http://www.newsecuritybeat.org/wp-content/uploads/2012/07/>

Kenya is facing a new urban time bomb, with millions of Nairobi residents struggling daily for food and water.

International Aid Agency Oxfam International has warned in its recent report that the gap between the rich and the poor has widened and this is a threat to big cities like Nairobi.

Rapid urbanization is changing the face of poverty in Kenya. Nairobi's population is set to double to almost six million by 2025. In Nairobi, 60% of residents live in slums with no or limited access to even the most basic services such as clean water, sanitation, housing, education and healthcare.

Whereas the starkest poverty has previously been found in remote rural areas, within the next ten years half of all poor Kenyans will be in towns and cities.

According to Philippa Crosland Taylor, head of Oxfam International Agency in Kenya, there is need to act fast. "An increasingly disenfranchised and poverty-stricken urban underclass is set to be the country's defining crisis over the next decade, unless the Kenya government and international donors act urgently to address it. Nairobi is fast becoming a divided society where the gap between

rich and poor is now similar to the levels of inequality in Johannesburg at the end of apartheid. It is a city of a small minority of 'haves' and millions of 'have nothings'.

He added that children in Nairobi slums are now some of the least healthy in the country.

In some parts of the city, infant mortality rates are double those of poor rural areas, and half of young children suffer from acute respiratory infections and stunted growth. Acute child malnutrition is a growing concern.

The urban crisis has intensified over the past year, with people now earning less but having to pay more to survive.

Household incomes have fallen due to the global economic crisis, with casual and long-term employment opportunities dwindling as companies scale down. Meanwhile, the price of staple foods such as maize has more than doubled in the past year, with 90% of poor families forced to reduce the amount of food they eat as a result.

With drought devastating much of Kenya, the water crisis in Nairobi is one of the most severe in the country. Cholera cases have recently been reported

and are expected to increase as almost 90% of slum dwellers have no piped clean water. Forced to buy from commercial street vendors, the poorest people often have to pay the highest prices. The Oxfam report found that some poor communities pay eight times as much for water compared to wealthier communities in the same city.

The Oxfam report blames the Kenyan government for repeatedly "ignoring" the growing magnitude of urban crisis, and urged it to invest more funds and resources in improving life for the most vulnerable residents of Nairobi's slums.

Projects that improve access to clean water and sanitation, and boost people's income, are most urgently needed.

The report warns that the rising urban inequality is creating a huge underclass with serious consequences for the country's security and social fabric.

The struggle to survive has forced some of the most vulnerable people into crime and high-risk occupations such as prostitution.

Frustrated youth are increasingly turning to violence and with Kenya still politically volatile



Photo Courtesy of: <http://chm.pops.int/Implementation/TechnicalAssistance/TrainingWorkshops/Africa/AfricaAnglophoneNairobi2009/tabid/546/Default.aspx>

following the 2007-2008 post-election violence, the risk of ethnically-linked clashes in Nairobi's slums is being heightened by growing resentment over inequality and desperate living conditions.

Why urbanization is rife

Kenya's urbanization arises for a number of reasons. Rising birth rates and natural growth of the urban populations accounts for approximately 55% of urban growth.

Rural-urban migration due to factors including drought, conflict and rural poverty accounts for an estimated 25% of urban growth.

Employment:

People move from the rural to urban areas in search for jobs. It is believed that good jobs are in the urban areas and indeed most of industries are in the urban areas. These migrations of people from the rural area to the urban area in search of jobs always end in joblessness since many jobs are already occupied.

Better living standards;

Another reason that drives people away from the rural areas is the bad living standards in the rural areas. People therefore migrate to the urban areas where they expect their living standards to be better. Poverty levels in the rural areas is also higher than in the urban areas. People move to the urban areas with the expectation that life in the towns is better.

Better services;

The infrastructure and services in the urban areas are better as compared with those on the rural areas. People migrate to the urban areas where there are good roads, good hospitals, and good houses among others which is believed to attract people to the urban areas.

Opportunities;

People also migrate to the urban areas where they believe there are possibilities of expanding and gaining new experiences and ideas. For instance, starting a business in the urban areas may be easy since the needed resources and services are in the urban areas as compared to the rural areas. For example, roads, energy among others are easier to get access to in towns than in rural areas.

War, famine and disasters in the rural areas;

People also run away from the rural areas because of war, famine and disasters that mostly hit the rural areas. For instance, the North Eastern parts of Kenya have been hit by continuous wars which make people move away to safer locations which mostly happen to be urban areas.

Rural-Urban migration has the following effects on a city:

Congestion;

When a lot of people migrate to the urban areas, the first impression of that is overcrowding or congestion in the urban areas. Congestion in towns is the reason why the streets of Nairobi are congested every day. This congestion is also spread in the housing facilities where housing problems have been an issue in almost every estate in Nairobi and other towns.

Pressure on social amenities;

As people migrate to the urban areas, pressure piles on social amenities like hospitals, water and roads among others. This pressure in social amenities creates a problem in provision of good and quality services

Competition for jobs;

Many people migrate to the urban areas in search of job. As this number increases, it can be said that

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the employer gets the advantage of selecting from varied labour available but since they are many, there is a huge competition for the available jobs hence rendering others jobless.

Effect on rural economy;

Migration of people from the rural areas to the urban areas negatively affects the economy of the rural area. This is so because active and energetic members of the community leave the rural areas and go to the urban areas for jobs as they leave no one at home to improve the economy back at home.

Socio-economic effects;

Congestion of people in towns leads to social ills created by lack of jobs for those coming in urban areas to look for jobs. As a result of frustration and a feeling of not successfully getting a job, these people finally get into crime, prostitution and other social evils that destroys the society at large.

The urbanization issue is an ever ending problem that can always take time to exhort but these are some of the solution if well adapted then we can try and solve the issue