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Kateitwa Ishmael Oyesiga from Suubi Centre in Lwengo holding pawpaws at Suubi Centre

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EDITORIAL

Agriculture is one of the most vulnerable sectors to unevenness in climatic conditions that occurs at many time – related , from seasons, years and decades; affecting humans and livestock alike, this vulnerability in East Africa has rendered most land semiarid and arid climate. According to UNDP (2006), a single drought event in a 12-year period will lower the market value of all officially recognized final goods and services produced within a country in a given period (Gross Domestic Product) by 7%–10% and increase poverty by 12%–14%.Extreme events, including floods and droughts, which are becoming increasingly frequent and severe in East Africa, there by affecting millions of crop acreage.

In the region, most climate change projections indicate an increase in temperatures by about 2.5°C to 3.0°C accompanied by modest and seasonally up-and-down increases in rainfall (5–10 %) by mid-century. These apparently small changes in the climate have big implications for agriculture.

16th October is an annual global day to celebrate world food day, this year's theme standing as **"Agricultural cooperatives – key to feeding the world.**

Director-General of FAO, José Graziano da Silva in his address said that over the three decades of decline in national investments in agriculture and official development assistance, millions of small producers have struggled to respond and to cope with unevenness and crises in climate, markets, and prices. Since the food crisis of 2007/2008 many countries have renewed their commitment to eradicating hunger in the world and improving livelihoods.

He reiterated the need to eliminate hunger and malnutrition adding that "It has been said repeatedly that we have the means to eliminate hunger and malnutrition. What is needed is the establishment of an enabling environment that allows small producers to take full advantage of available opportunities".

What advantages are there for farmers to attain food security in the face of climate change?

This issue of the East African SusWatch dog carries the theme **"Agriculture, food security amidst climate change"**, where a number of articles provide experiences communities go through in search of food security, and attempts to answer this question.

As East African SusWatch Network, we want to join with the rest of the world in raising awareness about the challenges, opportunities and coping mechanisms of producing food, remaining food secure while adapting to climate change effects in East Africa.

Lake Victoria Stakeholders question Progress of the 2009 Kisumu Declaration

Stakeholders attending the LVBC 3rd Forum

Ken Oluoch

Many Civil Society Organizations members who attended the Lake Victoria Basin Stakeholders' Forum expressed dissatisfaction that their expectation of revisiting the Kisumu declaration of 2009 with a view of sharing progress, lessons and bottlenecks for implementation did not receive sufficient attention despite being the first specific objective of the forum.

The omission left may wondering if at all the 15 recommendations spelt out by the 2009 lake Victoria Stakeholder's Forum held in Kisumu will ever receive attention they deserve.

The Lake Victoria Basin Stakeholders bi-annual event dubbed Lake Victoria Stakeholders Forum was held in July 2012. The forum is organised by the Lake Victoria Basin Commission (LVBC) in collaboration with the key Partners promoting sustainable development in the Lake Victoria Basin.

The Forum forms an important component in the promotion of coordinated effort towards sustainable development of the Lake Victoria Basin, in line with the Shared Vision and Strategy Framework for management and development of the Basin.

The forum marked the third lake Victoria Basin Stakeholder's Forum held in Entebbe from 27th to 28th June 2012 under the theme "Enhancing Partnership for Sustainable Development".

Discussions were aligned along four key thematic areas namely of Natural Resources, Environment and Production systems, Trade and Investment, and Quality of Life. During the forum partners shared and exchanged their experiences with regards to their contribution towards the shared vision and strategy for management and development of lake Victoria Basin.

The forum was presided over by among others the first deputy Prime Minister and Minister for East African Community in the Government o Uganda, Rt. Hon. Eriya Kategaya ,the Executive Director of Lake Victoria Basin Commission Dr. Canisius Kanangire, the Executive Director of NEMA Uganda Dr. Tom Okurut, Director General Customs and Trade EAC Secretariat Mr. Peter N. Kiguta and the Assistant Minister for East African Affairs in Kenya Mr. Peter Munya among several other delegates.

Nevertheless, the forum went on successfully and came up with a list of 19 resolutions. What remains to be seen however is how all the stakeholders will commit themselves to the realization of the resolutions and avoid the fiasco that has been of the Kisumu declaration 2009.

The forum came up with the following resolutions

Promote compliance and strict enforcement of the existing laws and regulations in order to save the Lake and its Basin from further ecological degradation;

Adopt low cost improved waste management interventions, continuous awareness campaigns, and educational programmes to help reduce lake pollution and improve sanitation in the LVB;

Promote common approaches, policies and strategies to deal with adverse effects of climate change;

Provide leadership in interpreting a green economy model that will ensure a sustained economic growth, ensure social inclusion, improve human welfare and create employment opportunities in all sectors while maintaining the healthy functioning of the Basin's ecosystems;

Promote contribution of the private sector in supporting green economy through appropriate laws, policies, strategies and incentives;

Put in place measures to adapt to climate variability and address various environmental challenges in the Basin;

Promote the use of ARVs for HIV prevention now that it has been scientifically proven that use of ARVs reduces transmission and prolongs life;

Redirect resources towards lifestyle management in an effort to prevent and control communicable and non communicable diseases and enhance individual productive capacities;

Carry out periodic quality of life and living conditions assessment in the EAC region to inform policies;

Institutionalize science-policy dialogue to bridge the gap between policy makers and scientists;

consider the establishment and coordination of thematic research networks to build a critical mass of scientists in the region;

Put in place market-led incentives to enhance compliance to laws in EAC partner states;

Deliberately invest in marine transport to attract private sector and spur economic growth;

Adopt a coordinated and integrated strategy on infrastructure development in the Basin by harmonizing regulations that govern the operations of various transport sectors to facilitate SEAMLESS integration;

Develop security standards and disaster Management mechanisms to deal with distress within the lake;

Fast track the development of regional policies, regulations, laws, guidelines strategies and action plans for all strategic sectors;

Form a platform for institutions in LVB to generate and freely share knowledge, and encourage institutions in the basin to establish an East African information node to link up with other nodes around the world;

Improve communication products through partnerships with private Sector players in order to reach broader user groups through Public Private Partnerships and Business process out sourcing; and develop the basin as a digital society

More Agricultural Production using Traditional, Sustainable Methods encouraged in the Lake Victoria Basin Region

A flourishing cassava garden

Emily Arayo

The first Deputy Prime Minister and Minister of East African Affairs in Uganda, Eriya Kategaya has called upon people living in the Lake Victoria Basin to protect biodiversity through conservation while maintaining traditional, sustainable methods of agriculture.

Speaking at the third Lake Victoria Basin Stakeholders' Forum in Entebbe Uganda, the Deputy Prime Minister noted that natural resources whether in the form of fisheries, agricultural land, forests, minerals or water for domestic use play an important part in the livelihoods of people."Proper utilization of these resources can bring tremendous benefits to communities through increased incomes at the household level as well as create a congenial environmental outlook in the lake basin".

The Lake Basin with a catchment area of 180,950 has a population of thirty eight and a half million people (38.5 million) covering Burundi, Kenya, Rwanda, Tanzania and Uganda.

While cautioning communities around and in the Lake basin to employ sustainable practices, he referred to recent studies that have indicated over dependence on fishing and small scale farming which have escalated poverty levels. The studies have pointed apparent decline in the basin's biodiversity and ecosystem services and have recommended the implementation of urgent measures to reintroduce indigenous species which are ecological adapted to the region.

"A wise choice would be to cultivate traditional crops as opposed to genetically modified crops since they are generally more adept to climate change and can withstand environmental stress associated with drought, pests and disease attack". The premier added that "what ever choice one makes, the simplest but important truth is that if we want to retain biodiversity, we need to understand the value of biodiversity to man, both in economic and social terms, in order to develop mechanisms to conscientiously restore value to the communities managing these resources".

The lake basin currently faces stress from within the lake such as over-fishing, oil spills, untreated liquid wastes, water hyacinth, over-abstraction of water from the lake and its basin; stress on the **littoral zones** such as construction and farming in shoreline, conversion of wetlands, poor solid wastes management; stress from the lake basin with activities leading to land degradation, deforestation, inflow of water hyacinth, pollution from agro-chemicals, sediment loads, poor solid waste management and stress from outside the lake basin like nutrients (N and P) transported into the basin by air and stress from climate change effects. This calls for sustainable development based on wealthy creation while at the same taking care of the environment.

In the statement by the Executive Secretary of the Lake Victoria Basin Commission, Dr. Canisius Kanangire, was glad to note the completion of the East African Community Climate Change Policy as a response to the directive of the East African Community Summit. The policy that addresses adverse impacts of climate change within the region also provides for controls of potential opportunities pose by climate change, with in the principle of sustainable development.

He appreciated efforts made by the stakeholders of the second LVB stakeholders' forum and in regard to the progress of the Kisumu declaration, and noted that one of the most important outcomes of the second Lake Victoria Basin Stakeholders forum held in Kisumu in 2009 enabled LVBC to examine progress in regards to all the 15 measures the EAC and the Partners States were asked to consider.

Promotion of cooperation harmonised and coordinated actions between and amongst the relevant stakeholders in the management of trans-boundary ecosystem; including policy, legal and regulatory instruments endeavour to realise the Declaration's call to action.

He also noted that under the Lake Victoria Environmental Management Project Phase II (LVEMP II), LVBC has managed to contribute to this area through the completion of the Proposed Options for Establishing the Lake Victoria Environmental Trust Fund and Sources of Funding; Lake Victoria Basin Water Hyacinth Surveillance, Monitoring and Control Strategy; and a Basin- Wide Strategy for Sustainable Land Management in the Lake Victoria Basin. "I have no doubt that these strategies, when shared, understood and utilised, shall contribute to strategies, when shared, understood and utilised, shall contribute to environmental conservation and poverty eradication in the Lake
Victoria Basin", he said.

From Rio+20 Conference with out the real future we want

Kimbowa Richard

Experiences from Richard Kimbowa from East African Sustainability Watch Network, a delegate at the conference. He shares his moments in Rio in this Opinion article.

I participated in the Third Preparatory Committee meeting for Rio +20 and the UN Conference for Sustainable Development (Rio + 20) itself, as part of the Beyond 2015 Campaign Rio + 20 Task Force (see Box 1 below). Overall, it was an enriching experience despite the logistical challenges in relation to accommodation (I stayed in Barra Tijuca which is not far away from the main negotiations centre). This affected many people resulting in late coming / failure to turn up in the morning for the planned side events, in the late evening and at the People's Summit as they rushed to reach home early.

Despite these hitches, I treasure the time spent in Rio, as I believe I made my contribution to the Beyond 2015 Campaign in terms of participating in the events as well as documenting experiences that I shared out before and during the Conference. I also managed to learn a lot about different issues through the myriad side events that were organised during the course of Conference.

In these Rio + 20 negotiations, I was mainly following up issues related to civil society participation, rights, Sustainable Development Goals (the post 2015 development framework), and the Rio Principles

In my view the political leaders that gathered in Rio fell far short of coming up with an outcome document that made measurable commitments that are so badly needed in today's ecologically-stressed world.

Box 1: Beyond 2015 Campaign and the Rio + 20 process

Beyond 2015 is an international campaign aiming to kick-start and accelerate the post-2015 (and post Millennium Development Goals) planning process. This Campaign brings together more than 260 organisations, in over 60 countries - this includes over 50 organisations in Africa and 20 in the Americas.

Whilst participating organizations have a range of views regarding the content of a post-2015 framework, the campaign unites behind **one vision:**

- That a global overarching cross-thematic framework succeeds the Millennium Development Goals, reflecting Beyond 2015's policy positions.
- That the process of developing this framework is participatory, inclusive and responsive to voices of those directly affected by poverty and injustice.

Onions in a dry garden

Civil Society participation: Equality and non-discriminatory approaches essential

Enhancing the participation of civil society, so as to ensure the inclusion of vulnerable and marginalized groups in all relevant areas of policymaking, will be key to the process of designing the goals and their subsequent implementation.

The effective integration of the principles of equality and non-discrimination is likewise necessary to ensure the fruits of future development are fairly distributed while also preventing the costs of addressing global problems, such as climate change, from being forced onto those least able to bear them.

Rights: Sidelined at the crucial conference but crucial after Rio+20

While certain economic and social rights, including food, health and education, were recognized in the outcome document, commitment to the principles of transparency and accountability were far too weak to give these affirmations real meaning (Centre for Economic and Social Rights, 2012). In what amounts to the prioritization of corporate interests over those of ordinary people, the impact of environmental degradation on human rights - and the concomitant right to a healthy environment - were likewise sidelined in the Rio process. Civil society representatives attending were further frustrated by the lack of participation afforded to them, despite lip-service being paid to this key issue.

The absence of effective systems of accountability has been a critical factor undermining progress towards the achievement of the Millennium Development Goals. The successor development framework which will replace the current MDGs when they expire in 2015 should complement the sustainability goals emerging from Rio, and must likewise take human rights norms and standards as guiding principles if it is to prove effective (Centre for Economic and Social Rights, 2012).

The Sustainable Development Goals: late entrant but with a clear follow up

From Rio+20 Conference with out the real future we want

Nobert Nyandire

Sustainable Development Goals (SDGs) were absent from the initial mandate for Rio+20. They were proposed by Colombia in 2011 (which many saw as an alternative to the controversial 'green economy' discussions) and forecasted by others to be one of major outcomes of Rio+20. Rio+20 delivered a distinct process for sustainable development goals, but "coherent with and integrated into the United Nations development agenda beyond 2015," i.e. the follow-on to the Millennium Development Goals (CDSE, 2012). Given the interconnected challenges of poverty eradication, environmental sustainability, and equitable distribution of limited natural resources – as well as risks of duplication –, these two tracks must converge into a single future framework.

Rio+20 mandates an ad hoc working group to define goals that "incorporate in a balanced way all three dimensions of sustainable development and their interlinkages" with focus on priority areas guided by the outcome document, through an "inclusive and transparent intergovernmental process" with initial UN expert input. Learning from the shortcomings of the MDGs, the success of the goals will depend on the extent to which this process engages women and men living in poverty and grappling with environmental degradation.

Rio+20 sets in motion goals that will be "universally applicable to all countries while taking into account different national realities, capacities and levels of development," while committing states to "mobilize financial resources… to achieve this endeavour." This lays the ground for addressing unsustainable consumption and production patterns established by industrialized countries.

The United Nations General Assembly was mandated to appoint a group of 30 experts by September to design the new "SDGs".

The Rio principles

The Rio Declaration of 1992 consists of 27 principles intended to guide future sustainable development around the world. Reaffirming commitments to the Rio principles and to Common but Differentiated Responsibilities (CBDR) is essential to preserve the global partnership on sustainable development.

These were re affirmed in several parts of the Rio + 20 outcome document. Noteworthy is the specific re affirmation of the principle of CBDR at the beginning of the text in paragraph 15 which reads "We reaffirm all the principles of the Rio Declaration on Environment and Development, including, inter alia, the principle of common but differentiated responsibilities, as set out in Principle 7 of the Rio Declaration."

CBDR is also recalled in paragraph 191 relating to climate change and UNFCCC. The mention of CBDR and equity is of great significance and importance as those two principles were not part of one of the key outcomes of the Durban Conference (December 2011), the "Durban Platform for Enhanced Action" (Eurostep, 2012). Though this is very positive, the CBDR principle has not been specifically reaffirmed in particular sections of the text, including the SDGs and those relating to the green economy. It is, nonetheless, clearly specified in the green economy section that "policies for green economy in the context of sustainable development and poverty eradication should be guided by and in accordance with all the Rio principles, Agenda 21 and the Johannesburg Plan of Implementation and contribute towards achieving relevant internationally agreed development goals including the MDGs.

Elsewhere, CBDR which is an important sustainable development principle is still highly debated as developed and developing countries have different interpretations of and approaches to it. Developed countries including the EU argue that this principle only applies to environmental issues and that it can only be used in particular contexts

From Rio + 20: The way forward

From the Rio + 20, it appears that more work needs to be done by citizens, citizen groups and communities to sustain the Rio 'spirit' as political will seems to be wavering, while the planet needs urgent care.

In my view, we need to step up awareness raising and information sharing taking advantage of the social media and other ICT tools that have become available to us in this decade. This should be tied to support local actions to deal with sustainable development challenges (rising unemployment, food security, biodiversity, climate change, sustainable consumption and production, land degradation, water, energy, sustainable cities, financing and technology transfer), scaling up citizen access to information, decision making and justice among others

This should also go hand in hand with enabling these global citizens and citizens groups to link up, draw their plans for a better world by influencing processes like the post –Rio + 20 and the Post MDG processes.

AGRA unpopular in Africa yet known abroad

Good bean yield from good ban seed-Maintaining seed lines

Obed Mahenda

Melinda Gates the co-chair of the Bill & Melinda Gates Foundation, has expressed satisfaction on the significant progress that has been made in African agriculture over the past decade, and appealed for continued support from African leaders.

Addressing African heads of state, ministers, private sector representatives, the international community and farmers attending the African Green Revolution Forum (AGRF) agribusiness forum-2012, in Arusha Tanzania. She urged African leaders to re-commit to their pledge to help farm families increase their productivity.

The chairman of the Alliance for a Green Revolution in Africa (AGRA) Dr. Kofi Annan underscored the progress that has been achieved since the inaugural AGRF in 2010. He stressed the importance of empowering smallholder farmers to help them advance towards business-oriented agriculture. "Our focus on improving the productivity and profitability of smallholder farmers – most of whom are women – cannot waver. They are the ones who put food on our tables. They are the ones who care for our land and water resources," he said. "In the end, they will be the ones to propel the economic growth and development of Africa in the 21st century." He added.

His Excellency President of the Republic of Tanzania Jakaya Kikwete said Tanzania was moving on the right track in regard to improving the country's farming sector, adding that the government will continue allocating enough financial resources in the sector which employs 77.5 per cent of the population.

"We are poised to succeed in our quest for eradicating hunger and poverty in Africa through transforming agriculture. With the right policy mix, appropriate interventions being taken by African Governments, the continued support of donors, and robust participation of private sector both local and foreign, transformation of agriculture in Africa is an achievable undertaking," he said.

He noted that he was against damaging industrial farming promoted by the Gates Foundation.

Donors controlling the Alliance for a Green Revolution in Africa (AGRA) represented the interests of biotechnology corporations rather than African small farmers, said Friends of the Earth International on the eve of the annual AGRA Forum in Tanzania.

Multi-million dollar investments from the Bill & Melinda Gates Foundation -a major AGRA donor- into shares in biotech corporations, and revolving doors between donors and these corporations distort the agenda of AGRA in favor of profit-based, corporate-led farming rather than farming that benefits local people and small farmers in the region.

Through AGRA, multinational corporations are trying to control our seeds, land, food and then our lives. AGRA is not in the best interest of Africans, it is a Trojan horse for agribusiness," says Mariann Bassey from Friends of the Earth Nigeria.

It is high time African Governments stopped bowing to corporate donors and instead put farmers in the driver's seat. They must focus on funding ecological methods and preserving local seeds. Africa can feed itself with ecological agriculture and it is small farmers themselves who are the most important investors in farming.

In March 2011 the United Nations issued a report urging 'eco-farming' as the best strategy for improving farming in the developing world. The report challenged the wisdom of the Gates Foundation approach to agricultural development.

"If AGRA carries on with its green wash revolution, Africans will lose traditional and ecological farming that can feed people in the face of climate change. Instead they will have a toxic system that pushes farmers onto a chemical treadmill. This will be a disaster for their livelihoods and the environment and is the opposite of what we need, "says Kirtana Chandrasekaran, Friends of the Earth International's Food Sovereignty coordinator.

Sustainable family farming, agro-ecological production models and strong local markets have been recognized as the best way to feed people and protect the planet. In many developing

AGRA unpopular in Africa yet known Abroad

Obed Mahenda

Maintaining seed lines

countries underinvestment in the agricultural sector, the dismantling of public support programs and the impacts of trade liberalization have undermined the small-scale farm sector and national food production capacity, leaving these countries even more vulnerable to price volatility. Investment in the agricultural sector has focused largely on export crops to generate foreign exchange, forcing countries to rely on continued low international food prices to meet national food demand. That strategy has failed.

African leaders must know that we are in a very different world than that of the Africa Green Revolution era. Current energy, financial and climate crises increase the likelihood of future food price volatility unless small farmer's food production capacity is enhanced.

The bulk of projects funded by the Gates Foundation and its brainchild AGRA favor technological solutions for high-input industrial farming methods. These include patented seeds, fertilizers and lobbying for genetically modified crops (GMOs).Evidence from the roll-out of genetically modified crops in other countries shows that these crops push farmers into debt, cause irreversible environmental damage and encourage land concentration.

While AGRA favor technological solutions for high-input industrial farming methods such as GMOs, In Europe, public opposition to GMOs is rising and the area of agricultural land dedicated to GM crops is declining. 61% of EU citizens are opposed to GMOs. The area planted with GM crops declined by 23% between 2008 and 2010.

Opposition is also building in the US, the largest grower of GM crops. Two recent legal rulings have forbidden the planting of GM alfalfa, and ordered the destruction of GM sugar beet seedlings. Furthermore, Bayer, which is responsible for contaminating rice crops and causing major harm to non-GM rice farmers in 2006, is now losing court cases and being forced to pay compensation.

In India, this rejectionist trend is also evident, and is clearly illustrated by the moratorium imposed on the commercial release of Bt Binjal, in place since February 2010. GM rice trials are also being opposed by peasant farmers, who have torn up field trials in protest against the move to commercialize this vital food crop.

In July 2010, in response to civil society organizations who had highlighted the lack of impact assessments, the Federal Court of Paraná, in Brazil, suspended the commercial release of Bayer's GM maize, Liberty Link, thereby preventing cultivation of this GM maize variety across Brazil.

Farmers and local communities have also expressed strong opposition to GM crops in various regions of Uruguay, including the Department of Montevideo, which has enacted a precautionary measure on GM crops. Furthermore, in the province of Santa Fe, Argentina, local residents who have been adversely affected by the aerial spraying of glyphosate (Roundup) over GM soy crops, won a lawsuit banning the use of Roundup and other agrochemicals near homes.

AGRA's website says it works for a comprehensive change in the areas of seeds, soils, market access, policy and partnerships to trigger an agricultural "green" revolution in Africa. AGRA's main goal is to "sustain uniquely African Green Revolution.

It would be remembered that under the pretence of helping "poor farmers" and to help eradicate "hunger" in Africa, Bill Gates had joined forces with a gene giant to spear head a multi-billion dollar effort to transform Africa into an experimental field for corporations. The public relations flagship for this effort is the Alliance for a Green Revolution in Africa (AGRA), a massive Green Revolution project

Africa needs food sovereignty. Food Sovereignty is the right of all peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.

Food sovereignty puts those who produce, distribute and consume food at the heart of food systems and policies, rather than the demands of markets and corporations. It defends the interests and inclusion of the next generation. It offers an alternative to the current trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers.

Food sovereignty prioritizes local and national economies and markets and empowers peasant and small-scale sustainable farmer-driven agriculture, artisanal fishing, pastoralist-led grazing, and food production, distribution and consumption based on environmental, social and economic sustainability.

AGRA was set up in Africa - As machinery to destroy local seeds systems and replace it with their corporate controlled and gene revolutions. Much of Gates agricultural programme focuses more on gene/scientific technology, markets, investments on seeds, lobbying and the involvement of the private sector and partners.

Civil Society Calls for Broad Stakeholder Participation in Designing Africa's Post Rio + 20 MDG Strategy

Civil Society call for Broad Stakeholder Participation

Kimbowa Richard

The 14th Ordinary Session of the African Ministerial Conference on the Environment (AMCEN-14) has provided a platform for African Ministers to debate the key outcomes of the UN Conference on Sustainable Development (UNCSD, or Rio+20), and address other emerging issues related to sustainable development and the environment in Africa.

The meeting provided an opportunity to the Ministers to refine their strategies on a common approach to engage with the international community in the climate change negotiation process and in preparation of the 18th session of the Conference of the Parties to the UNFCCC (COP 18), to take place at the end of 2012 in Doha, Qatar.

Ahead of this Ministerial meeting, representatives of African Civil Society Organizations (CSOs) from more than 32 countries, organized by Pan African Climate Justice Alliance (PACJA) met from 7th – 9th September 2012 in Arusha, Tanzania and discussed environmental issues and impacts of climate change on people in Africa, the failure by the global community to find effective and lasting solutions to sustainable development and what needs to be done especially by African leaders in realizing a sustainable future for all.

Civil Society calls

At the end of the meeting poverty eradication; protection of environment, ecosystems and species; access to quality Education for all; sustainable agriculture, livestock and fisheries, food security; gender responsiveness; resource mobilization and management; were overarching priority areas of intervention identified by CSOs as path ways to achieving sustainable development and combat Climate Change in Africa. They observed that implementation of commitments is a pre-requisite to Africa's post RIO+20 Agenda. Particularly emphasizing that access to information; public participation and access to justice are key ingredients for an inclusive transparent and open sustainable development agenda (taking forward paragraph 76h of the Rio Outcome - *The Future We Want*, on CSO participation)

In this respect CSOs called on African governments to adopt a bottom-up participatory approach in designing of the Post RIO+20 agenda including the development of Sustainable Development Goals (MDGs) that are realistic, measurable and reportable and ensure that National consultative processes are held that are characterized by broad based participation.

" We urge AMCEN to initiate a process to develop guidelines for the constructive engagement, participation of civil society and the private sector and other relevant stakeholders so as to tap in our expertise and resources vested and further put it to use in the processes and programmes that ensure sustainable development in Africa," the CSO statement to the Ministers read.

The Arusha Declaration: Africa's Post Rio+20 Strategies for Sustainable Development

The Arusha Declaration on Africa's Post Rio+20 Strategy for Sustainable Development adopted by the Ministers stressed the need for Africa to capitalize on the opportunities presented by the outcomes of Rio+20. The ministers agreed to endorse an updated common position to ensure Africa's participation in priority issues such as the climate talks leading up to the 18th Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Doha later this year.

Other decisions adopted include the reaffirmation of the need to speak for the continent in one voice and ensure the adequate representation of Africa in all committees established for the follow up of the outcomes of Rio +20, the initiation of an African green economy partnership that facilitates coordinated support to member states and serves to implement the global partnership for action on green economy as a vehicle for poverty eradication, decent job creation and sustainable development, an agreement to consider the Great Green Wall for Sahara and the Sahel Initiative which aims to halt soil degradation, reduce poverty, conserve biodiversity, and increase land productivity in some 20 countries around the Sahara; as a flagship programme that represents Africa's contribution to the achievement of "*a land degradation neutral world in the context of sustainable development*" as recommended by the Rio+20 Conference.

AMCEN is a permanent forum where African ministers of the environment discuss mainly matters of relevance to the environment of the continent. It was established in 1985 when African ministers met in Egypt and adopted the Cairo Programme for African co-operation. The Conference is convened every two years.

Danger signs of food in security

Emily Arayo

Time check is 2:00 oclock, Fatuma Adyeri walks slowly back to school under the scorching afternoon sun responding to the loud gong of the school bell, dashing her hopes for a meal where she rushed home an hour earlier hoping to find a meal.

To her surprise there was no food prepared at home and little does she know that there might be no food for the evening meal. Reason? The dry season was very long and so planting was delayed.

Walking past the green gardens of beans and maize, it is no surprise that many people are working in their gardens at such an hour because they do not know what the weather will be the next day. As she approaches the school, many children just like her look hungry and disgusted as they peep at the school kitchen which is dilapidated, cold with no smoke or ash. Reason? Parents have not paid money to feed their children at school.

Such challenges of lack of food at school and at home resulting in hunger, malnutrition and starvation are becoming common because there is no surplus food to rely on until the next harvest; that is what this twelve year old school girl has to endure.

Many families may only afford one meal a day with fewer calories required for human development. It is true that food insecurity is relative and varies from season to season but there are cases in few parts of Uganda that have become high risk hunger areas that depend on relief food.

Food security is described by the Food and Agricultural Organization of the United Nations as a situation when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active healthy life. It is also a situation when people are able to get enough food to meet their daily food needs acquired from own production or markets.

This definition implies that families do not need to worry about where their food will come from in the future and it rests on food secure households having access to stable sources of food supply or incomes to purchase food.

To suggest the above is to imply that when households do not have food in their gardens, they will obtain food from the market, which is food security through the market. Albeit, few families can afford purchasing food in spite of their involvement in selling surplus of their farm harvests.

Maxwell Luketta an agricultural extension officer in Gulu says farmers are lured to sell their food yet they may not afford the same quantity of food sold with the earnings they get. "The market in Southern Sudan is lucrative and farmers sell food without proper planning because in the future they cannot afford to buy food with the income they get from the sales".Current trends of climate change, shortage of labour, pests and

disease infestation and low yielding seeds have rendered food security attainment a challenge to many households that no longer afford sufficient food to meet dietary needs; moreover food security has four dimensions of availability, access, utilization and stability of food.

While the food security continuum ranges from adequate intake with sustainable future supply of food, the worry about future supply, sub-adequate intake "hidden hunger', chronic hunger, acute hunger and starvation or famine; many families may not be aware of the time to ask for help before the situation folds into starvation leader to hunger and death.

A truck ferrying cabbages from farmers to the market

Danger signs of food in security

Emily Arayo

Dr. Tilahun Zeweldu in his presentation on Integrated Micro-farming for Sustainable Health, Food, Nutrition and Income Security in Africa at the NARO Scientific conference held from 1st to 3rd October 2012, says that health agriculture, food and nutrition are the holistic and integral aspects of wellbeing. "We may assume that when we have food to eat we are food secure but what nutritional security we have from that food. For some foods we may need to eat few portions to attain the required calories, while for other foods we may never attain the required nutritional levels because we will need to eat lots of such foods. He adds that under-nutrition leading to hunger is a result of food insecurity, living in poverty, ignorance, political instability, disrupted societies and war result in decreased physical and mental development, compromised immune system, and increased infectious disease, vicious circle of under-nutrition, underdevelopment and poverty.

If we are to be more food responsive to severe food security issues, people should be able to track food supply and availability trends and find mitigating ways of survival.

Varying food insecurity indicators help families foresee the danger of hunger. The presence of hunger itself is a sign of danger, inadequate energy intake, percentage of household income spent on production or purchasing food, emotional stress of fear of hunger, limited options of food consumed and high dependency ratios and care burdens for many people.

A more serious stage of food insecurity is where hunger is a common experience, chronic hunger when hunger is a long-term experience for people, while acute hunger is experienced when being without food is very frequent and hunger becomes a daily reality over an extended period of time. While starvation is the ultimate form of hunger, when there is simply no food to eat, famine is the period of time where there is a desperate shortage of food for a population, such that starvation and death are common place.

There are simple indicators of food insecurity leading to hunger and starvation, that people should be conscious of all the time in a bid to arrest the situation before it gets to the death level. Mc Edriss Elroy an accountant in Kampala says simple indicators in households such as food sustainability, levels and quantities of food purchased in a home are warning signs.

"When people do not buy enough food to feed many people, that is a sign that hunger is ardent", he says. "When people ignore the knowledge of dietary requirements but opt for quantity of foods instead of measuring the nutrition content, that is a warning to start thinking of alternatives", he adds.

Adam Musa from Makerere University says that indicators of food insecurity include lack of food reserves, diverse weather effects that affect production and storage of food. "Floods lead to rotting of root crops and this affects families that depend on cassava, potatoes and groundnuts".

Signs of food security are more visible in markets. A simple sign is the low supply of food meeting high demand of food. "When harvests delays, few commodities some of low quality enter markets and sold at high prices", says David Luwandagga a market linkage specialist with Farm Gain Africa. From the health perspective, malnutrition presenting in forms of stunting, underweight and wasting are signs of hunger and chronic food insecurity.

In Uganda malnutrition is widespread and the figures are worrying with stunting among under 5 year old children at 38%, wasting among under 5 year old children at 6%, underweight among under 5 year children at 16%, anemia among children at 73%, anemia among women at 49%, vitamin A deficiency in children and women at 20%.

Malnutrition is the main cause of deficiency. It is the inadequate intake of any one of the components needed for a balanced diet where the body's metabolism requires a fine balance of various nutrients to function optimally. A long-term shortage in any one nutrient affects the health functioning of the body.

This shortage may be in terms of the macro-nutrients like proteins or micro nutrients like vitamins A and C and minerals like iron. Some severe nutrient deficiencies can be directly observed, such as the 'pot belly' characteristic of the protein deficiency kwashiorkor or the bowed legs of a child with a vitamin D deficiency. Some deficiencies are not easily observed – such as widespread stunting among young children where most children in a community are short for their ages. Stunting is a common result of inadequate intakes of food by children. Worst in rural areas include northern and south western regions.

Food insecurity leads to vulnerability where people's likelihood of not being able to cope and manage series of food shortages and food insecurity. Vulnerability to food insecurity is the inability to cope with shocks, stresses and threats that affect availability, access and utilisation of food. However, the ability to cope rests on having buffers, savings, investments, insurances and safety nets to call on when faced with reduced food or the means to access food.

Vulnerability to food insecurity is likely to co-exist with multiple vulnerabilities such as poverty, illness, unemployment and crime. With the world's population more than doubling over the last half century, basics like food and water are under more strain than ever, say experts, and providing for an additional two people water usage is set to increase by 50% between 2007 and 2025 in developing nations, while food security remains a challenge with 925 million people going hungry.

To feed the two billion more mouths predicted by 2050, food production will have to increase by 70%, the U.N.'s Food and Agricultural Organisation says- 3 billion people in the next 50 years is a serious worry.

Demographers however point out that in richer nations, fertility rates have reduced, resulting in declining numbers of people and an imbalance between the working population and retired people who need expensive social safety nets.

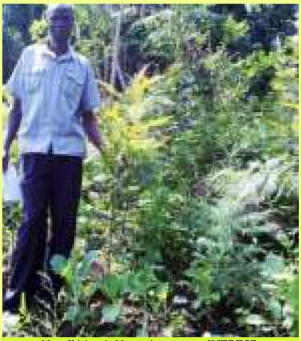
Experts say policies geared to population challenges need to be more targeted.

"Where population is shrinking, we need family friendly policies. Where numbers are growing, we need policies to ensure women have access to family planning," said Babatunde Osotimehin, head of the U.N. Population Fund, adding 215 million women want reproductive health services but do not have it.

Adequate food and nutrition is a basic human right yet it is one of the most violated of all human rights. Africa is the only region in the world where malnutrition rates are increasing while in Asia and Latin America, there has been a 60 % reduction in the rates of malnutrition in the last 20 years. Five million African children die annually equivalent to one child dying every 6 seconds, rendering malnutrition as the most significant silent killer.

Empowering rural farmers to promote food security. why EAC is concerned?

Mwayafu M. David



Yusuf kisiero in his garden as part of MERECP support agroforestry for CC

The East African Community EAC Treaty backed by binding documents like the EAC Common Market Protocol where the EAC undertakes to sustainably develop and promote agriculture and food security in the EAC, provides for the objectives of agriculture and food security as increased production and productivity, achieving food and nutrition security in the region, promoting investments in agriculture and food security, developing efficient agricultural markets and marketing systems and promoting agro-processing and value addition. The overall objective regarding cooperation in agriculture and rural development is the "achievement of food security and rational agricultural production".

Similarly, the East African Community Agriculture and Rural Development Policy (EAC – ARDP) has been developed as an initial step towards the implementation of the provisions of the Treaty. The Policy reflects the commitment of the Partner States to foster their economic co-operation for the benefit of their peoples. The EAC-ARD Policy will guide in the development of strategies and programmes and projects for realization of the objectives of the EAC.

Intendem, the East African Community Food Security Action Plan has been developed to address food insecurity in the region, which forms the initial step of implementing the provisions of the EAC Treaty as set out in Chapter 18 Articles 105 - 110. The EAC- Food Security Action Plan will guide coordination and implementation of the joint programmes and projects emanating from this plan.

The protocol also provides for cooperation in Agricultural research and development with the proposed EAC Sectoral Council for Science and Technology, developing capacity in the Agricultural sector, such as irrigation, rural and infrastructure; develop, promote, manage and conserve fisheries resources on a sustainable basis, establish and manage food security and early warning systems, promote and support development of sustainable water use and irrigation.

The agricultural sector is dominated by smallholder farmers with livestock, food crops, cash crops, fishing and aquaculture. East Africa largely depends on rain fed agriculture making rural livelihoods and food security to be highly vulnerable to consequences of climate variability and change. 80% of East Africans fend and derive livelihoods from agriculture yet it is hampered by its reliance on unreliable rainfall and absence of water storage facilities compounded by, poor land use practices and inappropriate technology and farming methods. The region is vulnerable to droughts and floods, changing temperatures and continuous seasonal changes. Future impacts are projected to worsen as temperatures continue to rise and rainfall becomes more unpredictable as stated in the East African Community Climate Change policy of May 2010. The question that looms in many minds is whether East Africa is ready to feed its growing population amidst challenges of food scarcity characterized by increased food prices and inflation.

Why Agriculture is Important to East Africa Economies

Agriculture is one of the East African most important sectors which accounts for about 44% of the GDP in Burundi and Tanzania, 30 % in Uganda, 24 % and 38 % in Rwanda, although its contribution to these economies continues to decline, hence great attention should be put in the sector while striving to achieve the Millennium Development Goals (MDGS).

Since agriculture employs over 75% -80% of the poor rural population, development of this sector presents a great opportunity for poverty reduction in a sustainable manner. Agriculture also contributes to foreign exchange earnings, employment and provides raw materials for agro-based industries medicine, timber and wood for fuel.

How committed is the EAC in promoting food security in member states

Through the EAC Agriculture and Rural Development Policy (EAC-ARDP) which recognizes the importance of eliminating hunger and ensuring sustainable food security within the region, an action plan has been developed to guide the implementation and actualization of a regional food security objective; where efforts have been made to increase food availability in sufficient quantity and quality through ensuring that food is effectively sourced from areas of surplus to areas of deficit in the region, strengthening current food information systems within partner states and facilitating easy access to trade policy and regulatory requirements for trade in food products (EAC- Customs Union, EAC SPS protocol, EAC - Common Market, Trade Mark EA in conjunction with the EAC Secretariat etc).

Initiatives have been undertaken to develop the agricultural sector with focus on improving access to food, putting in place structured trading system for food commodities and products for instance ware house receipt system, improving food purchasing power of individuals, households and communities, improving nutrition and food security. There is a common notion across the partner states that agriculture is the 'backbone of the economy'. It employs over 90% of the workforce in Burundi; contributes approximately 51% of GDP in Kenya; is a leading export facilitator and foreign exchange earner in Uganda; provides crucial raw materials for industrialization in Tanzania and is the ultimate answer to food security in the region.

Other commitments to agricultural sector as The EAC climate change policy which also seek to support the Food Security Action plan since climate change has a direct effect on Agriculture, the proposal for an EAC Climate Change Fund and increasing budgets for Ministries responsible for Agriculture in the EAC member states to 10% of the National budgets by 2015 and mainstreaming climate change in National Development activities.

The agriculture sector has been largely underfunded despite its potential to deal with both rural and urban poverty, create employment and bolster economic growth in many economies worldwide. On average, none of the partner states apart from Rwanda spends more than 5% of total government expenditure on the agriculture sector. Kenya has indicated that agriculture will be one of the key sectors to drive economic growth in the country in 2012/2013.However, no significant amounts of resources were allocated to this sector in the budget.

In the past East African leaders have committed their countries to improve the allocation of resources for agriculture in the region. For example, in 2003 at the African Union Summit the Maputo Declaration on Agriculture and Food Security was signed. This saw agreement from African Heads of State that 10% of the national budget allocation would be spent on agriculture development, and that agricultural productivity would increase by at least 6% as detailed in the Comprehensive Africa Agriculture Development Programme (CAADP).

Food security and climate change – What food crop to count on?

Susy Wandera

Agroforestry is a boost to farming

Vegetable Nursery garden

Kenya covers land areas with over 80% arid and semi-arid and about 6% arable land meant to grow food to feed a population of about 40 million, meaning that Kenya faces both food insecurity and water deficiency. The World Food Summit of 1996 defines food security as a situation when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life; while the government of Kenya categorizes food security as availability and location of food, accessibility, affordability and nutritional value.

The most important staple food considered by the majority of the population is maize, before beans, potatoes, wheat, rice, and bananas. For majority Kenyans, when there is meager maize harvest then to them there is no food despite the availability of the other staples. Why? Because maize is the predominant cop for house hold food security and for the market, it grows faster, can be stored dry and its agronomical challenges can be managed some times by famers alone without much expert advice. The pastoralist communities often query why livestock is not included in the list of items under food security, it seems livestock like fish and vegetables are regarded accompaniments to the dish of the "food" – maize from which" *ugali*" the maize flour pulp is made.

Transforming the underlying psychological importance of maize over other staple foods to minimize or adapt to food insecurity is important in the interventions to address the existent food deficiency Kenya is facing. While these observations may seem a bit light-hearted they do point to an unspoken challenge that hinders Kenya's endeavor to improve the food security situation.

Traditional high value foods such as sweet potatoes, cassava, millet and sorghum seem to require concerted advocacy efforts to be embraced as viable commercial options. Yet they are a critical variable in the ability to enhance food security.

The Commission on Sustainable Agriculture and Climate Change in 2011 reviewing scientific evidence to identify ways of achieving food security in the context of climate change recommended that Food systems should change to better meet human needs and in the long term be able to balance planetary resources. This would demand interventions, at local, national and global levels, in transforming current patterns of food production, distribution and consumption

It was also recommended that investment, innovation, and deliberate effort to empower the most vulnerable populations to construct global food systems that adapt to climate change and ensure food security while minimizing greenhouse gas emissions and sustaining natural resource bases. It was also noted that expanded investments in sustainable agriculture, including improving supporting infrastructure and restoring degraded ecosystems, are an essential component of long-term economic development.

These recommendations are familiar with people engaged in the climate change forum in general and in the Kenyan context in particular. However the most critical deterrent in our ability to implement these interventions seems always to be financial capital. There does not seem to be enough of it to facilitate all the competing responsibilities of providing enabling environments to meet the needs of the public by the duty bearer.

On a much smaller scale non-state actors endeavor to work with and inspire communities to carry out adaptive actions to enhance their resilience to gain food security, despite the grim figures highlighted by the World Food Programme (WFP) that by 2050, the number of people at risk of hunger as a result of climate change is expected to increase from 10% to 20 % more than would be expected without climate change; and the number of malnourished children is expected to increase by 24 million, which is 21% more than without climate change.

The photo of the water pan below taken in Wajir, an arid and semi arid region, is an example of an intervention utilized by some of the pastoralist community to improve their food security. From this pan water can be used for livestock and irrigation.

Deliberate action towards harvesting and storing water not only in the arid and semi-arid lands (ASALs) but throughout Kenya can contribute immensely to creating food security.

An added challenge that does not garner attention is the way climate change has been exacerbating conflicts between agricultural and pastoralist communities, on one hand and amongst pastoralist communities. In the past year conflicts have occurred in the Rift Valley region, amongst the Turkana, Pokot, Marakwet and IL Chamus who are all pastoralists. More recent conflicts erupted in Wajir, Mandera, Isiolo and Tana River Delta.

The Tana River conflict between the agricultural and pastoralist communities is ongoing. Whilst other reasons are fronted as the genesis of the tensions, the silent driver is climate change. What this does is further complicate Kenya's efforts whether from the government or non-state actors or a combination of both, to progress in carrying out their interventions of stabilizing food security under the shadow of climate change.

Wajir – water collection from a water pan

New Development in Maize Breeding as the first GMO tropical Drought Resistant maize variety in Africa is Developed

Emily Arayo and Dr. Clet Masiga

Diseased Maize Crop

There will be increased food supply for many households that depend on maize. With the successful transformation of nine transgenicvarieties coordinated by Scientists from the Association of Strengthening Agricultural Research in Africa- ASARECA and other partners. Transgenic refers to the technique of transferring genetic material from one plant or animal that contains genes from a different species using techniques of genetic modification.

This research was done to develop and provide drought tolerant maize varieties that are adaptable tothe East and Central Africa region.

Maize is the most important staple food crop in East and Central African households and just like many other crops in the region, maize production is affected by prolonged droughts as a result of climate change which is the single most important environmental factor responsible for up to 70% maize loss in the region.

Dr. Clet Wandui Masiga from the Agro-biodiversity and Biotechnology Program (AGROBIO) of ASARECA says that findings from the research show that plants transformed with drought tolerance genes show more tolerance to water deficiency, and some of the genes once incorporated into the maize genome are capable of helping maize to return to full recovery after completely drying up. He adds that "The plants can wither but can get back to life on rehydration by rain or irrigation after 24-72 hours".

The research was done with collaborating partners like Kenyatta University which was the lead Institution and charged with transformation training and supervision. At the transformation facility, maize genotypes were adapted, tested to establish their transformability and regenerability.

16 transformed genotypes have been selected for their transgenic state and are being advanced for risk and benefit evaluation through confined and open field trials to generate information required by regulatory agencies before their commercial release in the East and Central Africa region.

So what is the process that the maize plant goes through in resisting drought?

Enabling maize cells to conserve energy during intense drought periods by reducing production of an enzyme in maize called PART. (Evaluating drought tolerance in transgenic tropical maize over expressing ami RNA for maize parp1 gene.)

The CBF 1 protein confers tolerance to drought by sensing dehydrationand commands an army of other proteins to work towards protecting maize cells against the drought stress. (Development of drought tolerant maize using c-repeat binding factor 1 (CBF 1) gene through agro-bacteriummediated gene transfer)

The enzyme IPT instructs plant leaves to delay aging (or senescence) during drought. (Transforming tropical maize (zeamaysl.) with iptgene for improved drought stress tolerance)

Cloning and characterization of annexin-like genes for use in enhancement of drought stress tolerance in maize which helps maize defend itself against drought by protecting its cells from harmful oxidants called reactive oxygen Species (ROS)that accumulate during drought. This protection is provided by the annexinenzyme.

Per-oxiredoxinsmolecules act by reducing the amounts of the lethal ROS that accumulate during drought to ensure survival of plant cells. (Genetic transformation of farmer preferred tropical maize varieties and inbred lines using drought tolerant genes isolated from xerophytaviscosa).

The research involved countries like Ethiopia with two varieties, Kenya with three varieties, Sudan with two varieties and Tanzania with two varieties. All the nine varieties are due to undergo further scientific testing before they start the journey into the uptake pathways to the ultimate destination, which is the farmer's plate.

Women, food securiy and climate change

Poor storage

Agness Namwase from MAAIF Uganda

An Interview with Agnes Namwase, the Social Development Specialist at the Plan for Modernization of Agriculture department in the Ministry of Agriculture Animal Industry and Fisheries (MAAIF)

We start the discussion based on policy frameworks and implementation strategies in Uganda and in the region in regard to women, food security and climate change in the Agricultural Sector.

The Development Strategy and Investment Plan of 2010/11-2014/15, which is MAAIF's Development Strategy and Investment Plan (DSIP) for the agriculture sector, was one of the documents highlighted.

It is a revision of the 2005/06-2007/08 DSIP and comes at a critical juncture for agriculture in Uganda. This DSIP consolidates and harmonizes all the existing parallel policy frameworks in the Agricultural sector into one coherent plan.

In regard to women, according to the Uganda 2002 Population Census, the agricultural sector employed a higher proportion of women 83% than men 71%. At the same time, a substantial amount of women's time according o the DISP is taken up in providing care activities, so investments in improving smallholder agriculture will therefore help women more than it would in most other areas of investments. If the investment is carefully targeted, the gender benefit can be considerable.

In recognition of Climate Change and vulnerability to climate shocks which influence the performance of many sectors: agriculture, fishery, forestry, water, sanitation, energy, and industry. The DISP has therefore has been formulated in the context of an assessment of the risks from climate change, as they are currently understood, and not least in the context of their potential burden on the national budget. The issue is that decision-making must be improved and that national planning and budgeting processes (under DSIP, NDP, BFPs - both at the sector and local levels) will be informed by better analysis resulting in better identification of priorities and more capacity to address the most vulnerable areas first.

Specific impacts have been identified as causes of concern like the increasing frequency of drought, dramatic reductions in the snow cover in the Rwenzori range, rapid spread of banana bacterial wilt disease, probably associated with temperature increases and lower water levels in the lakes expose fish breeding grounds which affects the numbers of fish for subsequent seasons.

Closing in on the questions and Answers in regard to women, food security and climate change, Emily Arayo from Suswatchdog talks with Agnes on what the gender and climate change disaster issues are in regard to female and male farmers in Uganda?

Who is the most affected by climate change and food insecurity?

Agnes observes that women are the bread winners in many Ugandan households so in regard to food security women care for the food concerns of everybody in the home therefore we are concerned with food security which has issues to do with the seasons, the land, and the seed that can ensure that there is food security in the home.

The land. As the food planting seasons begins, women look forward to having ample food for their families. But the men will take priority in the land selection and take up the fertile parts to plant cash crops, leaving women with infertile land that is over utilized.

Issues on seed. Most women are not able to buy high quality disease resistant seed for weather changes, because they use farm harvested seed, which is not improved and has not gone through

Women, food securiy and climate change

Emily Arayo

segregation. Such seed has lost the pure standards of uniformity and other aspects of pure seed at the first generation, therefore such seed has a weaker genetic formation. They will use this seed and the results are poor yields and failure to be tolerant to the harsh climate change conditions like prolonged droughts or water logging.

Moving with the season. In most cases, poor women take long to open up land. In Teso for example where animal traction is used, such women plant late and could miss the season because they do not own oxen and ploughs there by making them first culprits of food insecurity. They will miss out planting seasons especially if the rains are fast. Because plant last, so if the drought came in after a short time, their gardens are vulnerable because of the dry spell. In terms of floods they suffer the same consequences, which washes ever thing before they flower or fruit because of the delay at the planting time.

Lack of improved technology and farm tools

In regard to technologies, the category that needs them most is the one that cannot afford them, if they are accessed through community programmes, women fall out in mechanisation. No woman will drive a tractor or work with an oxen plough because they cannot afford them it is an issue of poverty, lack of competence in using the machinery and accessibility as well. Many women use rudimentary tools so they crop smaller acreages of land hence less yields leading to perpetual food insecurity and hunger.

So what are the consequences of such scenarios for the rural small holder female farmer?

Agnes analyses the spiral effect of being food insecure in atypical rural setting where the woman is the sole food provide and without food, there is utter disintegration leading to other social calamities.

When there are poor yields, men run away from their families because the land has failed to produce. In some cultures, men consider women as food producers, which leads to domestic violence. Because of the devastating climate change effects, there will always be constant famine in some families, wife beating and sometimes separation because men will flee in search for women who can provide food or them, leaving their families till the next harvest season.

From a wider perspective Agnes considers women just like men are perpetuators of harsh climatic conditions due to the depletion of the natural resources in communities. She adds that women are victims of natural resources destruction because they disturb the natural biomass in the wetlands and forests in search for fire wood as fuel to cook food. A case in Jinja where men have sold land for sugarcane cultivation, men sell off the trees so women do not have firewood for cooking food. In a case in Jinja, some women use sugarcane husks and dry leaves to cook food because there is no fuel for food preparation. While in Mbale, the situation is not any better. Women use old plastics to cook, which are all health hazards affecting women by inhaling bad fumes of poisonous gasses affecting their health.

Coping mechanisms

Women have taken to casual labour work because the land has failed them so they earn from hand to mouth. Again in Jinja for each bundle of 50 sugarcane stalks tied, one earns fifty Uganda Shillings and this is the source of money for food form many women.

The role of Agricultural Agencies

The Plan for Modernization of Agriculture (PMA) and other agencies are promoting climate smart agriculture. Through agricultural Research and extension there are many technologies produced but the costs of technologies are still high for the women to afford. Coupled with the lack of knowledge, women may not obtain the information about the improved varieties and technologies. The liberalization programme is good but government supervision is in adequate to manage all processes to assure quality of inputs and farm supplies. The private sector needs regulation, which is hard because government supervisors are not enough. How can a few staff do all the supervision to check traders with adulterated seed and fake chemicals?

Farmers also have a low capacity to manage their farming systems to propagate seed like multiplying improved cassava varieties and have developed a tendency to get hand outs from government most of the time.

Are the women aware of the Indigenous knowledge on climate change adaptation?

In regard to the indigenous knowledge for climate change adaptation, women know them and are sharing it from generation to generation. They know when the rainy season is approaching and through the direction of winds, they can tell that it is planting season. It is science which has not tapped this information .But the Metroloists who are more empowered than the locals should utilize that knowledge.

Does government plan specifically for such poor women farmers?

Government plans for all farmers in Uganda but there is no strict budget lines specifically for women activities. The only way to be able to react to the concerns of such women is when there is a budget specifically meant for their activities.

We in government recognize that the biggest percentage of farmers are vulnerable women so if they have a willingness to help them, they should plan and budget for such through ministry departments. To the contrary, the departments in the ministries are concerned about technical issues but social issues are not well catered for gender mainstreaming can be excellent if the budget is approved for specific activities for the women.

Action is in the budget and the commitment is in the budget. After mentioning in the situational analysis they do not respond in the budget, that is where the gap is. Gender issues are considered as cross cutting issues just like climate change and HIV/AIDS are left at general levels.

Are there strong policies in Kenya for the advancement of women and food production?

Juliet Makokha

Banana wilt disease

Diseases make farming a challenge

Drastic weather changes resulting from Climate change has affected food production, transportation and storage, which has led to food shortages in Kenya.

The Kenya government is undertaking major policy changes at its various organs of operation including the key agriculture and livestock ministries and other sectors as stipulated in article 43C of the Constitution of Kenya.

Women form about 52% of Kenya's population. In 2007, their proportion in wage employment was about 35%, while the rest were in small scale subsistence production. Female headed households constitute 40% of Kenya's households, of whom 53% are poor women in groups and individuals engage in a number of food production activities to sustain their families, yet they are not freely left to get access and control the means of production nor are they remunerated fairly for their produce.

Despite the fact that women are the majority of food producers, they are not adequately and logically involved in the formulation of food policies from the household units to the government level. In most cases, they are victims of people who implement policies that have been made with no consultation. Some of the constraints affecting women's participation in food policies emanate from the environment and decisions made with less consultation leading to policies that are discriminatory o women efforts and roles in society. Agricultural planners were in the past not sufficiently sensitized on the importance of gender considerations in food production, while women are not sufficiently represented at the policy making level therefore there is limited access to formal agricultural education and training by women, failure to inherit land resources for production, heavy burden due to reproduction roles an traditional value attitudes which place women as subordinates to men and more complex is the difficulties in accessing credit to enhance their economic activities.

The current food policies in Kenya tend to focus more on the large scale farmer while ignoring the small scale farmer who produces a large percentage of food basically catering for the food security needs of households. This bias is pegged on the preference of commercial farming as opposed to subsistence farming.

Food policies are insufficiently initiated and implemented owing to lack of commitment of the officers concerned .To a logical extent, there are neither periodical monitoring nor effective evaluation to assess the changes which have occurred that could be shared as information with farmers.

Some of the areas of concern that hinder agricultural production are pests. A case in point is the army worms, which invade farms and destroyed a lot of crops. The government interventions in inadequate, hence the need to address agricultural policies reflecting on disaster management.
Small scale farmers largely experience similar pest problems in their daily food production activities and to a large extent the pesticides produced are of ineffective quality that do not destroy the pests to a completely.

Limited knowledge of application of fertilizers due to less interaction between farmers and agricultural extension staff. There is lack of professional application of chemicals and fertilizers. There is no more soil sampling to determine the appropriate pH of the soil in order to determine the type of fertilizer to be applied. Coupled with the high cost of fertilizers and agrochemicals, majority farmers in rural areas have resorted to natural methods of farming, which in most cases leas to low yields and poor qualities of produce.

Substandard seeds in the markets of very poor quality that are not developed t suit specific agro ecological zones are frustrating farmers more. Case in point, in Nyamira,Gucha, Narok, Kitale and Bungoma where farmers were supplied with genetically manipulated seeds. Food policies should therefore put controls of ensuring quality seeds and check on the prices for an ordinary farmer to afford.

Storage is another issue that farmers have to reckon with in Kenya where here is lack of appropriate storage structures that guard the produce against bad weather and destruction by rodents and pests. This renders a lot of the produce to waste after harvesting.

Agricultural Research remains low despite the presence of agricultural research institutions, their findings and recommendations are only good on paper and have not been given proper implementation to benefit the average farmer. Majority of the personnel in the research institutions are men and they tend to focus their attention to what was traditionally referred to as men crops leaving other crops like millet, sorghum and beans to women. There is a need to rationalize the procedures to ensure gender balance.

The challenge of feeding an ever growing population is a heavy task on the women who till the land to avail their households with food. In Kenya; population growth rate is higher than the food production. In some parts of the country, like Kisii and Bungoma population is as high as 517,000 people per kilometer. Food policies should address the disparities of population densities, to ensure maximum production to merge the growing populations. And when the food is produced, there is yet the challenge of transport infrastructure that connects the urban areas to the food production areas. Roads are impassable throughout the year, while feeder roads are not maintained. The poor infrastructure renders the perishable produce go to waste en route to the markets .Food policies should therefore examine the infrastructure network of the country and make an appropriate intervention measure to avoid further waste of food produce.

There is need for the Civil Society Organizations to promote approaches to political, economic, structural, social and cultural issues around food, based on a shared commitment and to confront unjust structural practices and attitudes related to food and other alternatives. But most importantly to raise awareness in churches, schools, communities and the public at large on issues pertaining to food and mobilize support for specific campaigns and train women on new technologies.

Food security amidst climate change challenges: the Masai resilience in livestock management

Emily Arayo

Dry spells stress cattle due to lack of drinking water and fodder

The lure of a passing cloud shading off a scorching sunny day rays is no good news for Masaai herd's boys. Just like the saying goes a passing cloud will pass by. It is not as exciting as the enticement of lightening striking the sky in announcement of rain or the thwack and patter of rain drops quenching the thirsty dusty earth and cooling the backs and heads of many. Prolonged dry seasons are torturous moments for the Masaai who trek many miles in search for water and pasture for their livestock.

Their retreats to water points are a sightseeing attraction along Tarangire to Dodoma from Arusha in Tanzania, the Masaai corridor reminiscent of cattle keeping, they are known as the nomadic pastoralists or the mobility lot of East Africa.

Dry river beds and mounts of sand unearthed in the graze treks eking erosion are a plentiful spot. The Masaai base their livelihood on livestock from which they depend on for food and prestige, wealth and source of dowry. Just like in any setting, **natural resources form the basis of livelihood for majority of population in Sub Saharan Africa. The Masaai livelihood set up hinges on the family, the herds of cattle and on the natural resources specifically land, water and pasture.**

Climate change and its attendant extreme weather conditions, pests and diseases, poor soils, low and unreliable rainfall and high population have devastated food, feed and water resources in East Africa .This has decimated the livelihood bases of livestock keepers whose sustainability system is cushioned by regular and predictable weather patterns, recurrent droughts, inequitable land distribution and over dependence on rain. The increasing intensity and frequency of climate change disasters has escalated risks and losses

Samuel Mutukaa a regional training and development advisor and a resource person for Pastoral studies at the Technical Centre for Development Cooperation in Tanzania says each one in the Masaai community benefits from each other "They are interdependent because everything is owned communally with decisions made by the elders".

Nomadic or mobility system is a cultural practice and a natural adaptation measure to the diverse effects of climate change that are affecting the Masaai, says Samuel."They move from dry areas in search of pasture and water leaving the bare ground to gain pasture. They mainly occupy the Mara region that crosses to Kenya, Kajiado, Namanga, Arusha,Lollondo, Mulundull and Logido so they have an expansive area to switch between the seasons". This makes them co-exist with wild animals since their settlements are also the game corridors and in a way the relocation is an adaptation of managing livestock disease spread by wild game like rinderpest.

Sustainability of smallholder livestock production in the East Africa is threatened by adverse effects of climate change leading to inadequate livestock feeds and water. To the contrary, the **Masaai built resilience in livestock management in the face of changing climatic patterns. How? By mobility, they move away from dry water pans to areas with water upon the start of rains they return. They have integrated livestock to include more resilient stocks like camels and donkeys which are more adaptable to prolonged drought compared to cattle.**

They have diversified their production systems through trade by selling or exchanging cattle for maize grain."They are now changing their lifestyle to agro-pastoralists by growing drought resistant maize varieties like 5213, 511 and "Katumani".

According to World Bank (2002) Majority of African population live in rural areas and rely on agriculture and other natural resources. As a consequence, rural economies and livelihoods are largely dependent on the use and management of land and other natural resources.

For the Masaai, they have adopted to settling around water resource areas of which they have become very protective of water sources as they preserve the higher land areas as reserve for grazing in the dry season.

"We negotiate with National parks and game reserves to allow us graze our cattle during the dry season and we ask farmers allow our livestock to graze on their farm stocks of maize", says Ole Loloipot a Masaai from Tarangire area. He adds that the climate change has resulted in many livestock diseases for which they have learnt to use conventional medicine in the management f like using antibiotics". We have become Para- vets and we have hands on experience in prescription and treatment of cattle,. We have also integrated bee keeping as a source of honey for food and sell, he adds. "Livestock management means one has enough milk, meat and blood to feed the people. Our food security is in the ability to have the cow graze and drink water", says Ole Loloipot who boasts of 700 heads of cattle and many small stocks of sheep and goats.

Unfortunately, pressure and competition on natural resources is intensifying due to increasing population pressure, resource degradation and commercialisation, impacting on both governments and communities and ever increasing population, to meet the demands of a growing population. In the face of climate change, improving resilience and hence sustainability of smallholder crop and livestock systems through boosting the adaptive capacity of smallholder crop and livestock farmers is a logical option.

Key among the Masaai interventions for climate change are technologies and innovations they carry on from their indigenous instincts and knowledge that are followed through the thread of elders to the young generation.

Unfortunately most of this knowledge resource is not documented but only exists among the Masaai, says Samuel Mutukaa."They observe every aspect of the climate like land, vegetation, water resources and wind. They know the direction of wind which is surveillance as an adoption measure. They do this by detecting the element of wind direction that indicates when the rain will fall and from which direction it will rain fast, temperature, humidity and atmospheric conditions which are all early warning mechanisms they use to project movement of rain and therefore enabling them also move that is why they are referred to as the mobile farmers.

Undesirable climate change and variability, high poverty levels, deteriorating soil fertility and per capita land and water resource base due to unabated population pressure; inadequate institutional arrangements and counterproductive policies in managing people and their livelihoods assets are major causes of chronic vulnerability of livelihoods in semi-arid zones of East Africa major cattle zones

The complex nature of climate change vulnerability causative factors calls for an integrated approach combining adoption of crop-livestock production enhancing innovations, water harvesting and conservation and management as well as markets, institutional and policy innovations addressing the above specific causes of livelihoods vulnerability.

Although the Masaai are resisting impacts of climate change through mobility, they need to learn how to plant more trees and preserve them as a water catchment practice for their livestock.

Reducing fish stocks means no food for many around lake victoria

Nobert Nyandire

Preserving fresh fish using Ice

Poor handling of fish

Small scale agriculture contributes more than 80% of food in urban centres, this contribution is however threatened by regular famine cycles escabeted by climate change among other conditions. The result of this is food prices spiralling out of control pushing over 70 million people to poverty and hunger.

Poor fishing habits in lakes and river have constrained the breeding capacity and growth levels of fish therefore management measures instituted to improve quality and consequent value of the small pelagic species should incorporate efforts to promote recovery of the large fish species. The dominant use illegal fishing gears (Beach seines, monofilament gillnets, undersized gears) and capture of immature fish should be checked. These are some recommendations to reverse the plight of over fishing in the Lakes of East Africa.

The fisheries of Lake Victoria have recently undergone rapid ecological and social change. Loss of diversity in terms of species, richness and economic opportunity has increased the system's vulnerability to additional economic, ecological, and social stress or is predicted with future climate change.

A baseline survey in August 2012 in the Lower and Middle Nyando river catchment in Kenya highlights on 3 livelihood interventions areas including but not limited to **Water and Sanitation; Renewable Energy and Aquaculture**. The most identifiable, significant livelihood activities or groups of activities found within the basin are mainly crop and livestock farming but with fish farming (aquaculture) as an upcoming economic livelihood activity.

Aquaculture has been introduced in the area to try and reduce the pressure on fisheries resources in the Lake Victoria, as well as provide an alternative livelihood source to the people. The major challenge facing fish farming in the area was availability of water as most of the river sources are perennial rivers. Other reasons given for low adoption of aquaculture are negative attitude towards fish farming as people believe that fish is found in the lake, over reliance on lake fish, perception that fish from fish ponds is not delicious, perceptions on palatability, security issues as fish is stolen from the ponds there by discouraging potential farmers, cases of fish pond poisoning has therefore discouraging farmers. To the contrary, high cost of start-up and high cost of inputs, water scarcity low levels of awareness on fish farming, poor pond management skills, and high hydraulic conductivity of soils which lower water retention capabilities.

Flooding was reported as a challenge in the lower Nyando area as flood waters wash away the fish in the ponds during rain seasons, while proximity to the lake was a major deterrence to aquaculture as the people close to the lake thought it was easier to fish in the lake.

Climate change and the Lake Victoria basin

The negative impacts of climate change will increasingly be felt in the waters and on the shores of Lake Victoria. Inter-annual and inter-seasonal variability in rainfall and temperature could affect the survival of aquatic life, increasing the variability of fish catches, while uncertain agricultural yields inland may bring new entrants into the fishery each year. The on- going influx of political and environmental refugees into the basin andthe fishery are likely to increase under all climate change scenarios (Myers, 2002; Awange and On'Gan'ga, 2006).

This climate change is attributed to pollution from commercial agriculture and urban development as the biggest driving force of climate change in the Lake Victoria basin. The indiscriminate cutting down of forest cover, especially the Mau forest in Kenya, Mabira, Namanve and Kalangala forests in Uganda, has also contributed to the greenhouse effect.

In Tanzania, forests along the Mara river as well as Simiyu; cutting down of forests in Magu and wetland destruction have contributed to climate change. The local authorities in the Lake Victoria basin have adopted interventions to counter climate change effects.

Environment Pedagogic Centres (EPCs) have been established in six different locations around the lake in Jinja and Masaka in Uganda; Kisumu and Homa Bay in Kenya; and Mwanza and Musoma in Tanzania, the centres provide an important focus for research, exhibitions and training on viable environmental and technological options that safeguard the communities against the effects of climate change.

These centres also promote participation, increased community awareness and knowledge about ways and means of protecting the environment. Elizabeth Birabwa, the LVRLAC information officer, emphasises the need to educate the masses on the issues pertinent to their ability to live sustainably, and on how to cope with climate change.

Because of such efforts, several community-led environment protection groups have emerged with the objective of monitoring and promoting the sustainable utilisation of natural resources within their localities. Satellite EPCs have also been established to enhance learning and boost incomes.

All these efforts may be in place but fish may never be available for all people if we only rely on Lake Victoria and do not adopt aquaculture.

Future interventions should focus more on ensuring adequate technical support to farmers who have adopted fish farming. Interventions should also focus on creating favourable environment for new farmers to adopt aquaculture, through provision of water, by investing in water storage such as earth dams and pans, and also provision of piped water.

fact sheet

POPULATION NUTRITION AND FOOD SECURITY IN AFRICA & UGANDA

World Food Programme (2010) in its website says

- Hunger is the World's number one health risk, it kills more people every year than AIDS, malaria, and tuberculosis combined.
- One in seven (1 out of 7) people in the world goes hungry to bed every night.
- One out of four (1 out of 4)children in developing countries are underweight
- Women make 60% of the World's hungry people.
- 65% of the world's hungriest people live only in seven countries (India, China, DRC, Bangladesh, Indonesia, Pakistan and Ethiopia).
- Iron deficiency affects 2 billion people world wide.
- Iodine deficiency affects 1.9 billion people worldwide and is the greatest single cause for mental retardation and brain damage.

Some Important Current Facts on Uganda

- 50% of the population in Uganda is under 15 years of age.
- Average caloric intake is about 1900 kcal which is below recommended amount 2300 kcal.
- About 35% of Ugandan Children are stunted.
- 65% Ugandan Children are below 5 years and 30% Ugandan women are iron deficient.
- 28% of Ugandan Children and 52% women are Vitamin A deficient.
- Only 12% of rural households in Uganda are significant net food sellers, 66% are net food buyers.
- Agriculture is the largest employer in Uganda with 83% workforce in the sector.
- Women account for 3 out of 4 agricultural labor force and 9 out of 10 food producing labor in Uganda.

NUTRIENTS	BANANA	CASSAVA	MAIZE	OFSP	BEANS	MILLET	SESAME	PEANUT	CARROT	RADA
CARBOHYDRATES	22.84g	38g	74g	20.12g	63.4g	145.7g	22.45g	16.13g	9.58g	127g
PROTEINS	1.09g	1.36g	9.4g	1.6g	20.9g	22g	17.73g	28.5g	0.93g	64.5g
FAT	0.33g	0.28g	4.7g	0.05g	1.1g	8.4g	49.67g	49.24g	0.24g	33g
FOLATES	30mcg	27mcg	19mcg	11mcg	606.3mcg	33.09mcg	97mcg	348mcg	19mcg	406mcg
VITAMIN A	64 IU	15 IU	469 IU	14,187 IU	6.0 IU	8.22 IU	0.0IU	0 IU	16,706 IU	3260 IU
IRON	0.26mg	0.27mg	2.71mg	0.61mg	5.9mg	1.1mg	14.55mg	4.58mg	0.3mg	13mg
ZINC	0.16mg	0.34mg	2.2mg	0.3mg	2.66mg	1.68mg	7.75mg	3.27mg	0.24mg	15mg

Key for acronyms used in the matrix

RDA Required Daily Average

OFSP Orange Fleshed Sweet Potato

Vit A Vitamin A

Macro and micro nutrient matrix for some important food crops of Uganda (per 100 gram) compiled from USDA

WAYS FOR WHICH FARMERS CAN ADAPT TO CLIMATE CHANGE EFFECTS IN EAST AFRICA

What is Climate Change?

Climate change refers to any long term significant change in the average weather that a given region experiences, including average temperature, precipitation and wind patterns for an extended period. These changes happen ranging from decades to millions of years and normally caused by dynamic processes on earth, external forces including variations in sunlight intensity and by human activities.

How can farmers adopt?

There is a challenge of food deficits due to low levels of production with a growing population to feed. Yet there are practices known by farmers and livestock keepers that may require a small investment and change the situation.

These are the facts.

- Planting fast maturing (shorter-cycle) crop varieties that mature before a dry spell or water logged season.
- Improved soil management techniques to retain soil moisture for the period the crops are in the garden for example rainwater harvesting, creating\ water channels in gardens terracing, curving ridges and mulching to retain moisture as well as soil fertility.
- Planting drought tolerant crop varieties mainly to abet prolonged droughts.
- Crop rotation as a way of maintaining soil fertility by planting different crops at different seasons in the same garden.
- Practicing agro-forestry (planting trees in the gardens), which help stabilize soil erosion and increase water and soil quality. These trees could also provide fruits, fodder for livestock and can be pruned and used as fire wood.
- Using manure from livestock or compost.
- Reduction in livestock herd sizes and adapting cross breeds that produce more milk especially cattle, sheep and goats. Also adapting other livestock types like donkeys and camels in arid areas.
- Cultivating fodder plants for animal feed and using reside crop stalks to fed livestock such as dry maize stalks, dry sorghum stalks and other adaptable animal feds like banana peelings. Also planting better forage varieties and fencing off grazing areas..
- Inter cropping by planting different crops in the same plot. This gives confidence to farmers that in case one or two crops fail others could survive.

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Attaining an HIV free society in East Africa by 2062

Emily Arayo and Agencies

If there is ever a one hundred million dollar question looming many minds is that "Will we ever have an HIV free society?" My guess is as good as yours. Yes and perhaps no, but "Yes we can with all our commitment to stopping it. A Uganda free of new HIV infections in 2062 starts with me. Commit with me to make it a reality in the next 50 years, starting with you. Do your part" says Dr. Christine N Lwanga who heads the AIDS Support Organization TASO Uganda.

As Ugandans commemorate the 50 years of Independence, many ask if it is possible to have an HIV free society in the next 50 years. Achieving such a scenario takes hard work, commitment and personal initiative if people commit themselves to make a difference."
To have a Uganda free of HIV infections starts with our minds. AS long as one believes in themselves and determines to achieve their goal, with God's help they are unstoppable", she adds. From Ministry of health statistics, in the recent past, Uganda was a model is bringing the prevalence down but recently infections are going high, a situation that Dr. Christine refers to as the enemy regrouping.

A recent survey by Dr. Alex Opio aimed at establishing the HIV prevalence, the associated divers of risk and vulnerability and the effectiveness of HIV AND AIDS response in the fishing communities in the Lake Victoria Basin of Uganda has revealed that 37.8% of adult men and women do not have the comprehensive knowledge of HIV and AIDS.

It also shows that a proportion of people between the ages of 15 and 49 year old had sex with more than two partners in the last 12 months (1year).Of these, 46% of men had sex with more than 2 sexual partners in the past 1 year and 11% of women had sex with more than 1 partner in the last 1 year.

In Kenya, the situation is neither better, there are increasing infections that medical workers are grappling with. Dr. Joel Rakwar a Public Health Consultant working with Winning Ways Consultants in Kenya decries of the appalling situation. He too has hope that the pandemic can be stopped.

He says that things are improving and getting better if only the behaviour change and life styles would change.
First cases recognised in early 1980's then initial blood testing in late 1980's followed by the sero-surveys that commenced in the early 1990's – single digit prevalence. Although the prevalence arose to double digits by late 1990's in many parts of Lake Basin and of course there was a significant squeal of HIV infection due to morbidity and mortality; and to date there are initiatives like the prevention of transmission from mother to child.

He presents the three paradigms that unlock the analysis of having this pandemic stopped.

" At the primary prevention level we are ensuring that those uninfected do not get the disease, at the secondary prevention level we are altering the natural history of the disease mainly through chemo-therapeutic agents, and the tertiary prevention level we are dealing with the long term consequences of the disease like physiotherapy, occupational therapy", he says.

He adds that the Primary measures taken so far to contain the spread of the disease is mainly through the use of information education and communication related to behaviour change, treatment of sexually transmitted infections and promoting the prevention from mother to child infections and counselling and testing and recently promoting the voluntary surgical male circumcision.
Dr Walter Omoding a general health practitioner confirms that male circumcision is a measure of preventing infections that could lead to HIV spread."For a man uncircumcised man having direct sexual contact with an infected woman may have more chances of contracting the virus because of the bruises that may contaminate with the body fluids of the infected person".

Secondary measures involve the treatment of opportunistic infections and the use of Anti-retroviral medications. Dr. Rakwar says that so far the effects of the control measures are gaining benefits although more effort is needed. He notes that in Kenya, HIV sero-prevalence has been dropping over the recent years from 13% in 2003 to the current 6% in 2012 while there is increased uptake of condoms and reduced mother to child infections from 30% in 2000 to 8% in 2011.

The challenges however exist and many people are still contracting the disease he notes "Sexual behaviour change is hard to achieve evidence of this abounds; this in an era of increased social freedom and our population set-up with growing youth that adventure in sexual encounters without caution, the bulk of our populations are under the age of 30yrs and there is increase in use of alcohol and drugs with attendant decreased inhibition. Increased poverty is leading to more commercial, while the there is increased use of drugs like Postinor-2 and viagra (and similar tabs), which are one of the hottest selling commodities at weekends".

There are challenges to transmission control, which he notes that a collective effort to address this situation will be beneficial. Youth disempowerment he says is dangerous because the more they are idle the more some yearn for sex. Then for how long will funding for HIV programmes be sustained to maintain the gains to date? Similarly there is message fatigue. People have heard the messages and campaigns against HIV transmission and they have gotten used to them that it seems not to be news any more "People designing the campaigns against AIDS should be even more creative and proactive in refreshing information all the time", he adds.

There is also increased susceptibility of females under the age of 20 years. "Because of the immature vaginal lining, sexual exposure in presence of raw endothelial/vaginal lining allows infections to get directly in the blood system due to the fragility of the young females .Mitigate against risk of young females getting infected. Younger age at sexual debut increases risk for females due to the biological factors of their reproductive track".

Much as it is an uphill task, Dr. Rakwar is optimistic that this burden can be tamed. He is optimistic that for as long as more HIV+ individuals are put on effective treatment, their risk of passing on the infection diminishes, and the longer they are on treatment the longer their health is sustained mitigating their morbidity and mortality. But what proportion of 10 year olds is currently infected? How can we keep as many (if not all) of today's 10 year old HIV free for the next 15 years? He suggests the keys to controlling the transmission first by designing a long term approach to control of HIV transmission as opposed to the reactive mode that we have been using previously.

Keeping sexual networks free of HIV so that it is only the HIV+ people who can keep the disease thus ensuring that as many of them are identified and put on effective treatment so as to lower the likelihood of the virus being spread to un infected persons. He notes that there is the need to re-visit the rights approach to control so that all patients are tested of HIV with or without their consent so that medical staff can ably handle infections.

Dr. Walter affirms this saying that doctors check for the unusual signs like high fever, skin rush and after laboratory tests including the HIV test, the patient is counselled and further tests ensue.

"We need to continue pursuing PMTCT at all levels, continue to take steps against factors that enhance transmission, control STI's and increase the rate of male circumcision. Most importantly, behaviour change communication must be directed to engage people at younger ages, we need to collaborate with the influencers of behaviour like the media".

The study by Dr. Alex Oplo shows that the HIV prevalence by number of sexual partners was highest among people with up to three partners with men at33.3% just like the women; while those with two sexual partners stands at22.1% for men and 32.1% for women and for those with one sexual partner it stands at 25.1% for women and 11.4% for men. This shows that for multiple sexual partners, there is a chance of having more HIV infected people compared to those with one sexual partner.

As to whether our grandchildren can have HIV and AIDS, Dr. Rakwar says that at least not at the level that we have had to deal with it. "If we do not take bold steps to deal with it at the level it is at, then they will see much more of the disease. If we do what we need to do, then their children might not have this disease as a major public health concern".

Dr. Walter observes that children are more exposed these days implying more roles by parents and teachers in communicating HIV/AIDS. "There is a role by the family, school and community .Adults should talk to the teenagers and find out what they do not know in relation to the sexuality and infections spread, their feelings towards the opposite sex. The best time to start talking to them is now".

Letters to the editor and up comiming events

Give us more translations

Dear Editor,

I wish to thank you for the SusWatch dog Newsletter. It is very informative and attractive.

I wish to request you to make a translation of the poster in Kiswahili to English so that we who do not understand Kiswahili can also understand the message. Apart from the nice picture showing a woman preventing a man from cutting down the tree, the rest of the words are in Kiswahili which I do not understand.

Thank you.

Rebecca from Gomba, Uganda

Response from the Editor:

Dear Rebecca, Thank you for the interest in the Newsletter and for your comment. We will address the language challenge. I do hope that you will share the posters with the people around you to understand the value of trees and to always caution people who are cutting down trees to stop cutting down trees without planting more trees.

Why are there few stories from Tanzania?

Dear Editor,

Iam Juma Mpendwa from Magu in Tanzania.

I wish to thank you for the Newsletter and the information that you are sharing with us especially about the energy saving technology. However, we are reading only one story from Tanzania. Is it possible for you to write more about issues affecting the environment from Tanzania?

Thank you.

Response from the Editor:

Dear Juma, Am glad you have noted that there is only one article from Tanzania. I urge you to send stories from Tanzania through our email address infor@easuswatch.org and we will publish it. We welcome stories from all over East Afrca. Our next issue will have the theme of "Sanitation and Health towards developing the East African Community". Thank you.

Up-coming Events

1. International Day for Biological Diversity 2013 May 22, 2013

The theme of the International Day for Biological Diversity 2013 will be "Water and Biodiversity;" the theme was chosen to coincide with the UN designation of 2013 as the International Year of Water Cooperation.

E-mail: CBD Secretariat, Phone: +1 514 288 2220

Website: http://www.cbd.int/doc/notifications/2012/ntf-2012-138-idb-en.pdf

2. Forum on Wetlands for Livelihood July 8 - 12, 2013 Kigali, Rwanda

This Forum is co-organized by the UN Educational, Scientific and Cultural Organization (UNESCO)- Institute for Water Education (IHE) and Rwanda's Environmental Management Authority to discuss current challenges and solutions to wetland management, and pave a way forward, both regionally and beyond.E-mail: Ken Irvine, UNESCO-IHE, Aquatic Ecosystems Group

Web site:

http://www.ramsar.org/pdf/FORUM_Wetlands_for_Livelihoods_2013.pdf

3. UN World Water Day 2013 (International Year of Water Cooperation)

http://www.unwater.org/watercooperation2013/about.html#wwd

intercropping ground nuts with fruits

Goat rearing a food security solution