



## Peddling Atomic Bomb Materials in Africa

By ScienceAfrica Reporters

It may have been underrated but the finding of highly radioactive materials smuggled from DR Congo into Nairobi, Kenya, by highly Kenyan detectives, is an eye opener to what may be undetected global trade in lethal radioactive uranium ores demanded by countries and

groups struggling to join the highly secretive world of nuclear energy and armaments.

The story begins with the rich soil of DR Congo. It is packed with the planet's largest samples of the most precious minerals including uranium with uses that are both beneficial and highly destructive as well.

Uranium ores emit penetrating radiations that

kill and maim those who handle such materials without protection. Lethal cancers of blood cells, bones, lungs and others body parts are among the many evil side-effects that could haunt thousands of bare hand Congolese locals allegedly excavating mines with radioactive uranium ores mixed with other precious minerals. The radioactive ores seem to have

found their way into Nairobi, Kenya despite what should be close monitoring by intelligence agents from superpowers.

Credible and updated scientific analysis of DR Congo's uranium ore mines including the famous Shinkolobwe mine near Zimbabwe

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### inside

#### Impediments to cervical cancer vaccination

By Naftali Mungai

IT is almost 20 years since the first Human Papilloma Virus (HPV) vaccine against cervical cancer was developed in the mid 1990's and phase II and III trials carried out in various countries by 2005.

GlaxoSmithKline has since obtained approval from the regulatory authorities to

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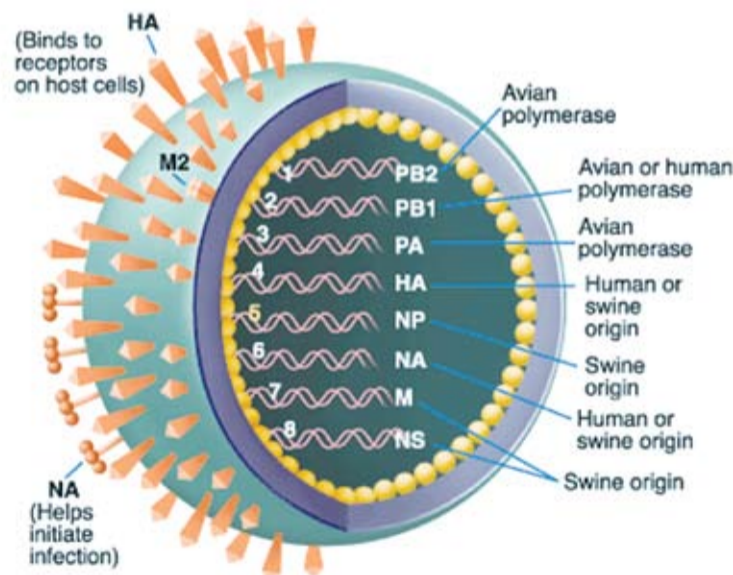


#### Woes of a young cancer patient

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# Dilemma Facing Health workers'

### THE UNTHINKABLE



Flu that killed 50m a century ago could be back

- Assertiveness needed: Politicians meddling in South Africa, Kenya
- Quacks, herbalists, faith healers lure patients from top hospitals
- Health Minister Osotimehin: Why Nigeria's healthcare must change.
- Plight of cancer patients: Policy change needed

Certain events South Africa and Kenya clearly show the need to protect the still noble healthcare professions from political intrigues. In South Africa nearly half of health managers are underqualified having gained these positions because of political patronage. Healthcare workers have to be more assertive if the continent is to cope with mushrooming health problems in both rural and

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● \$19.9m for Stress Tolerant Rice Research. — Pages 13

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## Finally Genetically Engineered Cassava Enters Field Trials

Plant biotechnologists at the Kenya Agricultural Research Institute are in the early stages of developing genetically modified cassava. However, one of Africa's two largest cassava producers Nigeria –followed by DR Congo- is the major centre of focus with its GM cassava project.

The ambitious attempt to bioengineer cassava into a "complete meal" took a step forward with

Reports by Aisling Irwin (SciDev. Net), Onche Odeh (ScienceAfrica Correspondent, Lagos, Nigeria) Elijah Bizibu (ScienceAfrica Correspondent in Hoima, Uganda) and Otula Owuor in Nairobi.

the approval of field trials by Nigeria's National Biosafety Committee. This is amidst exaggerated fear and propaganda by 31 anti-biotech groups

who are against using the 21st century science to improve what is considered an indigenous root crop despite its origins from South America.

The amount of beta-carotene, a precursor of vitamin A, in genetically modified cassava is 30 times higher than in the unmodified and it is hoped that it will ultimately contain increased levels of

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# Dilemma facing Africa's Medics

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urban areas. They have to constantly aim at the creation of an enabling environment that allows professionalism and delivery of satisfactory services to the public.

Doctors, dentists, nurses, pharmacists, lab experts and others with professional responsibility to improve people's physical and mental wellbeing need more say in the management of health systems including transparency and competition before appointments.

Ineffective use of the available skills is worsened by minimal funding and unneeded political interferences. This has contributed to the exodus of healthcare workers — especially nurses, physiotherapists and doctors — as detailed in our March/April Issue.

In Kenya, splitting the health ministry into two — medical services; and public health and sanitation — was to please squabbling politicians. It has caused so much confusion and it could get worse on return to single entity causing unlimited infighting among professional health managers.

Still, there was a period when top medical experts who headed Kenyatta National Hospital, — the country's top referral hospital — found themselves constantly fighting real or imaginary schemes designed to defame and push them out of office. Needless to say the



**There is need to improve working conditions and ensure availability of basic modern biomedical equipment and medicines.**

turnover of top managers was shamefully high.

Still, qualified political appointees in the health sector tend to lose credibility because politicians in Africa still brand these as favours and expect some kind of "payback."

The situation is common in South Africa where there has been a political rush to catch up with the "promotions and opportunities" that were stifled during apartheid.

However, it reached ridiculous levels when a highly qualified health minister, Dr Manto Tshabalala Msimang, started to sing the misplaced HIV/AIDS songs composed by her boss, former president Thabo Mbeki, an economist. The Chorus included betroot, garlic, olive oil and lemon being equal to antiretrovirals.

During South Africa's recent Fourth Aids conference it was revealed that many top healthcare employees had minimal training and experience. They had got their positions via risky political routes. However compared to others the country is advanced and is a major destination of African elites seeking treatment beyond their national borders.

But the recipe for rapid deterioration already exists.

While ministers of health are always political appointees worldwide, Africa's health sector stands to gain if competition is injected into the selection of permanent secretaries, directors of medical services, heads of top national and regional hospitals, directors of the numerous parastatals and specialist positions like the chief pharmacists, directors of public health, chief dentists and others.

The continent could make major strides if doctors and other healthcare workers agreed on the need to curb political meddling. Negative political influence should be curbed when it comes to the choosing of the top health managers at various levels.

Independent professional associations like the Kenya Medical Association, the National Nurses Association of Kenya and others deserve to be consulted more

frequently by the ministry of health even in budgetary matters that leave killer diseases like malaria, tuberculosis and HIV/AIDS to be mostly funded by donors. There is room for input from specialist association including those for heart experts, gynaecologists, pathologists, cancer experts, intensive care nurses, eye experts, dentists, paediatricians, kidney experts and others.

According to Dr Tom Egwang, the head of African Academy of Sciences, "the scientific and medical communities in the developing nations have a moral obligation to condemn the inertia and lethargy of national governments in providing health-care to the needy and must never be silenced by the constant refrain. There are no funds.

"Governments in the developing world have money. Yet public health too often takes a backseat to other 'concerns', including perks and privileges for political leaders, and military ventures that divert funds from critical social and economic needs. Combating infectious diseases in the era of globalization requires new skills and proactive leadership by healthcare professionals in developing countries — abilities and qualities that we, in the developing world, must develop and apply on our own," he says.

At the continent and national levels, it is notable that when African heads of state for example promised to give healthcare 15 percent of the national budgets by 2005 as per the Abuja Declaration, there was little or no highprofile lobbying and follow up designed to encourage implementation. Various professional healthcare organization or prominent individuals assumed it was probably not their job. Such budgetary allocation, if efficiently used could easily curb brain drain.

## False Herbalists

However, there is an emerging problem that is bound to get more complex. The perceived weaknesses in the healthcare system has opened the door for Kenyans to plunge into the "promising" world of false traditional healers and herbalists who are increasingly characterized by their cure it all proclamations including prime time adverts in national mass media outlets and recruitment teams.

In Africa credible traditional herbalists were specialists who in many cases would treat patients first and seek payment when they are healed. Still, there are modern herbalists who are injecting real science into their art and use extracts of plants that have proven clinical effects.

However, it is a boom in unscientific culture and superstition when agents of herbalists and faith healers with unproven claims, boldly approach relatives and friends of the sick with clear intentions of having them transfer the patient from elite city hospitals — including Aga Khan, Nairobi Hospital and KNH.

On the outskirts of Nairobi, a patient visiting a small private hospital and another who went to a missionary hospital found themselves being referred to various herbalists by the receptionists. In many cases those who seek the services of suspect herbalists end up paying more money than demanded by health facilities. A young woman who paid over \$700 dollars for diabetes cure from a herbalist ended up requiring appropriate diagnosis and treatment at KNH.

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## Impediments to cervical cancer vaccination

From Page 1

commence the marketing of such HPV vaccine (Cervarix™) in certain countries, and it has been sold in Kenya since Late 2007. However, few women in the country, and in developing countries in general, have access to this vaccine. According to the Medical and Regulatory Affairs Manager at GlaxoSmithKline (Kenya), Dr Francis Karanja, several factors impede access to the vaccine by women in the Third World. "The vaccine in Kenya costs between 60 and 75USD making it expensive for the majority of women," says Dr Karanja.

He adds that apart from the cost, there are other factors that come into play. These include lack of information about cancer of the cervix and the fact that vaccination to prevent this is not in the public domain. In developing countries, there is also competition from other new vaccines.

Delivery logistics for an adolescent vaccine is another factor since the HPV is transmitted sexually. "This makes targeting difficult in young girls because of the stigma attached to sexually transmitted infections," says the manager.

Dr Karanja says there is also resistance against changes to existing cancer control policies and coordination with cancer control programmes

Cervical cancer is the second most prevalent cancer among women after breast cancer. Approximately half a million new cases occur each year worldwide leading to over 270,000 deaths.

Almost 80 percent of these cases occur in developing countries, typically affecting women aged from 25 to 35, and it is the leading cause of cancer death in women in the developing world.

The GSK vaccine protects against 80 percent of the HPV types that cause cervical cancer and current studies which are ongoing show a protection of at least 6.4 years. Dr Karanja says there is no data on life long efficacy since the vaccine is still very new but using models to extrapolate its long term immunogenicity shows that cover extends well beyond the 6.4 years. There are two types of HPV, Types 16 and 18 and these two HPV types are associated with approximately 70 percent of all cervical cancers globally.

Additionally, GSK's vaccine has demonstrated cross-protection against HPV 45 and 31 which are responsible for another 10 percent of cervical cancers worldwide.

Dr Karanja says that efforts are being put in place to accelerate access involving several organisations. In September 2008, GSK partnered with the Kenya Medical Women's Association (KEMWA) to create awareness about cervical cancer screening and vaccination. Local meetings are ongoing with the Kenya Obstetrics and Gynaecological Society (KOGS) to increase awareness of HPV and cervical cancer prevention in companies with a keen interest in staff wellbeing (opportunistic vaccination)

GSK is working together with DVI with a view of achieving universal mass vaccination for females from 10 years up. GSK is also partnering with other stakeholders, e.g. Division of Vaccines and Immunization (DVI), Kenya Paediatric Association, and Department of Reproductive Health on formulating guidelines on how to administer the vaccine.

# Cancer Patients: Policy Change Needed Now

## KNH Cancer Unit Doing Much with Very Little

**C**ancer, high blood pressure, diabetes and other related diseases are still assumed to be minimal in Africa. It is a myth that has pushed donors, NGOs and missionaries to allocate more resources for infectious disease like malaria, tuberculosis and AIDS while practically nothing is directed towards non-communicable diseases.

One has to cook up figures to determine how much of Kenya's health budget is allocated for cancer. A visit to cancer unit at Kenyatta National Hospital, Kenya's top referral and training hospital, easily shows how the country has ignored the plight of cancer patients and the overwhelmed specialists -nurses, doctors and radiologists- who have to cope with a long list of poor patients from the eight provinces and some from neighbouring nations.

"Patients from all the eight provinces end up at the unit where each doctor and nurse handles up to 60 patients from very poor background," says Mr James Nyagah who helped found the organization Hope for Cancer Kids as support group.

The problem is that people are not diagnosed and treated consistently early enough while cost including purchase of drugs, chains of lab tests is relatively high for them, adds Nyagah.

In many cases poor people still believe that if they have been referred to KNH then admission is immediate. They hardly have the estimate of what it could cost.



KNH board may begin thinking about innovative ways of availing its skilled services to selected regional health facilities.

It should seek collaboration with selected hospitals in the developed world while the government and donors need to inject more resources - better pay, equipment, drugs, more training and exchanges- into the cancer unit.

They patients, who hold group prayers before going for treatment, are aware of their plight.

KNH also has one of the best palliative care units with experts who show unlimited sincerity including receiving phone calls at odd hours from the patients.

They have developed expertise from the unique experiences with cancer patients. Mr Nyagah whose son received cancer treatment at

KNH is strongly advocating for change of policy and other protocols with tragic consequences.

For many patients the journey for cancer treatment at KNH begins with a visit to local dispensaries or private clinics followed by district hospitals then provincial hospitals where they end up being told to seek treatment at KNH.

Repetition of certain tests depletes the little money patients have and this could be solved by close collaboration with KNH or the latter having its own extensions in the provinces. However, the demand for lab services seem overwhelming and without university of Nairobi's input it would an endless nightmare.

Many patients take up to three months to a year before reaching KNH exhausted and having little or no money.

## Plight of Cancer Patient — Seeks Urgent Help

IF he does not cover the huge swelling on the right side of his face everybody seems to stand and gaze without hiding their fear and surprise. The doctors in their daily jargon say it is osteogenic sarcoma.

However, it is a nightmare for the unemployed 23 year old Kennedy Otieno who hails from Kanyaluo in Rachuonyo district in Nyanza. Kennedy first visited Oyugis District hospital to seek treatment for what he knew was an injury on the right side of his face after a bicycle accident. He traveled severally to Kisii own to have X-rays of the injury taken and was than referred to Nyanza provincial hospital. They did tests and a biopsy to determine the nature of the emerging tumour.

Kennedy and those who stayed with him say they witnessed a sudden and



fast growth. He was referred to the dental surgeon at KNH where of series of tests and biopsy were repeated. The growth again seemed to swell fast and the doctors, matron and specialist nurses at KNH quickly put him on anticancer drugs. He has received chemotherapy four times. The tumour

was seems to be reducing slowly.

The tumour has displaced his jaws, teeth and pushing his right eye out. His food needs to be ground and he fears it may soon stop him from both eating and breathing. Kennedy needs help that could enable undergo full treatment including possible surgery. He had already taken four courses of cancer drugs as we went to the press. The treatment is expected to include complex surgery, radiotherapy and chemotherapy. Those willing to help could contact the cancer experts, matron and nurses at KNH cancer unit, The KNH dental Unit - maxillofacial- and KNH's palliative unit.

*(More information can also be obtained by calling 254-722-843101 or 254-738-142844 anytime).*

# Nigeria to Streamline Healthcare System

By Onche Odeh, Lagos

The Nigerian government has identified non-functional primary healthcare system, defective structure, poor financing and untoward attitudes of healthcare workers as the four major problems that have crippled Nigeria's health system.

These four key areas as highlighted by health minister, Prof. Babatunde Osotimehin, constitute the major gaps that have led to majority of Nigerians not accessing quality healthcare, especially in government-owned hospitals.

Another major fallout of these missing links in the country's health system is high cost of health services, mostly offered by private hospitals with a resultant high patronage of quacks and traditional healers.

Health minister of Africa's most populated country, however says, the government has commenced urgent actions to restore these and stem this tide.

The collapse in the country's the primary health care system is a major reason why the country's healthcare system has failed to live up to expectations, the minister said during an interview in Lagos.

He also mentioned fiscal decentralization, low accountability, fragmentation of service

delivery, human resource constraints, inadequate drugs, supplies and commodities and multitude of vertical approaches as other major problems affecting the performance of the health sector.

The World Health Organization (WHO) ranks Nigeria 197th out of 200 in the health system ranking and 187th out of 200 on health indices ranking.

In an attempt to reverse this poor health ranking, Osotimehin said the government has designed a strategic agenda, which focuses on how to strengthen the country's Primary Health Care.

"Strengthening of the national health systems is the overarching principle with PHC strengthening at the core," the minister said.

He said the strategic thrusts of the agenda is to revitalize the Health System with Emphasis on Delivery of quality health services through Primary Health Care, enhancing the stewardship role of the Ministry, enhancing financial resource mobilization through the expansion of the National Health Insurance Scheme (NHIS) and other Private Public Partnership (PPP) arrangements.

Meanwhile, the government of Nigeria's through its Federal Ministry of Health, is also working to enhance the coordinating role of the ministry and its interface with states and Local Governments.

In this regard, he said the government is discussing with the various state government on how they could assume full responsibility of the Primary Health Care in their respective states.

"The states have shown remarkable interest,

we only need to fashion out a strategy that connects the LGAs with the chairmen," Prof. Osotimehin said.

This, he said, would entail the active participation of the Local Government chairmen.

On why the government is making Primary Health Care the focus of its agenda, Prof. Osotimehin said, "The case for Primary Health Care in National Development is a slam dunk. PHC is cost-effective, equitable and likely to improve health outcomes."

He said, Primary Health Care services are pro-poor because they are located in rural areas and offer basic services patronised by the poorest segment, thus addressing equity.

"PHC services offer the most cost-effective services to serve the public mission. It costs three times more to treat a case of malaria in a hospital than it does at a PHC facility," he said. "Thus reversing the adverse health outcomes in Nigeria will by necessity require shifting resources towards basic services using PHC as platform for delivery in a sustainable manner."

To actualize this, Prof. Osotimehin said government is set to align incentives across all levels of government, strengthen the National Primary Health Care Development Agency, which is mandated to support development of the PHC system and improve expenditure management and financing.

He said the government has plans to engage in human resources development at frontlines to address the issues of health personnel attitude to patients, as well as domesticate health efforts by using traditional structures wisely.



Prof Babatunde Osotimehin

He said, the agenda is expected to deliver improved health outcomes and indices, greater investment in health, instigate progress towards attainment of health Millennium Development Goals (MDGs) and bring about reductions in inequalities in health.

"Only with these efforts shall we ensure that we achieve the President's seven Point Agenda and the Vision 20 – 20 – 20," he said.

## quoteunquote

"Thus reversing the adverse health outcomes in Nigeria will by necessity require shifting resources towards basic services using PHC as platform for delivery in a sustainable manner."

# Patent Issues Threaten

By Onche Odeh, Lagos, Nigeria

The seizure of a consignment of Antiretroviral drugs for HIV/AIDS treatment that were Nigeria-bound at a Netherlands airport by the Dutch Customs has, once again, brought to the fore how patency and intellectual property could hinder HIV positive people from accessing drugs.

Although the Nigerian government, through the Federal Ministry of Health, disclosed that the consignment which was seized by the Dutch Customs Authorities in January 2009 at the Amsterdam Schipol Airport in the Netherlands had been released and brought to the country, it shows how authorities could ride on patency and intellectual property rights to cause drug supply gaps in countries that are in dire need of them.

The seized consignment of drugs (500 packets of Abacavir 300mg) was manufactured by Aurobindo of India and ordered by UNITAID on behalf of the Clinton Foundation for distribution in Nigeria. UNITAID is an international drug purchase facility, established to provide long-term, sustainable and predictable funding to increase access and reduce

prices of quality drugs and diagnostics for the treatment of HIV/AIDS, malaria and tuberculosis in developing countries

Special Assistant on communications to the Minister of Health, Mr. Niyi Ojuolape, in a statement said, "The drugs are "second line" antiretrovirals meant to treat patients who no longer respond to the normal initial medicines given for HIV."

He confirmed that consignment is currently on ground in Abuja .

"The incident of the seizure has shed more light on issues of patency and international property rights relating to the shipment of legal generic drugs bound for developing countries," he said.

Acknowledging the release of the drugs, UNITAID said, "UNITAID acknowledges the Dutch Authorities' efforts which have led to the release, on 12 March, of a shipment of UNITAID funded AIDS medicines."

It confirmed that the 49 Kilograms of abacavir sulfate tablets, used in the treatment of resistant HIV/AIDS, were headed to Nigeria for a treatment programme.

"UNITAID was concerned for the patients waiting for the drug, but we are now satisfied that the treatments have already reached their destination," the agency stated.

UNITAID had issued a statement on March 4, stating the claims by the Dutch Customs that the drugs contained counterfeits were misleading.

"The tablets are NOT counterfeit nor does this shipment infringe other form of intellectual property to our knowledge. They are medicines used in second-line treatment of HIV/AIDS manufactured by Indian company Aurobindo. These medicines have been pre-qualified by the World Health Organisation and have received tentative approval by the United States Food and Drug Administration," UNITAID stated.

According to the body, interruption in HIV therapy is extremely dangerous and can cause resistance to the medicines, adding that it is worried more generally about the trend that seems to have taken hold in recent months where generic medicines are stopped or confiscated while transiting through the Netherlands .

"Generic medicines are not counterfeit medicines. The Aurobindo abacavir tablets are legitimate products and there is no reason to raise concerns related to counterfeiting," it said.

Generic drug seizure took centre stage at the meeting of the World Trade Organisation



(WTO)'s Council on Trade-Related Aspects of Intellectual Property Rights (TRIPS Council) in Geneva on March 3 and 4.

At the meeting, developing countries criticised the EU, saying that the recent seizure of a shipment of generic drugs

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seems lacking. However, the mines could still contain traces radioactive gas called radon capable of causing lung cancer when inhaled. Cumulative effects of even low level exposure to radioactivity include genetic defects. History of radioactive minerals - uranium radium, polonium, plutonium and others - show that they were initially handled without protection. Thousands of people including businessmen, workers at smelting plants and transporters acquired horrible diseases and died. Still radioactive ores were once used in decorations and ornaments.

However, none poses more danger to the wellbeing and survival of millions of people in East, Central and Southern Africa than DR Congo's uranium ore mines that were once assumed permanently sealed off by Belgian colonial powers nearly five decades ago.

Still, uranium ores exist in Namibia, Niger, South Africa, Botswana, Uganda and others. However because of its turbulent history, DR Congo poses the greatest risk as source of uranium sought by rogue nations and evil groups seeking to make even "dirty" nuclear devices.

Worldwide there is renewed interest in highly radioactive materials as fuels for nuclear power plants that are nowadays branded clean energy sources needed to curb carbon dioxide emissions linked to climate change.

Countries like South Africa which is to decommission some nuclear power plants may be planning for replacements while others like Sweden which had shut down nuclear power plants now seem ready to operate them. Even Kenya has expressed some interest in having



An Atomic Bomb explosion. Prof Abdulzarak (inset) says there are many important peaceful uses of nuclear energy beside the atomic bomb.



nuclear plants. Kenya's Prof Shaukat Abdulrazak who heads the National Council of Science and Technology says that

"nuclear energy should not be always equated with bombs. It can be used to improve health, energy supply and agriculture.

However, Africa needs more advanced hands-on science and technology skills to harness DR Congo's resources in a systematic way. Its uranium ores mixed with other very precious minerals lure many into the vast country with a population of 66m. people who seem trapped in the world of "underground trade" linked to war and lawlessness.

There are too many nations desperately seeking uranium or unpurified ores. DR Congo has provided a rich hunting ground for decades.

So when Kenyan security men brought to court men accused of "hawking" highly radioactive material in a thick walled metal box it confirmed that lethal uranium ore from DR Congo is being peddled to strange destination especially through neighbouring countries with minimal law and order and no skilled security men and women.

The arrest of the smugglers is definitely a major achievements at both local and international levels. The University of Nairobi nuclear science experts claimed level of radioactivity from the material was too high for their equipment to measure. This was followed by media information that the US had taken the

samples for further analysis.

DR Congo closed the uranium ore mines in 2004 after reports by Arnaud Zajtman, BBC correspondent, claiming that nearly 6000 people were illegally extracting the radioactive uranium ores from Shinkolobwe mine.

However, even more chilling were reports that the radioactive ores excavated by bare hand miners just seem to be vanishing.

Americans used uranium from DR Congo to help make the atomic bombs that vaporized Japanese cities of Hiroshima and Nagasaki killings and maiming people in hundreds of thousands in 1945 to help end the Second World War.

Nowadays many nations seek opportunities of turning uranium ores into doomsday weapons. When India exploded its home grown atomic bomb the public jubilation to mark new military supremacy tuned into overnight sorrow because their, archenemy, Pakistan, quickly exploded their own in greater numbers.

Israel is said to have destroyed Syria's nuclear power plant before completion while Iran, like Korea, swears it has the right to make atomic bombs. In short the demand for uranium ore is high and what Kenya's security experts found could just be the tip of iceberg.

The same technology - including high speed centrifuges- used in nuclear power plants could be used to purify uranium into atomic bomb materials for mass destruction. Controlling such technologies when nations seem to be rushing to acquire nuclear power plants remains a nightmare. In Africa it is not known how many people have been exposed to potentially lethal uranium ore radiation.

It is a wake up call for revitalization of Kenya's Radiation Protection Board which should have been at the forefront of helping detect smuggled radioactive materials.

# Access to AIDS Treatment



en route from India to Brazil through Europe violated trade rules on intellectual property and had significant implications for the availability of affordable medicines in poor countries.

The criticisms made by the Participants at the gathering also brought back, long-

standing disagreements on three issues. These issues are extending to all products the strong protection currently accorded to geographical indications of wines and spirits (GI extension); making it mandatory for patent applicants to disclose the origin of any genetic resources and/or associated traditional knowledge involved in their inventions; and the establishment of a register for geographical indications (GIs) of wines and spirits.

But the most heated exchanges of the meeting concerned the drug seizure, which has been generating controversy since it first made headlines in January (see Bridges Weekly, 28 January 2009, <http://ictsd.net/i/news/bridgesweekly/38841/>).

The tiff began in early December, when Dutch customs officials confiscated 500 kilograms of the drug losartan potassium that was docked in a port in the Netherlands while in transit to Brazil. The Dutch authorities held the shipment for 36 days before releasing it to the exporter, who sent the drugs back to India, where they had been manufactured.

At a meeting of the WTO's General Council in early February, Brazil and India chastised the EU for confiscating the drugs, which are used to treat high blood pressure,

calling the seizure unjustifiable and charging that it had prevented Brazilian citizens from obtaining life-saving medications.

"Measures of this nature have an adverse systemic impact on legitimate trade of generic medicines, South-South commerce, national public health policies and the principle of universal access to medicines," the Indian representative told delegates.

Brazil asserted that, far from being an exceptional case, as the EU had argued in front of the WTO's General Council in February, incidents like this occur rather frequently. The Dutch authorities had no right to seize the drugs, the Brazilian representative said, because the medicine in question is not patent-protected in India, the country of origin, or in Brazil, the shipment's destination. Whether the drugs were under patent in the country of transit was "utterly irrelevant," the Brazilian representative said, calling the seizure an "excessive and inappropriate interpretation" of intellectual property law.

"Not only is this a violation of the WTO disciplines, but it runs counter to the spirit of everything developing countries negotiated under TRIPS to get the flexibilities that would allow public health concerns of developing countries to be taken

into consideration, to be protected," Roberto Azevedo, the Brazilian ambassador to the WTO, said after the meeting.

Several international health NGOs joined Brazil and India in censuring the EU's actions. EU lawmakers, in a letter to the European trade and customs commissioners dated March 6, called for the existing regulation to be amended to prevent it from disrupting legitimate trade.

"Seizures of generic drugs within the EU are becoming an increasing widespread problem," they added, also making mention of the seizure of the shipment of HIV/AIDS drugs en route to Nigeria from India, at Amsterdam's Schiphol Airport.

At the multilateral level, the existing intellectual property architecture (which includes the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights, or TRIPS Agreement) holds that patents are territorial and protected according to each country's national system. Losartan potassium is patented in Europe, where DuPont and Merck Sharp & Dohme own the patent and marketing rights to the drug. But the medicine is not patented in India, where the drugs were manufactured, or in Brazil, where they were to be sold.

## SCIENCE COMMUNICATION

# Kenya's Cough Drugs Not Banned

KENYANS are used to political wrangles including noisy utterances as a coverup for inefficiency and greed among the present and past crop of politicians. However, there is always some respect for what medical experts as sincere people who deal with matters of life and death say.

So when the Aga Khan University Hospital in Nairobi, Kenya issued a memo saying at least 20 cough and cold medicines used to treat children were to be withdrawn by the end of February 2009 it was taken seriously.

According to the memo signed by clinical pharmacist Parul Gudka, chief pharmacist Sital Shah and Dr M.V. Shah who is the chairman of pharmacy and therapeutics committee, the 20 listed products "will not be available in line with evidence based medicines and use of cough and cold medicines in children." This was done in collaboration with the department of pediatrics. However, some of the medicines would be available for adult use, the memo added.

The devil was in details. Why have doctors been prescribing these

drugs? Were the drugs banned? Did they have serious side-effects? Have the doctors and pharmacists been giving children medications that were ineffective and potentially dangerous over the years? Or was it just failure in communicating well intentioned goals and overlooking the implications? Are there any current symptomatic relief for children suffering from cold and cough?

The whole saga became even more complex when another medical expert was quoted by the media as saying children suffering from cold and cough should be given

some honey and lemon. Was it Folk medicine? It may work but what is the verified science behind it? What is the dosage and percentage composition of the ingredients?

For a while it looked like doctors and pharmacists have been misleading parents to ignore a cheap and effective localized treatment. However, the issue which must have embarrassed the medical fraternity and delighted supporters of both refined and unrefined folk medicine, just vanished without further debate.

However, according to Kenya drug manufacturers, distributors,

and importers the 20 medicines are not banned or being withdrawn for being dangerous as the local media seemed to indicate.

"There is nothing wrong with these medications and they have a role in the healthcare sector. The drugs have not been banned while for children's medications honey is for example also used to improve the taste and flavour," says Dr Moses Mwangi of Sanofi Pasteur.

The saga has lost steam but there are major communication lessons for the biomedical experts in Kenya and beyond to learn.

## Stage Set for More Effective Science Reporting in Africa, Middle East

A decade ago it may not have seem possible to confidently say that Africa and Middle East were well placed to have local journalists who could effectively cover various aspects of science and technology. It was not possible to boldly say that journalists in these regions would one day embrace the reporting of science and technology as part of their professional, social and ethical responsibility.

However, this is changing fast. The two regions are beginning to develop a pool of hands-on science journalists armed with confidence and professional skills needed to cope with the "evolving science and technology" issues within and beyond their national borders on a potentially sustainable basis.

It is a trend that has been facilitated by the just ended two year hands-on project initiated by the World Federation of Science Journalists to help improve the quality and quantity of science reporting in the two regions. It is a project that injected synergy into the efforts of individual science reporters that seemed confined to their national borders.

WFSJ has created room for unlimited networking facilitated by the ongoing ICT revolution that makes hidden village stories reach world newsrooms within minutes. Serious science journalists in the East, West, North, South and Central Africa can now compare notes or exchange information on emerging stories, story ideas and news angles faster than before.

Science and technology is the big divide between these two regions and some of the developed nations in Asia and Europe. Generally it is noted that despite their huge financial reserves from oil few nations in the Middle



Jean Marc-Fleury

East can, for example, be equated with Japan and South Korea in terms of industrialization and economic development based scientific prowess.

However, for journalists in these two regions, the situation presents a major challenge and an unlimited opportunity in terms of reporting science from various aspects. It could be poor funding of research and development activities or ineffective use of research results and inappropriate and misplaced research activities.

It could still be the coverage of local innovations that seem "non-story" to those focusing on wonders or secrets of space science, particle physics and nanotechnology.

**quoteunquote**  
The two regions are beginning to develop a pool of hands-on science journalists armed with confidence and professional skills needed to cope with the "evolving science and technology"

Still, while the world is shouting about climate change and the need to conserve forests, in Kenya politicians have been busy giving supporters forests that serve as the nation's major water catchments areas.

There is room to look at the bizarre. Superstition and unscientific culture that result in mind-boggling and blood curdling criminal activities like the killing of Albinos in Tanzania by those who expect to be rich and in Kenya the killing of elderly men and women branded as wizards and witches respectively.

There is also room to cover local initiatives to genetically engineer new crops and even attempts to develop HIV/AIDS vaccines in collaboration with top researchers and laboratories in the North. In other words science journalists in these regions have the rare chance of generating stories that easily belong to the 18th century and those of the ultra-modern 21st century.

Science journalists in these countries find themselves dealing with issues of basic human needs.

The region is also a major destination of counterfeit and substandard goods and products including medicines and foods. All these provide room for the much needed investigative science journalism.

In short the WFSJ has initiated project with potentially unlimited multiplier effect initiating a network in regions often branded as Anglophone, Francophone and the Arab World.

Canada's Jean Marc-Fleury, who is well acquainted with mass communication problems of the developing world, has been at the centre of the project which is resulting in the creation of credible national and regional science journalists' associations. This is something that was just a dream four years ago.

— Otula Owuor

## IWMF Improving Reporting

THE International Women's Media Foundation has an online publication designed to help media trainers and journalists implement in-house training.

The goal is to expand the IWMF's in-house training model by enabling media organizations to use proven techniques. The workbook, a self-directed online training module, includes detailed, step-by-step instructions on how to establish an in-house media training project, sample lesson plans and materials, training and mentoring tips. It is on the IWMF Web site at: [www.iwmf.org/article.aspx?id=784&c=hiv](http://www.iwmf.org/article.aspx?id=784&c=hiv) and was introduced to journalists in the IWMF network in Africa during events in Kenya and Botswana commemorating the World AIDS Day 2008.

It is based on successes of IWMF's Maisha Yetu project documented in the IWMF's 2006 publication, *Writing for Our Lives*. Because of its unique approach, the IWMF's in-house training model can be adapted to train journalists on various topics.

From 2003-2007, the IWMF piloted a multi-country news media training project called Maisha Yetu, meaning 'Our Lives' in Swahili. Spearheaded by African health journalists under the supervision of a project manager. It was created to improve reporting efforts around AIDS, TB and malaria by working with media houses in Botswana, Kenya and Senegal. It created practical and sustainable measures to help African media improve coverage of AIDS, TB and malaria. Maisha Yetu workshops involved over 1000 journalists, at least 50 percent were women.

Key accomplishments of the Centers of Excellence include:

- Mmegi newspaper in Botswana established a health desk.
- A database of 250 journalists in Kenya working on health stories was created to help them share information and tips.
- In Senegal, Sud FM broadcast approximately 40 stories on its weekly national health program between September 2004 and June 2005. In addition, stories done on HIV/AIDS, TB and malaria by reporters in the provinces increased by 20-30 percent.

In 2007, using this proven training model, the IWMF launched Reporting on Women and Agriculture: Africa. Working with three media houses in Mali, Uganda and Zambia, the project's goal is to improve the quality and consistency of reporting on agriculture.

Founded in 1990, the International Women's Media Foundation is a global network dedicated to strengthening the role of women in the news media worldwide as a means to further freedom of the press. The IWMF network includes women and men in the media in more than 130 countries. ([www.iwmf.org](http://www.iwmf.org))

# The First Ever All Africa Congress on Biotechnology

## The Nairobi Declaration and Way Forward

### Congress Theme:

#### **Harnessing the Potential of Biotechnology for Food Security and Socioeconomic Development in Africa.**

#### **PREAMBLE**

The 1st All Africa Congress on Biotechnology commenced on 22nd September, 2008 with welcome addresses by Prof. Norah Olembo (Chairperson of the Congress Organizing Committee and Executive Director of the African Biotechnology Stakeholders Forum (ABSF) who hosted the event and rallied partners), Dr Mpoko Bokanga, former Executive Director of African Agricultural Technology Foundation (AATF); Professor Shaikat Abdulrazak, Secretary, National Council for Science and Technology (NCST), Kenya; the representative of Ms Rhoda Tumusime, the African Union (AU) Commissioner for Rural Economy and Agriculture and Dr Wilson Songa, the Agriculture Secretary of the Ministry of Agriculture (MOA), Kenya. The Honourable Assistant Minister for Agriculture in Kenya, officially opened the Congress with the vote of thanks by the Rapporteur-General, Prof. Diran Makinde.

The tone for the presentation in the area was set by Dr. Clive James, ISAAA Global Director, who spoke on the Global Status of Biotech Crops.

Subsequent plenary sessions in the 5-day congress dealt with the Advancement in Biotechnology specifically in the areas of molecular biology, bioinformatics, genomics and biotechnology tools; Policy and Biosafety, Communication, Awareness and Networking; the Potential Impact of Agricultural Biotechnology for Food Security and Socio-economic Development in Africa, Farmer Participation and Public-Private Sector Partnership. Breakout sessions were held in which details of the topics covered by the plenary sessions were presented.

A total of 39 countries, of which 17 were from outside Africa including USA, Canada, Brazil, Germany, Britain, Italy, Spain, Netherlands, France, China, Australia, Pakistan, India, Philippines, Sweden, Switzerland and Belgium and 416 delegates attended the Biotech Congress with representation from dozens of international organizations and institutions, leading amongst them were: United States Agency for International Development (USAID), United States Department of Agriculture (USDA), Center for Science in the Public Interest-USA, International Food Policy Research Institute (IFPRI) Washington, Iowa State University-USA, Michigan State University-USA, CropLife International, International Livestock Research Institute, World AgroForestry Centre (ICRAF), International Centre for Research in Arid and Semi Arid Tropics (ICRISAT), International Centre for Insect Physiology and Ecology (ICIPE), Open University - UK, Swaminathan Research Foundation-India, Forum for Agricultural Research in Africa (FARA), African Agricultural Technology Foundation (AATF), ISAAA Global and ISAAA AfriCentre, Africa Harvest Biotech Foundation International (A-Harvest), International Maize and Wheat Improvement Centre (CIMMYT), International Potato Centre (CIP), United Nations Educational, Scientific and Cultural Organisation (UNESCO), United Nations Environmental Programme (UNEP), Africa Union (AU) and the Nuffield Council on Bioethics, UK.

Because of its sheer magnitude, the 1st All Africa Congress on Biotechnology was roundly sponsored by a host of leading donor organisations through resource support and sponsorship deals for international delegates. Amongst many of the sponsors included: Applied Biosystems Ltd, USDA, AATF, ILRI, African Union, A-Harvest, Kenya Agricultural Research Institute (KARI), CIMMYT, ICRISAT, UNESCO, IFPRI, ISAAA Global, Kenya Plant Health Inspectorate Service (KEPHIS), Kenya Bureau of Standards (KEBS), Ministry of Science and Technology in Kenya, FARA, Association for Strengthening Agricultural Research in East and Central Africa (ASARECA), Biosafety Train and CropLife International.

#### **The Nairobi Declaration**

The delegates made the following declarations:

1. Greatly appreciated the initiative by African Biotechnology Stakeholders Forum (ABSF) and

the Agricultural Biotechnology Network in Africa (ABNETA), together with the African Union (AU) and the Ministry of Higher Education, Science and Technology (MOST) of Kenya and other partners in planning, implementing and convening the biotech congress which was the first ever congress to be organised on the continent.

2. Supported the urgent need for Africa to move at the same pace with other regions of the world in adopting biotechnology applications for food security and the socioeconomic development of the continent's ever growing population.

3. Recalled and fully supported the Tripoli declaration resulting from the African Conference in Biotechnology that was held in Libya in June 2008. Similarly, a closer working relationship involving collaboration and partnership in biotechnology programmes and projects between Libya and other regional stakeholders was supported. It was resolved that the Tripoli and Nairobi Declaration should be harmonized for mutual working relationship and benefit of the continent in biotechnology advancement and development.

4. Appreciated the role played by international, regional and local donors who contributed resources and sponsored delegates to the biotech congress. These donors included Applied Biosystems, USDA, AATF, ILRI, African Union, AHarvest, Kenya Agricultural Research Institute (KARI), CIMMYT, ICRISAT, UNESCO, IFPRI, ISAAA Global, Ministry of Science and Technology in Kenya, 5 FARA, ASARECA, Biosafety Train, Kenya Plant Health Inspectorate Service (KEPHIS), Kenya Bureau of Standards (KEBS), CropLife International and others.

5. Welcomed the current initiatives by international partners including development partners and research centres in supporting projects and Programmes towards development of biotechnology on the continent. Leading amongst them was Bill and Melinda Gates Foundation, International Food Policy Research Institute (IFPRI), CropLife International, United Nations Scientific and Cultural Organisation (UNESCO) and the work of the Consultative Group on International Agricultural research (CGIAR Centres).

6. Welcomed the current initiatives of regional biotechnology programmes through lead institutions including FARA, ASARECA, AATF, IFPRI, CIMMYT, ISAAA Afri-centre and the subsequent role played by the National Agricultural Research Centres in promoting biotechnology advancement on the continent including the Kenya Agricultural Research Institute, Biotechnology Research Centre of Libya and others. The congress further supported the strengthening of inter-institutional collaborations in Africa in the area of biotechnology for the general good and benefit of the continent's population.

7. Resolved working towards advancement and development of biotechnologies that were significantly safer with less potential risks to the continent's population either environmentally or health wise and that the urge for biotechnology applications would be driven by Africa's own determined demand and needs. The best example stated was the need for Africa to urgently adopt agricultural biotechnology to mitigate the impact of food insecurity on the continent and make agriculture a beneficial household enterprise for millions of families that rely on farming for their livelihoods.

#### **Biotech Congress Recommendations and Way Forward**

1. Formulation of Regional Biotechnology Programmes and Projects (RBPP) under a new harmonized umbrella to be known as the "African Biotech Outreach Programme (ABOP)" to be implemented within a time frame of three years and to be coordinated by the ABSF Secretariat and the African Union through the Agricultural Biotechnology Network in Africa (ABNETA) and selected regional coordinating organisations in East, West, central, Southern and North Africa.

2. Establishment of an African Biotechnology Trust Fund (ABTF) to be managed by the African Union and coordinated by the Agricultural Biotechnology Network in Africa (ABNETA). The fund would be utilized in the implementation of the

regional programmes and projects in biotechnology under ABOP for the common good of the African continent and resources would be sort from key allies in biotechnology, international trust funds, global donors and development partners in agricultural biotechnology development and from international development financial institutions including the World Bank and the African Development Bank.

3. Strengthening of the Agricultural Biotechnology Network in Africa (ABNETA) to act as a portal link for biotechnology communication, e-forum platform, resource centre for access to biotechnology documents including reports, updates, publications, statistical database, scientific exchange hub, interactive biotechnology warehouse for scientists and convergence point for collated data and information on African biotechnology development.

4. Establishment of a Regional Secretariat in Nairobi, Kenya to oversee implementation of congress resolutions and to monitor and evaluate the post congress programmes and projects in biotechnology. Subject to resource mobilisation from development partners, the secretariat would have representation from regional coordinates i.e. central, East, west, north and southern Africa. The office would act as a one stop shop for all matters related to African biotechnology development and partnership programmes.

5. Preparation of peer reviewed congress proceedings in the form of DVD, VCD and CD packages for distribution to all African institutions, organisations and centres of excellence in biotechnology advancement on the continent. A follow up publication in biotechnology would be

considered and leading scientists, institutions and organisations would be invited to write chapters for the proposed up coming text in biotechnology for use in centres of learning and research on the continent. Michigan State University and Iowa State University would be incorporated in the project to promote competitive development and production of the biotech text.

6. The African Biotechnology Stakeholders Forum, The African Union and the Agricultural Biotechnology Network in Africa were mandated to initiate arrangements and preparatory work for the 2nd All Africa Congress in Biotechnology that would be planned to be held within the next 2 – 3 years in order to review progress, learn from lessons learnt and prepare for future challenges in African biotechnology development. Such a congress would be held in another selected African region as per on-going consultations with stakeholders in African biotechnology development.

7. The African Biotechnology Stakeholders Forum, The African Union and the Agricultural Biotechnology Network in Africa were mandated to convene a post congress e-forum to discuss various arising issues and matters that were not exhausted during the congress deliberations including but not limited to: reactions from congress delegates; suggestions on future activities; proposals on additional way forward; challenges and make proposals, and a general post mortem of the biotech congress. A suitable moderator would be sort and an interactive session would be communicated and commenced on ABNETA ([www.abneta.org](http://www.abneta.org)) to open the e-forum. A report would be generated and developed as an addendum to the congress proceedings and publication.

### The Bill & Melinda Gates Foundation Opens Round Three of Grand Challenges Explorations \$100,000 Grants Available for Great Ideas to Help Solve Global Health Challenges

**SEATTLE, US** The Bill & Melinda Gates Foundation has announced the opening of Round 3 of Grand Challenges Explorations. A five-year, \$100 million initiative to encourage bold and unconventional research on new global health solutions, Explorations offers researchers the chance to win \$100,000 grants to further their research.

The Grand Challenges Explorations initiative focuses on research areas where creative, unorthodox thinking is most urgently needed. The topic areas for which proposals will be accepted in this round are:

- Creating Low-Cost Diagnostics for Priority Global Health Conditions
- Creating New Tools to Accelerate the Eradication of Malaria
- Creating New Vaccines for Diarrhea, HIV, Malaria, Pneumonia and Tuberculosis
- Creating New Ways to Induce Mucosal Immunity

Proposals are being accepted online at [www.grandchallenges.org/explorations](http://www.grandchallenges.org/explorations) through May 28, 2009.

To help uncover new ideas, Grand Challenges Explorations seeks to involve scientists around the world who do not typically work in global health.

"We hope to hear from researchers of every age, on every continent, and from disciplines that don't typically focus on global health or even biomedical research," said Dr. Tachi Yamada, president of the Global Health Program at the Gates Foundation. "History has taught us that innovative ideas can come from anywhere."

The initiative uses a streamlined, online grant-making process. Applications are two pages, and preliminary data about the proposed research are not required.

The foundation and an independent group of reviewers will select the most innovative proposals, and grants will be awarded within approximately three months from the proposal submission deadline. Initial grants will be \$100,000 each. Projects showing success will have the opportunity to receive additional funding up to \$1 million.

Many of the projects that received grants from the first round of Grand Challenges Explorations pursued approaches that challenge conventional wisdom, such as using engineering techniques to enhance the natural human immune system. The grants from Round 2 will be announced by May 2009.

Full descriptions of the topic areas and application instructions are available at [www.grandchallenges.org/explorations](http://www.grandchallenges.org/explorations). April 2, 2009.

Contact: +1.206.709.3400 or [media@gatesfoundation.org](mailto:media@gatesfoundation.org)

## EDITORIAL

## MILESTONE



## KAM at 50 Deserves More Attention

One of the best ways to prove that a nation or a group of countries are effectively using science and technology for socio-economic progress and the generation of goods for competition in the global marketplace is to take a closer look at the manufacturers. In most African countries the manufacturing sector remains highly dependent on inputs from Asia and Europe.

Still in some countries the so called industrial areas are simply zones for repacking or distributing imports. Thus the Kenya Association of Manufacturers, one of Africa's leading industrial organizations, should at least be congratulated for being able to commemorate 50th birthday in highly competitive and at times disadvantageous environment in which policies and efforts to empower local manufacturers are confined to paper work.

The current global economic decline clearly shows that nations need to constantly re-examine and update their industrialization policies according local, regional and global needs. In other words KAM, initially established in 1959 as the Association of East Africa Industries, needs to strongly shout to be given the much needed attention if the country is to be self reliant in the provision of basic human need and services.

KAM's noble mission of promoting competitive local manufacturing in a liberalised domestic market may be increasingly difficult to attain if certain manufacturing and export trends in the global arena are not given appropriate attention and subjected to policies that ensure the principles of fair trade are observed.

Members of KAM are well placed to help Kenya realize its Vision 2030 because without local ability to manufacture goods and generate services needed in national, regional and global markets the vision will definitely not be attained.

There is need for the policy makers and even members of KAM to realize that there should an increased focus on the need to utilize available local resources and mechanisms need to be established to increase collaboration between KAM members and various institutions that serve as primary sources of innovations. Ministries dealing with science, technology, industry, trade, health, agriculture, finance and others need to "update" their relationship with local manufacturers including regular consultations aimed at improving Kenya's and the region's socio-economic growth.

There is need for policy makers and KAM members to closely examine how some of the newly industrialized nations - like India, China, South Korea and others - have managed to evolve. Equally updates on trends and activities of global industrial, technological and financial giants like Japan, US and others need close observation and analysis if Kenya and other African nations are to improve socio-economic status of their poverty ridden populations.

Unfortunately in Africa even top policy makers tend to promote unacceptable levels of dependency by equating increased consumption of various imported goods - like vehicles, pharmaceuticals, foods, farm equipment, electronic goods, and even building materials-with industrialization.

In other words apart from their core activities, KAM members have more work cut out for them in terms of ensuring that there is a not just a level playing field but actions that promote home grown manufacturing sector providing goods and services needed for survival in the 21st century. It should be in the interest of KAM members to ensure that authorities have credible regulatory agencies with appropriate skills and equipment. Such agencies should not be purely "punitive" and should not suppress the evolution of local manufacturers. In the highly competitive world, manufacturers have to cope with rapidly changing technologies and new findings that either promote or push certain manufacturing practices in extinction.

Some manufacturing technologies being brought or existing in Africa are not even accepted in countries of their origin especially in terms of pollution, safety and quality.

The whole issue becomes even more complex when local manufacturers have to compete with counterfeits that even threaten the health of consumers. There are credible tales of expired goods being repackaged for sale in Africa.

KAM members are in most cases better able to identify counterfeits sources and there is need for more collaboration with regulatory authorities. However, it is also true that high quality imports that are relatively cheap tend to encourage competition if not directly or indirectly subsidized as is common in the West.

It should also be in the interest of KAM members to discourage those who seek profits by indulging in the manufacture or import of substandard goods. Kenya's economy is branded as one of strongest in the region because of KAM members' good manufacturing practices. Products and services generated by KAM members are needed in much of Eastern and Central Africa, with only Egypt and South Africa posing strong competition. However, there are other more powerful and resourceful competitors mostly from Asia and Europe pushing goods and services into the region.

# Turning Challenges into Opportunities

By Prof Norah Olemba

I AM pleased to have this opportunity to express my views regarding the progress, challenges and opportunities in achieving our mandate in this final address as the chair of the Board of Directors of ATPS.

ATPS has become the leading multi-disciplinary network of researchers, practitioners and policy makers promoting science, technology and innovation (STI) policy research, dialogue and practice, for African Development.

The seed was planted in 1979, in Vienna, Austria, during a conference convened to review the state of science and technology in Africa. It resulted in two networks, the Eastern Africa and Southern Africa Policy Studies Network (EATPS) and the West African Technology Policy Studies Network (WATPS). These were to strengthen skills of indigenous researchers, to stimulate interest in technology policy research and to help disseminate research results.

EATPS and WATPS were the precursors of the ATPS to fill the void in science and technology policies in Africa. ATPS started in 1994 as a Secretariat under the International Development Research Centre Eastern & Southern Africa Regional Office (IDRC-ESARO).

We have metamorphosed into an independent African Network of Africans for African development.

October 2001 marked the transition of ATPS into an independent and sustainable African Network with international reach and influence and on the 3rd of December 2003, ATPS signed a Host Country Agreement with the Kenya government according ATPS full Diplomatic status.

Continually presented with unique social, economic, political and environmental challenges, ATPS has adapted ways of overcoming these challenges, and as the current Executive Director, Dr. Kevin Chika Urama says, "turning challenges into opportunities for the change that would make the difference in Africa's development struggle" ATPS brings about positive and significant changes in the lives of Africans through four unique STI capacity building functions, including: Knowledge Generation (through STI policy research & training);

Knowledge Brokerage (through Stakeholder Dialogue, Knowledge Circulation and Networking);

Knowledge Dissemination & Outreach (through multi-media publications, STI Journalism, policy advocacy); and Knowledge Valorization (through innovation challenge programs).

We have seen significant improvement in the STI capacity of African scientists, decision makers, and youths who participate in ATPS programs; the establishment of national chapters in 23 African countries, and the transitions from "Focal Points" to "National Chapters".

We have supported over 209 thematic and non-thematic (facilitative) STI policy research, training and capacity building activities in over 23 African countries and facilitated STI policy development in

several countries. The most recent is the S&T policy of the Kingdom of Lesotho which was published in 2007. The African Youth Forum for Science and Technology (AYFST) remains one of my most cherished activities of the ATPS. The future is in the hands of the youths and the initiative to "catch them young" is a laudable one.

These achievements would not have been possible without the able leadership of our former Executive Director, Dr. Osita Ogbu, and the continued excellent leadership of the current Executive Director, Dr. Kevin Chika Urama.

Overall, Dr. Urama's particular set of scientific and social skills have enabled him to make significant contributions to his field of scientific research both within the UK and internationally. In fact, in my academic career of over thirty years, I have not met a scientist of his age who has been able to operate in interdisciplinary science with such an effect, and at the same time, deliver a consistently high quality of original policy relevant work within his disciplinary field of economics. I have always found his contributions to our team very useful".

I will remain an active member of the ATPS in order to be part of and learn from the implementation of the STI capacity building activities planned under the ATPS Phase VI Strategic Plan, 2008 - 2012. I call on you to accord him every support he needs to fulfill the vision and mission of the ATPS Phase VI Strategic plan and beyond.

I wish to recognize the unrelenting support I received from my fellow Board members of the ATPS during my tenure as Chair. I am very delighted to cede my position as Chair of the ATPS Board to my colleague and friend, Prof. Samuel Wangwe. His resolve for building STI capacity in Africa could never be over emphasized.

To all our donors, I would like to thank you for your continued support towards ATPS activities and toward STI capacity building in Africa in general. I also call on African Governments to increase their commitment towards investing in Science, Technology and Innovation (STI) a means to effective poverty alleviation, achieving the UN Millennium Development Goals, and responding to the current global financial crisis.

It remains my belief that no country can grow without indigenous science, technology and innovation capacity. This is our mission. This is our vision. This is our goal. "To build Africa's Science, Technology and Innovation capacity today for African development tomorrow".

I am not saying goodbye to the ATPS. Instead I am returning to my cherished position as a member of the ATPS Network and will continue to contribute to the work of the network in future.

*(Edited version of a farewell speech in Nairobi by Prof Norah Olemba, one of Africa's leading scientists who has founded and headed various major national and regional institutions and development organizations. Prof Olemba was the Chair of African Technology Policy Studies ATPS.)*

Prof Norah Olemba (left) receives a gift from Dr C. Adeya of ATPS during her farewell party also attended by former Nigeria science minister Prof Turner Isoun



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# Focus on Infectious Diseases

By Thomas G. Egwang

The world has helped Africa fight infectious diseases and the leaders must now play their part.

Infectious diseases, together with poor governance, corruption and poverty, are conspiring to make life miserable for millions of people in sub-Saharan Africa and other regions in the developing world. Three diseases in particular — AIDS, malaria and tuberculosis (TB) — are posing a formidable threat to fragile public-health systems.

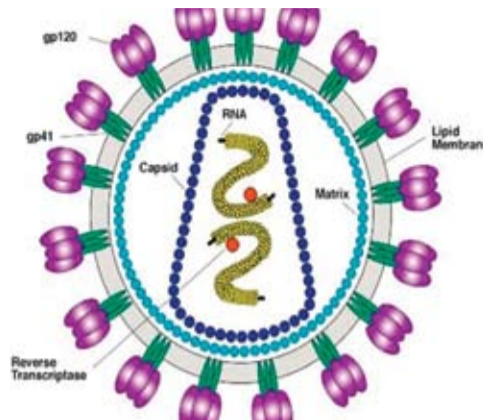
In the face of this dire situation, the global community has led a concerted effort to tackle these diseases, in particular by increasing access to existing drugs and boosting financial support for research into new drugs and vaccines.

The results have been encouraging. The number of people with HIV in developing countries receiving highly active antiretroviral therapy (HAART) increased almost threefold between 2003 and 2005 from 450,000 to 1,300,000. In Uganda, there has been a vast increase in access to HAART from 3,000 in 2001 to a projected 131,000 during the first quarter of 2008.

That includes a significant number receiving treatment for the prevention of mother-to-child transmissions. In addition, all registered patients living with HIV in developing countries now take daily septrin prophylaxis. It is an inexpensive 'combination' antibiotic that thwarts such opportunistic infections as bacterial and Pneumocystis pneumonia, some forms of diarrhoea and even malaria.

There has been progress too with malaria prevention and treatment. More than 30 countries in sub-Saharan Africa have adopted artemisinin-based combination therapies (ACTs), a product of traditional Chinese medicine, for the treatment of malaria. Furthermore, an estimated 42% of Ugandan children under five now sleep under protective bed nets to prevent malaria which is over forty-fold increase since 2000.

These are significant achievements. Nevertheless, there is still much to do. Despite the commitment by many governments to provide combination therapies to tackle malaria,



logistical problems and government ineptitude stand in the way of getting the treatment to everyone who needs it. Likewise, the number of children sleeping under bed nets is far short of the number needed. Just as seriously, the lack of laboratory capacity for the monitoring of treatment programmes remains a vexing problem. Malaria is commonly misdiagnosed, and millions of dollars are wasted on expensive combination therapies for patients who are malaria-free.

The campaign against HIV/AIDS is also fraught with difficulties. The widespread availability of antiretroviral drugs and septrin has led to the emergence of forms of HIV that are resistant to HAART, and to several common bacteria that are resistant to septrin. This threatens to undermine the progress achieved thus far against the disease.

Furthermore, despite efforts by the World Health Organization, the United Nations Joint Programme on HIV/AIDS, the Global Fund to Fight against AIDS, Tuberculosis and Malaria, the William J. Clinton Foundation, the Bill & Melinda Gates Foundation, the US President's Emergency Plan for AIDS Relief and others, 70% of those living with HIV/AIDS in developing countries had yet to receive HAART in 2007.

So, where do we go from here? What is crucial is that the scientific and medical communities in developing countries demonstrate assertive

leadership to spur governments to confront the challenges of infectious diseases.

The key tasks are as follows: to maintain and expand the benefits that have been achieved in the treatment and prevention of malaria and AIDS; to draw attention to diseases that do not share the same spotlight, such as leprosy, sleeping sickness, filariasis, bubonic plague, cholera, meningitis and Ebola; and to champion the rights of all people in the developing world to receive adequate health-care. It is important to caution both donors and government agencies that the increased attention being paid to malaria, HIV and TB must not be allowed to overshadow neglected diseases or other initiatives vital to preparing for epidemic diseases.

## SOLUTIONS

One priority should be to make HAART and ACTs available to patients in all regions, which would include adequate provision for children. This would require strengthening the laboratory capacity of rural clinics to enable them to provide the treatments and establishing regional laboratories to monitor drug resistance. We must work with HIV and malaria control programmes to identify alternative drugs to replace septrin in the light of antibiotic resistance, and we must collaborate with national governments to delay the emergence of ACT resistance.

At the same time, we must stockpile alternative

anti-malarial drugs for use in the event of escalating ACT resistance. Moreover, to control water-borne diseases, we must rebuild dilapidated sanitation and wastewater systems with the help of municipal and district health-care authorities and develop new technologies for water purification in areas where fresh water is scarce.

As scientists, we must take advantage of the improved political climate for direct foreign investment by entering into joint ventures, technology-licensing agreements and investment opportunities for the local manufacture of HAART, ACTs, vaccines, diagnostics and water-purification systems. Instead of serving as junior partners in research initiatives and clinical trials created by our colleagues in the developed world, we must take the lead in developing new interventions for the control of infectious diseases. Public-health officials too can provide more effective leadership in disease control by acquiring new skills that draw on goal-orientated strategies common in the business world.

**ON OUR OWN?** The scientific and medical communities in the developing world will stand trial in the court of public opinion as culpable accomplices if the voiceless and powerless continue to die of preventable diseases. We have a moral obligation to condemn stridently the inertia and lethargy of national governments in providing health-care to the needy. We must never be silenced by the constant refrain, "There are no funds". Governments in the developing world have money. Yet public health too often takes a back seat to other 'concerns', including perks and privileges for political leaders, and military ventures that divert funds from critical social and economic needs. Combating infectious diseases in the era of globalization requires new skills and proactive leadership by health-care professionals in developing countries — abilities and qualities that we, in the developing world, must develop and apply on our own.

— Thomas G. Egwang (TWAS Fellow 1997) is executive director of the African Academy of Sciences in Nairobi, Kenya



Heneri Amos Murima Dzinotyiweyi says those Zimbabweans who are anxious to contribute back home, need to use the diaspora. They are invited to contact Dzinotyiweyi at gutsameso@stoneart.co.zw. (Munyaradzi Makoni and Christina Scott, SciDev.Net)

## Zimbabwe Appoints Science Minister

### HARARE

ZIMBABWE'S new minister of science and technology development has pledged to address the dire state of the country's research institutions and take steps to slow scientific brain drain.

Heneri Amos Murima Dzinotyiweyi, a 58-year-old former mathematics lecturer and university dean, was nominated for the post by Prime Minister Morgan Tsvangirai.

"We have non-functional institutions, having hardly any capacity, barely running. This includes schools, universities and research institutes. Our immediate desire is that these institutions begin working."

One way of remedying this, he suggests, would be to pay scientists in a currency stronger than the Zimbabwean dollar,

which suffers from hyper-inflation such as the US dollar or the South African rand, he says.

The other priority is to reverse the brain drain.

"Zimbabwe has lost enormous scientific manpower. We need to use the diaspora, those Zimbabweans who are anxious to contribute back home. We want them to participate meaningfully even if they are out of the country although in the long run, we would like them to return," he says.

Dzinotyiweyi, a founding member of the three-year-old Zimbabwe Academy of Sciences, said he hoped to use the academy's international contacts to establish links with Zimbabwean researchers now living elsewhere.

One of Dzinotyiweyi's first actions was to call for the release of his colleague Roy Bennett,

the designated deputy minister of agriculture, who was arrested before the swearing-in ceremony on 13 February.

"I need Roy Bennett to work with me so we can revive agricultural research, which has traditionally been a strength in Zimbabwean science, in order to improve the rural economy," Dzinotyiweyi says.

Dzinotyiweyi was dean of the University of Zimbabwe from 1991 to 2000 and in the mid 1990s worked on study of science and technology across the 14-state Southern African Development Community.

He returned to his post as professor of mathematics prior to his resignation to stand in the March 2008 elections. He has continued to assist his university department on a voluntary basis after being elected as a member of parliament, although he —

like all the winning opposition candidates — was blocked by the ruling party from taking up his seat until September 2008, when parliament began to resume its functions.

Dzinotyiweyi's constituency is the high-density, impoverished Budiriro suburb of Harare, which suffered the country's first outbreak of cholera following the collapse of water treatment plants in August 2008. He says that he is already working closely with his opposition party colleague Henry Madzorera — a medical doctor who has been appointed minister of health — in tackling the cholera epidemic.

"Right now my position is to learn the job, what it involves, to learn what is being done so far, what programmes are exist and how they are being handled," says Dzinotyiweyi.

## DataEase Softwares Ltd

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PICTORIAL

Prof Samuel Wangwe (New Chair ATPS), Prof Norah Olemba (Immediate former Chair), Prof Brian Heap (New Board member) and Dr Kevin Chika Urama Executive director ATPS  
 The event marked the farewell party for Prof Norah Olemba, one of Africa's top scientists who is involved in a number of development initiatives  
 . See story on page Page 8



# AIDH's Innovative Urban Project to Alleviate Poverty

ONE of the major limiting factors in Africa's efforts to curb widespread poverty is lack of products and services or innovations that empower the poor. However, certain positive trends are emerging. It includes the innovative work being done by the African Institute of Health and Development on poverty alleviation among residents of Mitumba Slums in Nairobi, Kenya who now need a market for their innovations

AIHD collaborates with Mitumba Trust Community Based Organization on four major issues including child care, environmental sanitation, access to education and youth engagement in development. The collection and recycling of polythene bags into Ciondos baskets is an innovative way to curb litter in all Kenyan towns. It is an eye opener for those who seek to innovatively empower the urban poor. AIHD is headed by Dr Mary Amuyunzu Nyamongo (inset.)



# Finally Genetically Engineered Cassava Enters Field Trials

From Page 1

iron, protein, zinc and vitamin E that will meet the minimum daily allowance in a 500 gram meal.

“This is one of the most ambitious projects ever attempted in a major crop plant,” said Richard Sayre of the Donald Danforth Plant Science Center in St Louis, Missouri, who spoke at the recent annual meeting of the American Association for the Advancement of Science, held in Chicago, US.

Sayre directs the BioCassava Plus programme, which began in 2005 under the Grand Challenges for Global Health Programme. The challenge is to provide complete nutrition in a single staple crop.

Some 250 million people in Sub-Saharan Africa — and 800 million people globally — rely on cassava as their main source of energy. But it is low in nutrients, vulnerable to plant viruses, and it lasts only two days without processing.

As well as adding extra nutrients, the team has successfully produced varieties with increased virus resistance, decreased amounts of poisonous cyanides — which can remain in cassava if the crop is poorly processed — and a longer shelf life.

“We’re transforming it into a staple that will provide complete nutrition,” Sayre told SciDev.Net. Laboratory and greenhouse tests have been successful — for example, iron levels were increased ninefold, zinc fourfold and protein fourfold. The next stage is confined field trials — small-scale field trials to evaluate the performance of the crop under stringent conditions.

If those succeed, there will be nutrition trials, first in animals and then in humans. Nigeria’s approval is the first it has granted for a GM confined field trial, said Sayre — though the document awaits the signature of the country’s environment minister. The Nigerian National Root Crops Research Initiative will oversee the trials.

So far the traits have been introduced individually into plants. The first product with multiple traits is likely to contain just elevated vitamin A, iron and protein as well as virus resistance.

“To add the other four is going to be technologically more challenging,” said Sayre.

The team also hopes to begin confined field trials in Kenya, to be overseen by the Kenya Agricultural Research Institute, before the end of 2009.

“We are now in the process of training African scientists in our labs. They are going to learn the technology to make a transgenic cassava plant. They will return and make the final products themselves,” said Sayre.

Nigeria has a Biosafety Policy that currently acts as a guideline for Biosafety matters. The policy stipulates that the National Biosafety Agency (NBA) of the country’s Ministry of Environment, has the sole authority to approve applications and issue permits for the use of products of modern biotechnology. The National Biosafety Committee (NBC) is only to act



Bright yellow mosaic and leaf distortion symptoms of Cassava Mosaic Virus haunting East and Central Africa.

in an advisory capacity.

The National Biosafety Committee (NBC) of the National Root Crops Research Institute (NRCRI), Umudike, Imo State, had reportedly given the approval for the US biotech centre to go ahead with plans to conduct “contained” field trials of genetically-modified cassava on the banks of the Qua Iboe River in Abia State, South East of Nigeria. It would be the first approval granted in Nigeria.

Efforts to put biotechnology regulatory

framework in place have been in the works since the 1990s. The government signed the Cartagena Protocol On Biosafety (CPB), a protocol of the Convention on Biological Diversity (CBD) in 2000 by former President Olusegun Obasanjo. Its instrument of ratification was signed on November 30, 2002. The protocol was designed to ensure adequate protection in the transfer, handling and use of living modified organisms in case of adverse effects, taking into consideration risks to human health on trans-border movements.

## How to Turn Cassava Into a Wholesome Meal

Cassava roots and leaves are common dishes in sub-Saharan Africa.

However, in some countries —including Kenya and Mozambique— news of deaths from poorly processed cassava meals are common. Unprocessed cassava can end up producing lethal cyanide that kills, destroys nerve functions, cause goiter and paralysis.

Unprocessed cassava contains potentially toxic levels of a cyanogen called linamarin. However, drying, soaking in water, rinsing or baking effectively reduces cassava’s linamarin content says Richard Sayre of the Donald Danforth Plant Science Center in St Louis, Missouri

“If we could eliminate the cyanogens in cassava, the plant wouldn’t need to be processed before it’s eaten,” he said. “associated with the development

of goiter and with tropical ataxic neuropathy, a nerve-damaging disorder that renders a person unsteady and uncoordinated.

Sayre and Siritunga engineered cassava plants in which the expression of the genes responsible for linamarin synthesis was blocked. They then analyzed the linamarin content in these plants’ leaves and roots, finding a significant reduction of the cyanogen in leaves (by 60 to 94 percent) and in roots (by 99 per cent) compared to normal cassava plants.

“However, preliminary studies indicate that linamarin may be important in the transport of nitrogen from cassava leaves to its roots in young plants,” he continued. “Plants producing varying levels of linamarin need to be tested in field trials to determine if the

## Cassava Mosaic Virus Spreading Fast

By Elijah Bizibu

THE devastating cassava mosaic virus is attacking western Uganda and eastern Congo. DRC. Farmers in the region often exchange planting materials including cassava cuttings and it is believed Congo has been experiencing the viral disease for at least the last three years. Congo DRC and Nigeria are the largest cassava producers..

Uganda’s National Agriculture Research Organization (NARO) is urging farmers to use disease free cuttings. In related development a voracious cassava pest the hornworm, Ernyi’s Ello, is destroying the crop in five Uganda districts including Hoima, Masindi, Kibaale, Nebi, Amoru and Buliisa.

Cassava Hornworm generally emerges during the beginning of rainy seasons. It larval stage is highly destructive defoliating large hectares of cassava plantations within a short time.

The adult female is nocturnal and lays eggs on the leaf surface. Thousands of voracious larva feed on leaves and migrate to the soil at the time of pupation and remain in the soil until adult stage..

The use of chemicals is feared because it harms beneficial insects and above all could easily poison farmers. Cassava is the main food crop in both Western Uganda and Eastern Congo.

Thus with the presence of the cassava mosaic virus and hornworm, the populations in the two nations could easily face serious food shortages. Cassava - like maize- originated from South America.



Richard Sayre

## AGRICULTURE &amp; BIOTECHNOLOGY

# Donated Genetic Information On Cotton Could Benefit Africa

The use of molecular markers can offer unique benefits to Africa and other cotton growing areas by shortening the timelines and reducing the cost of breeding appropriate cotton varieties," says Dr Eric Hequet, one of the world's leading cotton experts, who worked in Chad for eight years followed by many expert missions on cotton breeding, technology, and production economics to Togo, Madagascar, Ivory Coast, Cameroon, Benin and Sudan.

Dr Hequet, who is currently focused on collaborative research with the cotton breeding and cotton biotechnology community to develop improved properties in cotton fibers, adds that "fiber quality testing is readily available in the US through specialized cotton fiber testing centers. Fiber properties such as length, strength, micronaire and maturity can be obtained with HVI (High Volume Instrument) and AFIS (Advanced Fiber Information System). Therefore, cotton breeders can make selections on fiber quality on a timely and cost-effective basis. This is much more difficult to achieve in other parts of the world where infrastructure limitations." The Associate Professor of plant and soil science at Texas Tech University explains that in West Africa and other parts of the world, researchers have tried for decades to set up fiber testing laboratories with limited success because the demand for constant temperature and humidity in these labs is extremely expensive and difficult to meet. Thus adding the costs for purchasing and



DR ERIC HEQUET: One of the leading cotton scientists in the world.

maintaining the testing instruments often makes the quality testing prohibitively expensive. In addition, keeping laboratories running is often a challenge because obtaining spare parts, technical assistance, etc. is difficult.

Dr Hequet concludes that "the molecular markers technology and this donation could greatly benefit Africa and other regions of the world because it could shorten timelines and lower costs of breeding cotton varieties." He is also an Associate Director of the Fiber and Biopolymer Research Institute and Associate Director of the International Cotton Research Center both at TTU. He

holds a joint appointment with the Texas AgriLife Research (Texas A&M system). According to a press release from Texas AgriLife, the donation of 4,000 markers of the cotton genome will almost double the current knowledge base and help improve breeding efficiency. This Monsanto donation could bring up to 10,000 globally accessible molecular markers to the cotton database, centered in College Station, Texas in association with the Texas A&M University AgriLife Extension Service.

According to John Purcell, global cotton technology lead for Monsanto, the markers will allow researchers to select in the

laboratory traits that lead to better yielding varieties.

Cotton genome mapping projects have been ongoing for eight to 10 years, said Richard Percy, research leader of the U.S. Department of Agriculture Agricultural Research Service crop germplasm research unit in College Station, which houses the cotton database.

Scattered genome sequencing projects to understand the full structure the cotton genome began three years ago and were united under the ongoing International Cotton Genome Initiative, Percy said.

"If we can increase the fiber quality of the US product it will give the crop a competitive advantage, he said. Monsanto aims to double cotton yields from the 2000 average of 632 pounds per acre. US cotton yield was 810 pounds per acre in 2008, according to the USDA.

The mapping technology is being used to develop cotton breeds that protect against root-knot and nematodes. Monsanto has projects in the pipeline to integrate that knowledge into traits that protect against the pests which destroy the roots of plant and limit their production capacity, said Purcell.

Cotton traits developed through genome mapping aren't required to pass through regulatory processes, as is necessary for genetically modified varieties such as Bt cotton, because they are traits that already exist in the plant, Purcell added.

## African Agricultural Technology Foundation (AATF) Updates

There are some major positive changes at AATF. First a leading agronomist and private sector strategist, Dr Daniel Fungai Mataruka of Zimbabwe became the new executive director of AATF from the beginning of March 2009. Dr Mataruka holds a doctorate degree in agronomy from Cornell University in the US. He takes over from South Africa's Prof Jennifer Thomson- the interim executive director for six months. She is involved in pioneering maize streak virus research.



AATF has also acquired the services of plant molecular biologist Dr Nompumelelo Oboko to focus on Maruca-resistant cowpea while agri-business specialist George Marechera deals with the private sector. Then there is the new chair of AATF board of trustees Prof Walter Alhassan, who as a founder member of AATF is well placed to team up with Dr

Mataruka in pushing African governments - addicted to sidelining science while still expecting benefits - to allocate more resources for work being done at AATF. Finally, AATF's major activities currently include the Water Efficient Maize for Africa, The Nitrogen Use Efficiency and Salt Tolerance Rice Project, the Control of Striga, in Maize, Control of Legume Pod Borer in Cowpeas and last Checking the Spread of the Banana Bacterial Wilt Disease.

## Super Grain Bags to Control Great Grain Borer

By Agatha Ngotho, Correspondent

RESPONDING to the increment of food security in Kenya, GrainPro Inc a US based manufacturer of organic storage facilities, has developed and field tested an integrated grain storage system that small scale farmers can adopt to store maize in future.

The SuperGrainBag is a 90 kg liner with double layer of polythene and a gas barrier membrane, that offers an ideal solution for packing and storage of dried grains, seeds and other sensitive commodities to infestation and moisture.

According to Mr. Austin Maina, a director of Kenya Promotions & Marketing Company, who are also the exclusive GrainPro Inc Distributors in East Africa, the hermetic storage is an ancient concept which has been reintroduced using modern technologies, that countries can adopt to curb food insecurity.

"Grains stored in a hermetic environment do not spoil, nor can insects survive in the gas tight storage facilities. Food products stored in a hermetic environment remain fresh and tasty. You can also store seeds as the facilities are engineered to maintain the seed germination qualities," he explains.

He adds that if you store grains that are infected by weevils, including the larger grain borer commonly referred to



by farmers as 'Osama', within 14 days of storage, the insects will be dead but more importantly, larvae and eggs laid by the insects do not mature. This is as a result of an increase in carbon dioxide and reduction of oxygen activated by the respiration process of both the insect and the grain. The carbon dioxide thus generated stabilizes and maintains the seed germination qualities.

The SuperGrainBag which retail at Kshs. 350 and are available in select agrovet shops in Kenya has been researched and certified for use by international bodies such as CYMMIT and the International Rice Research Institute (IRRI). The SuperGrainBag is ideal for use by small scale farmers. Rwanda has adopted the technology and has been using the GrainPro systems and technology to improve food safety in the country over the last 8 years.

### Case study

Food products stored in a hermetic (which means airtight) environment remain fresh and tasty; seeds maintain their vigor and their ability to germinate. The Ultra-violet resistant PVC airtight membranes fitted with extruded airtight zipper fasteners form a simple hermetically sealed container.

The products are also relevant to food security organizations, feed mills, and mainly to the cereals food industry. Study shows that the GrainPro Inc system is suitable for those keen on a storage facility that would protect their cereals from insect infestation without resorting to expensive pesticides and constant fumigation as well as moisture which leads to aflatoxin.

Rwandan rally driver Giancarlo Davite who was in Kenya for the KCB East African Safari Rally said he would use the rally to promote the product and enhance food security in Kenya.

GrainPro, Inc. Cocoons, Mega Cocoons and SuperGrainBags have been in use in over 20 countries. In Africa, they are in extensive use in Rwanda and Ghana at the government and farmer level for storage of cereals, pulses and Cacao beans.

On a medium scale, the products have been in use in South and North Sudan, Ethiopia and are in the introductory phase in Kenya, Malawi, Mozambique, Zambia, Uganda and Tanzania.



By Onche Odeh in Lagos, Nigeria

# Study To Ascertain Safety Of Meat Products in Urban Nigeria, Uganda and Kenya

IN response to the problem of unsafe food in informal markets, the International Livestock Research Institute (ILRI) and partners are conducting research on livestock market chains in urban Nigeria, Uganda and Kenya.

This is to help understand the benefits and dangers of livestock-keeping and how associated health risks can be better managed.

A report on work in progress, entitled 'Participatory risk assessment: a new approach for safer food in vulnerable African communities', was published in a special issue of *Development in Practice*.

ILRI Epidemiologist, food safety expert and lead author of the paper, Delia Grace says, 'In rich countries eating out is a sign of

wealth, but in developing countries it is often a sign of poverty. Buying 'street' food makes sense for the poor since it is often cheaper than buying cooking fuel and raw ingredients. Millions of poor people are dependent on these informal markets, where both raw and cooked animal source foods are prepared and sold.

"Most of the food sold in these traditional markets is produced and prepared by women. It is a huge market but difficult to quantify or regulate. As a result, it tends to be ignored. But finding new approaches for making foods sold in informal markets safer will benefit both poor producers and poor consumers," says Grace.

Risk-based approaches that take into account the extent of harm caused by food-borne disease to consumers and the likelihood of its happening are current international

best practice. But these approaches are complex and do not work in informal settings in developing countries where most of the poor buy and sell their food.

Recognising the key role women play in food preparation and supply and the need to involve them in developing workable food safety solutions, the researchers developed a gender-sensitive participatory method. Their pro-poor risk-based approach to food safety contrasts with top-down hazard-based approaches that have failed to work in the past. The researchers have called their new approach for assessing and managing health risks associated with livestock 'participatory risk analysis'.

ILRI economist and co-author, Tom Randolph, says 'Studies that look for disease in informal markets will inevitably find it; the

corollary is an enormous burden of sickness borne by poor consumers, as well as blocked access for poor farmers to emerging higher value outlets such as supermarkets.

"Risk-based approaches to food safety need to be adapted to the context of informal markets. So we are focusing on the food producers, who are mostly women, and bringing communities and food safety implementers together to analyse local food safety problems and develop workable solutions."

Randolph concludes, "We are convinced that integrating risk assessment with participatory methodologies and gender analysis is a promising solution to the problem of unsafe foods in informal markets. And generating credible evidence is critical to better understanding and better managing food safety in developing countries"



## \$10 million Grant for Rice and Wheat Research

A \$10m grant to honour the accomplishments of Dr. Henry Beachell and Dr. Norman Borlaug, who pioneered plant breeding and research in rice and wheat, respectively has been launched.

It will be used to establish Beachell-Borlaug International Scholars Program to help identify and support young scientists interested in improving research and production in rice and wheat, two of the world's most important staple crops, through plant breeding techniques. The program, which will be administered by Texas AgriLife Research, an agency of the Texas A&M University System, for the next five years.

The announcement of the grant from Monsanto marked celebration of Dr. Borlaug's 95th birthday. Dr Borlaug, has strong interests in the ongoing efforts to solve Africa's food crisis.

Plant breeding has been practiced for thousands of years. A breeder works with a specific plant species to help encourage desired characteristics, like larger grain size, heartier stalks, or greater tolerance to environmental stress, among others, to improve the next generation of plants. Last

year farmers produced nearly 440 million metric tons of rice and more than 680 million metric tons of wheat.

"As the world celebrates the birthday of Dr. Borlaug, Monsanto is pleased to mark the accomplishments of two great men in agriculture by establishing this scholars program," said Dr. Ted Crosbie, Vice President, Global Plant Breeding, Monsanto Company.

"Drs. Beachell and Borlaug devoted their lives to ensuring farmers had access to the best rice and wheat varieties and to the advancement of science through education. Young scientists who receive this scholarship will have the opportunity to further their training and work with world-renown rice experts working on projects that are making a real difference to people's lives," said Dr. Robert Zeigler, Director General, International Rice Research Institute (IRRI).

"Research in these two staple crops has fallen behind others, and it is my hope this program will help jumpstart additional investment in two of the world's most important grains. We encourage any eligible rice or wheat breeders around the world to

## Further \$19.9m for Stress Tolerant Rice Research

Experts, meeting at the Africa Rice Center, Cotonou, Benin, have launched a three year project targeting resource-poor rice farmers in Africa and Asia producing their crop under rain-fed conditions, in which drought, flooding, and salinity reduce yields.

The "Stress-tolerant Rice for Poor Farmers in Africa and South Asia" has received approval for funding by the Bill & Melinda Gates Foundation through a grant to the International Rice Research Institute for

\$19.9 million over three years.

The Africa component of this project proposal was developed by IRRI in partnership with the Africa Rice Center (WARDA), which will be its main partner in implementing this component. The 16 African countries targeted include Senegal, Guinea, Benin, Burkina Faso, Gambia, Ghana, Mali, Nigeria, Ethiopia, Madagascar, Mozambique, Rwanda, Tanzania and Uganda.

### African Fellows Programme: 9th Call for Pre-Proposals (Sustainable Agriculture in SSA).

The Rothamsted International African Fellows Programme is inviting pre-proposals under its 9th Call. The deadline for receipt of pre-proposals under the current call is 19th June 2009. Fellowships will be for a maximum period of 6 months.

The aim of the African Fellows Programme (AFP) is to support sustainable agriculture in sub-Saharan Africa by catalysing innovative solutions needed to achieve food security. Projects should focus on specific problems in agriculture with a researchable constraint. They should also aim to develop lasting partnerships and strategic alliances that will help in developing local scientific capacity relevant to sustainable agricultural production. The potential impact of the project on small-holder farmers will be a major consideration during proposal assessment. African scientists will carry out research projects at a partner European research institute, or university, for a maximum period of 6 months. Fellowships are awarded on a competitive basis in a two stage assessment process.

Research projects must:-

- \* focus on solving an agricultural problem with a researchable constraint
  - \* demonstrate how the knowledge gained will be applied to benefit small-holder African farmers
  - \* be of high quality science
- Examples of potential project areas include crop nutrition, soil fertility, post-harvest technology, alternative crops, livestock management and plant protection. The programme CANNOT support field work in Africa. Projects focusing on food processing and socio-economic research are not within the remit of the programme. MSc and PhD studies will not be funded.

Pre-proposal concept notes are now invited for the ninth round of this Programme. Pre-proposals should be submitted by 17:00 hours (GMT) on Friday 19th June 2009 by email.

Applicants can obtain further details and guidelines from the Rothamsted International web site: <http://www.rothamsted-international.org/afp/index.shtml> <<https://djjpost.agrsci.dk/exchweb/bin/redir.asp?URL=http://www.rothamsted-international.org/afp/index.shtml>>

Further details can also be obtained by emailing ([rothamsted.international@bbsrc.ac.uk](mailto:rothamsted.international@bbsrc.ac.uk)) or by writing to the AFP Coordinator at Rothamsted International, Harpenden, Hertfordshire, AL5 2JQ, UK.

**Dr Judy Mann (Chaussalet)**  
**Rothamsted International**  
**Harpenden**  
**Herts AL5 2JQ**

## Population Boom in Uganda's Oil

THE emerging socio-economic changes associated with oil discovery in Western Uganda, with suspicion that it extends to Eastern Congo, have resulted in a major population boom as agriculture declines. The regions traditional exports, especially cotton and tobacco, are no longer grown while livestock face extinction as grazing lands and nomadic life disappear fast.

Extensive oil exploration is going on all around the Landing sites of Lake Albert with many big investors from different countries of Africa flocking to the region to do business while other people seek jobs. This population shift is turning farmlands and pasture into human settlements.

— *Elijah Bizibu*

## Landlocked Uganda Excels in Fishing

FISHING is an important thriving industry for landlocked Uganda and neighbouring regions of DR Congo. It is important to the whole of Uganda's economy and despite being landlocked, fishing industry contributes up to 12% of the GDP. Fish generates nearly \$200 million annually at the landings and over \$100 million in international exports earnings. It is also said that probably an equivalent amount is earned in regional exports. Uganda has the capacity to produce at least 400,000 metric tones of fish annually but the maximum catch ever recorded was 245,000 metric tones in 2008. However, this could be higher as the production from many lakes is not well documented. The fishing industry employs 136,000 fishermen and over 700,000 people are involved in activities along the chain of production and consumption. Fish provides the most affordable source of protein with an average per-capita consumption of 10kg, accounting for more than 50% of the animal protein intake of an average Ugandan's diet. Although there had been earlier attempts to start industrial fish processing on Lake Albert and Victoria in the 1950s and 1960s, industrial fish processing only became well established on Lake Victoria in 1990s and there are currently 15 fish processing plants specifically for exports. There is as a result a big drive to invest heavily in capture fisheries. Water bodies which are the most important sources of fish cover about 20% of the country's surface area and comprise five major lakes namely Victoria, Albert, Edward, Kyoga and George. The eco-systems within and around these water bodies are one of Uganda's richest sources of biodiversity. Some of the fish species include Nile tilapia Nile perch, Omena, Mukene, Cat fish, Tiger fish, Lung fish among others.

— *Elijah Bizibu, in Hoima, Uganda*

## Promoting Nursing Profession

THE National Nurses Association of Kenya is one of the most important and active professional groups in the country and the continent. As a whole its vision is to continuously improve the levels of professionalism among its members in a manner that responds and is integrated to the needs of the country.

According to the national chairman Luke Simba Kodambo "the association promotes socio-economic development or wellbeing of members and leadership through high standards of nursing education and research."

NNAK is has linkage with other related professional organizations and is a member of the International Council of Nurses and Commonwealth Nurses Association. The association has collaborative activities with World Health Organization, UNICEF, pharmaceutical firms and other related organizations. NNAK is one of few professional organizations with membership that increases by at least 1,000 annually. Membership is for all licensed nurses while student nurses become associate members.

Nursing is indispensable because it is at the core of the whole healthcare system in any country. Nurses have the privilege of being close to both the patients and other professionals providing care including doctors, pharmacists, lab experts, and hospital administrators. Thus they are better placed to practically note how doctors and other professionals perform their duties.

However, in Kenya nursing still needs to be given the practical recognition it deserves. First it has moved away from being confined to diploma to doctorate degree levels training apart from having highly specialized professional niches. Nurses are among top trauma specialists even offering their expertise to medical doctors in a county like Israel.

In Kenya it has to be said that their special skills has been recognized resulting in private nurses practitioners. However, NNAK includes nurses in various specialized fields or chapters.

"Our chapters include intensive care nurses, theatre nurses, mental health nurses, paediatric nurses, midwives, infection control, accident, nurse educationist, HIV/AIDS and accident and emergency," NNAK chairman told ScienceAfrica in his office at Kenyatta National Hospital in Nairobi where buildings for the new headquarters are coming up.

To demand to join NNAK remains overwhelming because we also engage in various projects and facilitate consultancy services for the members," Kodambo added.

## Why Public and Private Hospitals Should not Exclude Poor Patients

THE recurring issue of treating patients who seem unable to pay can no longer be taken for granted because in many cases even those with money are often rushed to hospitals without money especially after accidents.

It is something which the medical fraternity including those in private and even some missionary hospitals need to deal with in the most transparent and frank manner to avoid such depressing situations that also depict Kenyans and their institutions as "cruel and unusual." Doctors swear to devote their lives helping to heal both the mind and body of patients without discrimination. However, today a delicate act of making decisions that have been influenced by non medical groups - dealing with politics, finances and security for example- in a manner detrimental to the wellbeing of the sick.

Thus Kenyatta National Hospital, one of Africa's largest referral and training institutions with nearly 2000 bed capacity, deserves extra support - including finance, medicines, equipment, and medical specialist- to cope with increasing number of patients unable to pay their medical bills. The board of management needs more innovative ways of injecting extra resources to help KNH cope with its work in an environment of economic depravity. Otherwise whatever good KNH does is doomed, especially when, memories of some outstanding good deeds seem to fade fast. Practical policies and innovative ways of ensuring that the poor also have access to quality care and are treated humanely by medics also need to uphold the dignity of life.

The manner in which KNH handled patients during the 1998 terrorist bomb blast that killed over 250 people and injured over 3,000 remains exemplary. Indeed some private hospitals are alleged to have kept off emergency victims fitting certain profiles. Still, their state of emergency preparedness was minimal compared to KNH.

More recently after 2007 elections when Kenyans turned on each other in a manner that almost reduced it to another savage nation on the path to self destruction, Kenyatta National Hospital again did an excellent job in treating and discharging victims of political violence including those from slums of Kibera and Eastland. Practically all such patients had no chance of getting treatment from any of the major private health facilities.



## Africa's Water Crisis: A Quarter Of A Billion Dollars Down the Drain

HUNDREDS of millions of dollars have been wasted on rural water projects in Africa, threatening the health and livelihoods of millions of vulnerable people according to a forthcoming briefing paper by the International Institute for Environment and Development. The announcement came ahead of the UN's World Water Day (22 March).

Tens of thousands of boreholes in rural areas have fallen into disrepair, depriving poor communities of water because donors, governments and nongovernmental organisations have built infrastructure but ignored the need to maintain it.

The paper provides a 30-point checklist of features that rural African water supply systems need to succeed. They include the right technology, community ownership and local capacity to repair and maintain wells.

"The water community has often focused on building infrastructure, rather than on maintaining it. This failure is forcing

women and children to carry water over great distances with serious impacts on their health and education," says Jamie Skinner, the paper's author. "It is not enough to drill a well and walk away. Water projects need to support long term maintenance needs and engage local communities. Without this, it is like throwing money down the drain."

Tens of thousands of new water points — such as boreholes with motorised or hand pumps — are created in Africa each year but many fall into disrepair after just a few years. Of 52 deep water borehole and supply systems built by the charity Caritas since the 1980s in Senegal's Kaolack Region, only 33 still function today.

The Global Water Initiative has found that 58% of such water points in northern Ghana needed repair. In western Niger, it found that of 43 boreholes, 13 are abandoned, 18 are non-functional for more than three days once a year, and 12 are non-functional for more than three days, more than three times

a year.

"Across rural Africa, some 50,000 water supply points have failed, representing a waste of US\$215-360 million," says Skinner. "It seems simple and obvious but it needs to be said: there is little point in drilling wells if there is no system to maintain them. Every day that a borehole does not provide safe water, people are obliged to drink from unclean pools and rivers, exposing them to water-borne diseases."

The paper says donors, governments and nongovernmental organisations need to realise that funding infrastructure is just part of the solution. Also important are better investments in knowledge, community-led management and government capacity to sustain water supplies. It says local communities must take part in choosing and maintaining appropriate technologies, and how much they are willing or able to pay to maintain them, rather than having them imposed on them by outsiders.

# THE BIOSAFETY ACT 2009: HOW KENYA STANDS TO BENEFIT

**O**N February 12, 2009, His Excellency President Mwai Kibaki signed into law the Biosafety Act of 2009, making Kenya to move closer to becoming the fourth African nation, after South Africa, Burkina Faso, and Egypt to allow the use of transgenic crops to improve agricultural productivity. The Act establishes a National Biosafety Authority under the National Council for Science and Technology (NCST) to operationalize the provisions of the National Biotechnology Development Policy of 2006 by “supervising the rapid developments in modern biotechnology and providing the legal framework to allow the cultivation of genetically modified crops.”

**Kenya has several advanced research facilities and inherent activities related to transgenic crops. Therefore, the law is much anticipated by leading institutions involved in the development of crop biotechnology including national research institutions such as Kenya Agricultural Research Institute (KARI), National Universities and international development and research institutions.**

The enactment of the Bill into law is a major milestone due to the strategic importance of Kenya in the region and its relationship with the international community in the area of food production and agricultural research. It is the most advanced country in East Africa in terms of modern biotechnology research and development, with crops, such as insect resistant Bt Cotton and Bt maize already in the pipeline. It is envisaged that Kenya’s success will inspire confidence in neighboring countries to speed up enactment of their biosafety laws and regulations to allow for commercialization of beneficial products of modern biotechnology in tandem with other progressive countries that have already adopted the technology into their

farming systems.

**The Biosafety law gives the country a comprehensive and coordinated manner in which to tap benefits from research and enhance self sufficiency in food production. The new law would ensure biotechnology activities are regulated in a safe and responsible manner.**

The Act will allow open field trials that will inevitably lead to agricultural improvements in the country, currently facing chronic shortage of staple food such as maize. For example, the Act will fast track research, development and commercialization of the Water Efficient Maize for Africa (WEMA), a drought-resistant maize. Other major projects in the pipeline include the production of more nutritious Africa Biofortified Sorghum (ABS) and the Biofortified Cassava.

**We appreciate the efforts of the Ministry of Science & Technology and the Agriculture Minister Hon. William Ruto for spearheading the enactment of the Biosafety Act 2009 to ensure that scientific methods such as biotechnology research are utilized in a regulated and safe manner for the benefit of Kenyans in boosting the levels of food production to alleviate the hunger problem and maintain a surplus for the lucrative regional market whose potential is yet to be fully exploited.**

Globally, the number of countries planting biotech crops has soared to a new high. After 12 years of commercialization, the global adoption of biotech crops continues to rise with new countries realizing the benefits. According to a report released by the International Service for the Acquisition of Agri-biotech Applications (ISAAA), in 2008, global hectareage of biotech crops rose by 9.4% above

previous year by 10.7 million hectares (26.43 million acres) to reach 125 million hectares (309 million acres). A record 13.3 million farmers in 25 countries are now embracing agricultural biotechnology to enhance crop production. The report further says that 90% (12.3 million) of these are resource-poor farmers in 15 developing countries including Africa.

**In a recent stakeholders meeting held in Nairobi and which came at the backdrop of the Biosafety Bill assent by the president and attended by the Ministry of Agriculture, Kenya Agriculture Research Institute, National Council for Science and Technology, Universities, Seed Traders Association, Grain Farmers Associations, International Agriculture Research Organizations, relevant public sector agencies, farmers, biotechnology industry players and the media, participants thanked the president for assenting to the bill with effect paving the way for Kenya to join the ranks of other global players in tapping the benefits of advanced biotechnology applications.**

With the new law now in place, Kenya stands to instantly gain from the benefits of global trade by cultivating Bt cotton needed to revive the moribund sector. Kenya now has a chance too to grow BT maize to improve productivity. This will enable the country to save foreign exchange that is currently used to import the grain to fill the current production deficit. Kenya will also be able to produce surplus for the regional market whose potential is enormous and in essence generate millions of jobs across the whole spectrum of biotechnology industry as has been witnessed in many countries including South Africa, India, Mexico, china, amongst other developing countries that have embraced the technology.

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## ENVIRONMENT

**I**n its own quiet way Canada's International Development Research Centre has, for nearly four decades, been among the most consistent and reliable development agencies working in Africa funding over 3,500 research activities.

It leads in funding applied research to help poor nations meet various challenges and identify problems that are crucial to their communities socio-economic wellbeing and sustainable development.

In the last two years IDRC has funded over 280 activities with at least 29m. Canadian dollars. Still IDRC and Britain's Department for International Development (DfID) are funding the \$50 million, five-year research program on Climate Change Adaptation in Africa (CCAA). The funding is to support Africa adapt to cope with extreme events of climate change especially poverty alleviation linked to climate change.

Thus when Mr. David Malone, IDRC's new President visited Kenya recently much of the focus, like in other regions of the world, was on climate change and the need to have coping mechanisms.

The head of IDRC is well versed with problems facing developing nations having served as Canada's high commissioner to India and non-resident ambassador to Bhutan and Nepal from 2006 to mid-2008.

IDRC regional office in Nairobi covers 23 countries in the Eastern and Southern Africa Region and Mr. Malone met with 18 regional experts as part of the preparation for the next IDRC Strategic Plan, 2010-15. The experts discussed ways of understanding and addressing needs that are appropriate and specific to Africa.

One of the most successful development support activities from IDRC is the Climate Change Partnership Project which has supported efforts by IGAD's Climate Prediction and Application Centre (ICPAC) to place issues of coping with climate at the top of the development agenda of 10 countries in the Greater Horn of Eastern Africa.

Top experts at ICPAC, working closely with national meteorological departments, are providing leadership on important issues linked to climate change adaptation. ICPAC serves a region haunted by severe rainfall deficiencies, famine, conflicts over resources

# IDRC Helping Africa Cope with Climate Change



apart from helping fine-tune meteorological data.

Thus for close observers it was not surprising that Mr. Malone found time to visit a collaborative research project that includes Kenya's famous "rainmakers." The team consists of traditional "rainmakers" belonging to the Nganyi Clan in Western province, the Kenya Meteorological Department and IGAD Climate Prediction and Application Centre (ICPAC).

It is a rare project in which indigenous science, under the cover of secrecy and mystery, meets modern science in a beneficial manner. It is said that the rainmakers are experts in observing and interpreting changes in plants and animal behaviors that

are associated with emerging or changing weather conditions. CCAA supports action research focusing on adaptation by vulnerable rural and urban communities.

However, there is more. It includes efforts to deal with lack of capacity needed to adapt to climate change in a manner beneficial to vulnerable populations and institutions. It aims to influence policy through evidence based research. CCAA projects facilitate learning, effective communication and sharing knowledge.

Some of CCAA's activities include capacity building workshops, 30 participatory action research projects, education and training, communications and networking or knowledge sharing all of which should result in appropriate planning and implementation.

Still it has involved the mass media to help place issues of climate change and adaptation on the top of Africa's development agenda apart from informing and educating the public.

In West and North Africa there are projects focusing on health, water and climate change. In Benin early weather warning committees in 35 communes were formed to allow farmers to adjust planting according to changes in the rainy seasons.

In East Africa there are efforts to fine tune predictions on malaria outbreak while in South Africa and Madagascar experts are working with multiple stakeholders-municipalities and river basin authorities.

## Africa Needs to Produce More Fuel from Waste

AFRICA has abundant raw materials for producing biogas. Waste including slaughterhouse remnants, animal dung and sewage can be converted through anaerobic digestion into biogas used for cooking and even vehicle fuel and the liquid or solid waste product as a fertilizer.

However, a recent assessment of efforts to research and apply biogas technology says production plants are not widespread because biogas research is impeded by poor infrastructure, lack of human resources and funding needed to purchase and maintain equipment and running costs.

"Biogas production can provide high-quality organic fertilizer for use in fields, increasing yields," says co-author of the research Anthony Mshandete from the University of Dar es Salaam in Tanzania.

Such units also reduce the risk of pollutants contaminating rivers and landfills and lower the demand for wood and charcoal, both of which are implicated in climate change and respiratory illnesses, he told SciDev.Net.

The technology to produce biogas for farms and households has been in use in Africa for three decades but high maintenance costs are restrictive, says Mshandete.

Smaller plants, which typically power households or schools, can be of poor technical quality, are not reliable and perform poorly in most cases," the report says.

These smaller plants, found in many countries including Burkina Faso, Ghana, Lesotho, Morocco, Nigeria, Senegal, Tunisia,



Uganda and Zambia, were often installed by nongovernmental organizations.

The authors recommend investment in large-scale fermentation plants taking more than 100 cubic metres of waste, as found in Botswana, Cote d'Ivoire, Egypt, Ethiopia, Malawi, Rwanda, South Africa, Tanzania and Zimbabwe.

A pilot project running since July 2006 in Tanzania's Korogwe district can yield 150 kilowatts of electricity from sisal waste, enough to provide power to a rural community, says Mshandete.

But researchers must determine which locally available materials are appropriate and investigate how to optimise the process, say the authors. For this they suggest joint research programmes between African and developed countries, which should also explore technology transfer.

*(Reported by Munyaradzi Makoni and Christina Scott, SciDev.Net) The review was published in the African Journal of Biotechnology in January 2009*

## Climate Change Linked to Lethal Infections, KEMRI Expert Says

DEVELOPMENT of deadly disease strains is linked to climate change, Dr Andrew Githeko of Center for Global Health Research at Kenya Medical Research Institute says.

Dr Githeko told the recent East African Health and Scientific Conference in Nairobi, Kenya, that there is an increase in the spread of viral, bacterial and parasitic diseases due to climatic changes brought about by human activities that also lead to the build-up of green house gases.

He said that malaria, tuberculosis, diarrhoea and Rift Valley Fever among others are diseases associated with climate change which is a reality. Dr Githeko said that the warmer the environment the faster the rate of mutation and development of disease vectors.

"There is latitudinal shift of malaria from the Western to Central parts of Kenya. The mosquitoes vectors have migrated to Central region where they spread malaria to people with low immune system. Dr Githeko said. HIV-Kalazaar co-infection is proving to be a devastating combination accelerated by weather changes, he added.

## Network Dealing with Impact of Climate Change in Africa Formed

By Obadiah Ayoti

PLANS are at an advanced stage for the establishment of a Global Climate Change Adaptation Network for Africa to spearhead mitigation of effects of climate change in the continent.

The network is set to enhance climate change adaptation capacity of developing countries by mobilizing appropriate knowledge and technologies to help build the climate change resilience of vulnerable human systems.

At a regional consultative forum on the development of the Global Climate Change Adaptation Network for Africa held recently in Nairobi, Kenya unanimously agreed that the network was necessary to bring together different kinds of expertise and capacities to address climate change.

The meeting brought together experts from Africa, government representatives, civil society organizations, regional bodies, research centres, ground facility centres and donor agencies.

According to a communiqué released after the end of the meeting, the envisaged network will among other things improve the accessibility and applicability of existing knowledge on climate change. "The network would focus on key thematic and priority areas notably water, agriculture, coastal zones and mountain areas, forest and energy. Best practices and coping strategies would be promoted/strengthened and existing capacity mobilised and shared," reads the communiqué in part.

It will also enhance collaboration between sectors and regions and facilitate the sharing of best practices and lessons learnt.

During the two-day meeting, the participants emphasised on the need for the network to bring all stakeholders on board in order to bridge the gaps between science, policy and implementation. Other function of the Global Climate Change Adaptation Network for Africa will be to bridge the knowledge gap by integrating traditional and indigenous knowledge with modern science and technologies so as to increase the continent's level of adaptation to climate change.

The meeting mandated the United Nations Environmental Programme (UNEP) to set up an interim steering committee to work on the development of an implementation plan of the network.

The committee which will have a secretariat at UNEP will develop a vision, functions, set priorities and agenda for the network.

The Global Climate Change Adaptation Network for Africa is a project of UNEP, United Nations Development Programme (UNDP), United Nations Educational Scientific and Cultural Organisation (UNESCO), World Meteorological Organisation (WMO) and International Union for Conservation of Nature (IUCN).

Other organisations in the partnership include United Nations Framework Convention on Climate Change (UNFCCC), Economic Community of West African States (ECOWAS), United Nations Institute for Training and Research (UNITAR) and United Nations International Strategy for Disaster Reduction (UNISDR).

The parties to the UNFCCC have recognized the importance of promoting adaptation actions and have adopted actionable mandates under UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI).

During the 28th SBSTA session, regional centres on climate change agreed to promote existing networks for impacts, vulnerability and adaptation and encouraged establishment of new networks.

# Launching 'AfricaAdapt'

An exciting new initiative on knowledge sharing for climate change adaptation in Africa known by the name "AfricaAdapt" will be launched on 1st May 2009.

AfricaAdapt is an independent bilingual network focused on Africa and primarily led by African organisations.

It will facilitate the flow of climate change adaptation knowledge for sustainable livelihoods among researchers, policy

makers, civil society organizations and communities that are vulnerable to climate variability and change across the continent. AfricaAdapt will offer a range of services and opportunities both through the internet and face-to-face: encouraging the sharing of resources; facilitating learning; and building a community of practice on adaptation in Africa.

The initiative is designed to work closely with various organization dealing with

weather and climate issues including Nairobi based ICPAC. It is going to help in gathering packaging and disseminating important data and information from experts, communities, national and regional organizations. It is funded by Canada's International Development Research Center (IDRC) and Britain's Department for International Development.

## \$400 million Charcoal Industry Underrated

By Henry Neondo

THERE is much hypocrisy in Kenya and other African nations when it comes to the use of charcoal as fuel. Practically, all Kenyans including homesteads of ministers and even heads of state and five star hotels use charcoal. Yet charcoal traders are depicted as the demons behind deforestation and are subjected to arbitrary arrests.

There is a dynamic market for charcoal throughout Kenya. Yet the production and transportation has remained invisible, unregulated, disorganised and characterised by corrupt practices, giving the industry an illegal status and a negative image, forest stakeholders have said.

Kenya, for example, loses over Kshs 5.1 billion (USD 0.4 billion) annually because of non-regulation and lack of value added tax collection mechanisms for the charcoal industry.

D.K. Mbugua, Director Kenya Forest Service, says since the high value of charcoal is not captured in the national economic statistics; it remains a low profile industry, a status that makes it difficult to access funds for its development. He adds that the charcoal industry in Kenya employs over 700,000 people who support over 2 million dependants.

According to PS Ministry for Forestry and Wildlife Mr. Mohammed A M Wa-Mwachai, "the challenge is to fully commercialize the production and marketing of wood fuel, including charcoal as the forest sector develops strategies to realize sustainable production and efficient utilization of wood fuel including promotion of efficient wood energy technologies.

Arid and Semi arid areas provide the biggest source of charcoal for energy in urban areas but the methods of production and tree resource utilization have not always been consistent with the norms of sustainable forest resource management. According to the PS, annual turnover in the Kenya's charcoal industry is valued at upwards of \$450 million fueled by the fact that 82% of urban dwellers in Kenya depend



on charcoal as a fuel source.

But according to experts, in spite of the significance of charcoal in the national economy there still is a lack of clear legislative framework to regulate production, transport and marketing of the same, resulting in a stifled industry. The country has adopted a new forest law, the Forest Act of 2005, which experts feel is inadequate as it operates without clear guideline as the country still does not have a forest policy.

The Forests (Charcoal) regulations are expected to regulate production, distribution and marketing of charcoal in order to make it a viable and environmentally sustainable venture. The Act also provides for promotion of the use of fast maturing trees for energy

production, including bio fuels and the establishment of commercial woodlots, including peri-urban plantations. However, the detailed guidelines and regulations to facilitate implementation are not in place, hence the need for charcoal regulations.

Two recent studies show that over 85% of the charcoal used in the country is produced outside government forests. The first study estimates 45% from private and group ranches, 40% from small-scale farms and only 15% from government land, while the second study puts the estimate at 82% from small scale farms and ranches and 18% from government and community land. Mbugua says all these indicate that farmers and ranchers could be facilitated to sustainably produce charcoal for income.

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## briefs

VIST Joins  
KCA University

VICTORIA Institute of Science and Technology (VIST) is joining Kenya College of Accountancy KCA University in a new partnership to advance entrepreneurial education in Africa. A Multimedia Centre at the KCAU Kisumu campus is being established. VIST Chair, Mr. Martin Oduor-Otieno, who heads Kenya Commercial Bank, and Prof Daniel Oruoch, the KCA University Vice-Chancellor, were expected to make a public announcement of the move.

Kenya-South Africa:  
More Research Fund

THERE are more opportunities for scientists in Kenya and South Africa to receive funding. First there a joint Kenya-South Africa funding, up to \$45,000 for the scientists in the two countries who are involved in joint projects. Kenya government has also allocated local researchers \$4million for the funding of scientific research. This is an increase of 33 percent from last year. However, credible information indicates that even last year's allocation was not fully used. More information can be obtained from Kenya's National Council of Science and Technology (NCST).

Egypt, Nigeria Now  
Ahead of S. Africa

FINALLY there are whispers that Nigeria and Egypt are publishing more research papers than South Africa, the continent's science and technology giant. While such claims will have to be repeatedly confirmed, South Africa is far ahead when it comes to turning the results into products, services and new processes. Both Nigeria and Egypt are ahead in publishing agricultural research. However Egypt leads South Africa in many fields like chemistry, physics, pharmacology, and engineering.

Verify University  
Rankings

ANYONE who has had the courage to visit and monitor the once famous university of Mogadishu knows that it can not objectively be ahead of many others in the neighbouring nations due to factors that include flight of professors, minimal equipment and widespread insecurity plus little or no pay. There is need to double check not just the relevancy of indicators used, but also those behind such rankings.

## HIV Eradication

IN the rapidly evolving world of molecular medicine and nanotechnology, AIDS drug designers and manufacturers seem to be thinking or moving towards treatments aimed at hitting the virus and its genetic materials hidden or sleeping deep inside human body cells – during the latent period. There are researchers who believe that mass use of ARV reducing viral loads could be a step towards elimination of the virus but the development of drugs aimed at infected cells could be the way out although HIV seems to have unlimited surprises.

## SCIENCE SCENE

## Value Added Weather Forecasts

THERE has been a dramatic positive change in the manner in which African weather experts or meteorologists package their information. Season weather forecasts are increasingly value added and their level of accuracy can no longer be treated with contempt that was common a decade ago.

Even in those days people who really bothered to understand the jargons and the policy environment in which weather experts worked still had respect for them. However, they were professionally a lonely and misunderstood bunch. This is rapidly changing and today when weathermen talk everybody listens.

The ongoing climate change, that once seemed to be a pseudoscience, has played a key role in making the public, policy makers and other professionals seek the company of weather experts.

For Africa there is also increased global collaboration and exchange of important weather information with the World Meteorological Organization at the core. There are inputs- technical and financial - from countries like Canada, USA and Britain.

However, African weather experts – at least those in eastern region-have become more confident and assertive in the art and science of gathering, processing and disseminating weather data and the implications or expected impact.

The work of Nairobi based Igad Climate Prediction and Application Centre (ICPAC) has injected the much needed regional cohesiveness on seasonal weather predictions and expected impacts for at least 10 countries including Tanzania, Uganda, Rwanda, Burundi, Kenya, Ethiopia, Sudan, Somalia, Djibouti and

Eritrea.

In Kenya, the director of meteorological services Dr Joseph Mukabana issued a press release on 2009 forecast for the long rains from March to May with unmistakable clarity and specificity. As a whole rainfall was expected to be normal to slightly above normal in parts of Rift Valley, Western, Nyanza and Coastal strip branded as zone one. The seasonal rain is also expected to continue into June in parts of this zone.

In Rift Valley the specific places include Turkana, Transzoia, Kericho, Uasin Gishu and Nandi. This would also be the case in parts of Western province including Kakamega, Bungoma, Mumias, Butere and Vihiga. The places in Nyanza province include Kisii, Nyamira and Kisumu.

The Eastern section rainfall would be generally depressed ranging from normal to below normal in Coast, Central, Eastern, Nairobi and North Eastern provinces. In Central province specific places include Kiambu, Nyeri, Muranga, Thika and Nyandarua while Eastern province includes Moyale, Masaku, Kitui, Isiolo, Machakos, Makindu and Marsabit. Places in Coast province include Lamu, Tana River, Taveta, Voi and Taita and in North Eastern Garissa, Mandera and Wajir are included.

However, the forecast contained more. It listed potential impact of the long rains and this indeed a major service to various authorities that have always used the “unpredictable” weather conditions as excuses for failure or inability to practically prepare or plan for coping mechanisms in various sectors.

The press release contained not just the expected impact but also important suggestions



Seasonal weather forecasts nowadays include information on crops.

of some appropriate actions in sectors that include agriculture and food security, energy and industry, transport sector, water resource management, livestock, environment, public health and disaster management.

For example in agriculture, the suggestions like the planting of fast growing seed varieties to help cope with reduced rainfall and the need to watch out for waterborne diseases is included in the forecast.

In summary meteorologists are clearly at the centre of Africa's socio-economic development. (Otula Owuor)

ICT Board In  
Leadership  
Meeting

By Henry Neondo

TELKOM Kenya and Kenya ICT Board held a three-day-thought leadership workshop bringing together some of the world's top ICT companies and senior government officials.

Speaking during the opening ceremony, Telkom Kenya's CEO Dominique Saint Jean said, “This Business Connected Summit comes at a very important time for all of us who are key stakeholders in Kenya's ICT sector as we have a critical role to play in realizing Vision 2030 including consolidating Kenya's position as East Africa's ICT hub and positioning the nation as a major player in the continent's Business Process Outsourcing sector.

“The public shareholding of Telkom Kenya provides us with a unique mandate to serve the Kenyan people and to play a leading role in building the Kenya – an opportunity we proudly embrace.”

The Connected Business Summit took place at the Mombasa Continental Resort and focused on challenges and opportunities in ICT for the private and public sectors.

The Summit was organized by Telkom Kenya and co-hosted by the Kenya Information Communication and Technology Board and supported by other key players in the communications industry including; Cisco Systems, Intel, Hewlett Packard (East Africa), Microsoft, Deloitte, Oracle, Dimension Data, and Google.

Key topics included Public Private Partnership and Infrastructure for Transformation, Centralizing Data Management to Drive a Connected Government, E-Government projects and facilitating wider access to technology.

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**VACCINES**

## Rabies Could be Eliminated

AFRICAN nations are haunted by myriads of diseases making health ministries overlook rabies among other infections. However, it is one of those infections that is curable and could be easily eradicated if the right treatment and preventive measures are taken to save the lives of 55,000 people—mostly in Africa and Asia—killed by rabies virus annually.

As indicated in our last issue, rabies virus infects the body usually through a bite from a rabid animal. It initially multiplies around the wound and travels along the nerves ending up in the brain and spinal cord or the central nervous system then spreads to the whole body. Once the virus reaches the central nervous system its outcome is fatal thus prompt action is always needed after dog bites.

The emergence of the disease or the incubation period is two to three months. However, it can be very fast or slow with the disease signs emerging within days or even years respectively.

The earliest signs include disease pain or unusual sensation around the bite, then fevers, headaches, nausea, loss of appetite and weakness. Finally, it is coma followed by death.

People have known about rabies for centuries

going back to ancient Roman empires. However, the pioneering French biomedical expert Louis Pasteur is associated with the evolution of rabies vaccines. He believed that if a weaker form of rabies virus is injected into dog it acquires ability to fight off the disease. Vaccination is the only proven effective weapon stopping the virus before it reaches the spinal cord and the brain to finally kill the victim.

Rabies in humans is completely preventable through appropriate medical care. Some of the names of rabies vaccines available in the market include Verorab, Merieux Inactivated Rabies Vaccine, Imogam Rabies/Rage, Favirab and Imovax rabies. However, in most African nations there is always the need to be on the lookout for counterfeits sold by those exploiting the weakness of regulatory authorities.

Increased awareness and availing resources, especially vaccines, against both human and animal rabies holds the key to eradication. As a whole some of the factors associated with the spread of rabies include poverty, urbanization and large dog population stray dogs. Decline in veterinary services, lack of appropriate education and information are linked to the spread of rabies.

## Understanding Vaccines

Barely three decades ago the development of vaccines seemed confined to the world of viruses and bacteria. However, nowadays this expanded to include more complex microbes like the malaria parasites. However, few innovations rival vaccines with their proven positive impact on human and livestock health.

Generally vaccines – with weakened forms of germs - help to induce immunity when injected in to humans or animals. The story of vaccines remains inseparable from the pioneering hypothesis of Louis Pasteur, a giant in the biomedical world.

His discovery that infectious diseases are caused by microbes leading to the “germ theory of disease.” It extends to the finding that using weakened form of pathogens could protect the body from the disease it causes in other words vaccination leading to immunity.

However, Edward Jenner is associated with the discovery that inoculation with pus derived

from cowpox prevented the disease, in an experiment in which he injected someone with pus from cowpox lesions.

Nowadays there are generally six types of vaccines capable of inducing immunity. These include killed or inactivated microbes; weakened or attenuated microbes and inactivated bacterial toxins or toxoids.

There is also the use of parts of components of microbes for example its carbohydrate components like the capsules. The fifth include genetically engineered parts of microbes or recombinant vaccines. Then there is the use of synthetic parts of micro-organisms to make modern vaccines against, for example, the AIDS virus.

Some examples of common vaccines include those of cholera lasting up to six months,, DPT ( Diphtheria, Pertussis, Tetanus), tuberculosis, typhoid fever, polio, yellow fever, mumps, measles, influenza, hepatitis A and B, meningococcal infections, and others.

BY Ochieng' Ogodo, NAIROBI

FOR nearly 40 years, scientists have grappled with the idea of finding a vaccine for malaria with no success. Vaccine development has been tough, because the malaria parasite develops many strategies to escape an immune response while multiplying in wait to be carried by a mosquito to the next victim.

But the evasive search for malaria vaccine could take a giant step forward by 2012 according to scientists working on RTS,S malaria vaccine candidate.

According to Joe Cohen, Vice President and Head of Emerging Diseases and HIV Vaccines at the Glaxosmithkline “all the data needed to go forward with Phase III trials of the RTS,S vaccine in eleven sites in seven African countries already exist.”

In an interview with this writer in Nairobi recently, Cohen said their optimism resulted from Phase I and II trials, which have worked well, especially on the efficacy and safety of the vaccine candidate.

Phase I Clinical Trials established the safety and measured immune response in malaria-naïve and malaria-exposed populations. Phase II Clinical Trials was used to monitor safety and potential side effects, measure immune response, preliminary efficacy against infection and clinical disease and determine optimum dosage and schedule.

The results of the trials on more than 2,000 children that started in 2003 in southern Mozambique demonstrated the viability of administering a malaria vaccine in children. The findings published in 2004 and 2005 in the The Lancet showed that RTS,S was effective for 18 months in reducing clinical malaria by 35 percent and severe malaria by 49 percent, thus establishing RTS,S as the most advanced malaria vaccine candidate.

Data published on October 17, 2007 showed it reduced infection by 65 per cent over three months of follow-up, after a full vaccination course in infants, the group most vulnerable to malaria.

The vaccine also reduced the risk of clinical malaria by 35.5 per cent over a six-month period following the first dose. It also displayed a significant promise of safety and tolerability profile similar to standard EPI vaccines commonly given to infants, including comparable pain and swelling.

This trial was the first proof-of-concept in infants of any malaria vaccine candidate, and substantially advances the vision that a vaccine could contribute to reducing the intolerable burden of disease and death caused by malaria.

Kenya is among the countries where a large-scale Phase III trial—the last stage of development before licensure—will be launched if approved. Other countries are Tanzania, Mozambique, Malawi, Gabon, Ghana and Burkina Faso

# Malaria Vaccine Around the Corner

### Waiting for approval

Dr. Salim Abdulla of IFAKARA Health Institute in Tanzania says that data gathered from Phases I and II trials had proved that the vaccine is safe and effective against malaria parasite Plasmodium falciparum in children.

What remains for the final phase to commence, he said, is approval from regulatory authorities-local and international-and national ethical boards from the seven countries. “We will ask about 16,000 children to participate so that we see what the vaccine can do and we hope this will be in the first quarter of 2009,” said Abdulla.

“We will qualify the level of protection this product can offer to different parts of Africa and approval will come from institutions, regulatory authorities and potential participants in the study, he said. The authorities will, among others, be keen on whether the science to be tried in their midst is safe; that it is culturally, socially and politically acceptable to those it is being tried on, added Abdulla.

The submissions for Phase III trials have been made but the verdicts may delay a little bit depending on individual countries as some may have multiple regulatory authorities each of which must put its signature of approval. According to Cohen the World Health Organization and different regulatory authorities in Africa decided on a joint review of the proposal next October in Zanzibar.

The parasite, Cohen said, has a complex life cycle in human beings. The vaccine targets a protein found on the surface of the parasite, a part which, he said, is fixed. But the vaccine can only be effective in the early stages “It is effective against the parasite that causes severe and mild malaria

in children,” said Cohen.

### Different countries

The grounds for choosing different countries in Africa instead of just a few are mostly biological and scientific.

Cohen said the vaccine, administered intramuscularly in three doses at interval of six, eight and 14 weeks, is a purified protein in a particular formulation designed to increase the capacity of immunity in people. It's not a live vaccine and requires refrigeration between 2° to 8° Centigrade.

It is a recombinant protein that fuses a part of the P. falciparum circumsporozoite protein with the hepatitis B surface antigen. Combined with a proprietary GSK Adjuvant System, RTS,S brings on the production of antibodies and T cells believed to diminish the capacity of the malaria parasite to infect, survive, and develop in the human liver.

Besides inducing partial protection against malaria, the RTS,S vaccine candidate is also designed to protect against hepatitis B, a severe form of hepatitis, and is an important etiological factor in end-stage liver disease and liver cancer.

### Economic burden

Malaria depletes away US\$ 12 billion annually from Africa's economy. According to WHO, 300 to 500 million cases of malaria and 1.5 to 2 million deaths occur

annually worldwide, 90 percent being in Africa where a child dies of malaria every 30 seconds yet it is a treatable disease.

Malaria, Abdulla explained, is the number one killer of children below the age of five in Africa and the figures are conservative given the systems being used to count the number of children dying out of the scourge is not optimal.

In some cultures, children who develop severe malaria and consequently convulse are believed to have been obsessed by the spirits and are never taken to hospitals. Abdulla also observed that there is enormous loss of man-hours when children fall sick and parents have to set aside their daily chores to attend to them. It also depletes the scanty financial resources at house hold levels.

### Most advanced vaccine candidate

RTSS is partially efficacious but has proved to be the world's most advanced malaria vaccine candidate and the first to demonstrate in clinical trials that it can protect young children living in malaria-endemic areas.

The vaccine was created in 1987 and early development was undertaken by Glaxosmithkline Biologicals in collaboration with the Walter Reed Army Institute Research. But in 2001 GSK and the PATH Malaria Vaccine Initiative with support from Bill and Melinda Gates Foundation entered into agreement to develop vaccine for young children.

The Phase III studies, stated Cohen, are designed to fully determine the efficacy of the vaccine, and could become the largest clinical trial ever conducted for a vaccine in Africa

Christian Loucq, the director of Path MVI says in the best case scenario in the Phase III trials they will enter into public private partnership that includes governments and international organizations in malaria endemic areas of Sub-Saharan Africa where majority are poor.

—Ochieng' Ogodo is a Nairobi journalist whose works have been published in various parts of the world. He is the English-speaking Africa and Middle East region winner for the 2008 Reuters-IUCN Media Awards for Excellence in Environmental Reporting. He can be reached at [ochiengogodo@yahoo.com](mailto:ochiengogodo@yahoo.com) or [ogodo16@hotmail.com](mailto:ogodo16@hotmail.com).

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## KAVI's Decade of Success in HIV/AIDS War

By Clementine Osodo

CLOSE analysis of global HIV infections shows that Africa, more than any other region, stands to gain from the discovery of an effective HIV vaccine. HIV infection is estimated at 33m worldwide, with Africa contributing at least 22ms. Kenya's prevalence is 7.4%, or 1.4m people.

In 1999, Kenya took a bold step toward the search for a vaccine that could end the AIDS epidemic with the founding of Kenya AIDS Vaccine Initiative KAVI at the University of Nairobi Medical School. KAVI, has conducted five clinical trials of AIDS vaccine candidates apart from other non-clinical studies.

KAVI with Funding from the International Aids Vaccine Initiative IAVI, has definitely helped advance the science and art of AIDS vaccine research despite the virus being very elusive when experts worldwide seem closer to their goal. KAVI has developed and acquired some of the most highly specialized and skilled staff needed to cope with not only AIDS vaccine research but other related fields as well. The number has risen from three to 54 including 11 physicians and eight medical lab experts. The facilities include two well equipped clinics and labs. Prof Omu Anzala serves as the program director, Prof Walter Jaoko as the deputy and the pioneering microbiologist and HIV/AIDS researcher, and Prof Ndinya Achola, serving as the consultant

In other words, KAVI is well placed to help in the design, development and testing of future AIDS vaccine candidates and is studying how the body initially responds to HIV including identifying individuals who possess neutralizing antibodies against HIV and how a vaccine stimulates their production. KAVI is evaluating HIV strains circulating in East Africa to help develop relevant vaccine candidates.

According to Dr Seth Berkley, the president and chief executive officer of IAVI, the investment in AIDS vaccine research will not be a waste because with the development of better tools an effective AIDS vaccine remains a possibility that is very important to the world. He believes the vaccine will greatly contribute to the fight against AIDS because they are the most effective medical interventions.

Thus when, on the 26th March 2009, KAVI marked its 10th anniversary, it was clear it has not been a smooth road.

KAVI initiated the first ever AIDS vaccine clinical trials in Kenya in February 2001 in collaboration with University of Oxford, St. Thomas Hospital in London and IAVI. It is the first institution in Kenya dedicated to advancing the search for an AIDS vaccine. However, its work is bound to generate many other innovations.

(Second Instalment in the next issue)

## Researchers find faster, cheaper, more accurate test for sleeping sickness

SCIENTISTS have found a more accurate and efficient way of detecting the sleeping sickness parasites in blood samples. The method drastically reduces the labour, time and cost of carrying out standard polymerase chain reaction tests — opening the way for large-scale studies, according to Samuel Thumbi and Francis McOdimba of the International Livestock Research Institute, Reuben Mosi, a lecturer at the University of Nairobi's Faculty of Veterinary Medicine and Joseph Jung'a from the Institute of Primate Research.

# Family Planning Saves Women and Children

## -Many more lives could be saved

**F**AMILY planning is a lifesaver for millions of women and children in developing countries according to a new report by the private, nonprofit Population Reference Bureau (PRB), released in March 2009 in Washington DC.

"Recent research is shedding light on how family planning increases survival, improves the health of women and children, and helps achieve national goals," says Rhonda Smith, coauthor of the report Family Planning Saves Lives (Fourth Edition). "The latest estimates indicate that family planning could prevent more than 2 million children's deaths annually and up to one-third of all maternal deaths." Maternal deaths occur at the rate of more than one a minute worldwide.

"Family planning forms a safety net for millions of vulnerable women and their children," adds Dr. Jay Gribble, coauthor and vice president of International Programs at PRB. "It permits the healthy spacing of births, prevents the spread of HIV, reduces the number of low birth-weight babies, allows for longer breastfeeding, prevents unplanned pregnancies and abortions, and averts deaths from childbirth that leave infants and their siblings motherless and poorly cared for."

The widespread adoption of family planning represents one of the most dramatic changes of the 20th century. The growing use of contraception around the world has given couples the ability to choose the number and spacing of their children and has had tremendous lifesaving benefits. Yet despite these impressive gains, contraceptive use is still low and the need for contraception is high in some of the world's poorest and most populous places. An estimated 135 million women have an unmet need for family planning—they are not using any method, but report that they want to avoid becoming pregnant.

Long considered a "best buy" among health investments, family planning is even more important in today's financially-strapped environment. As countries grapple with recession and search for better ways to stretch limited budgets, family planning stands out as one of the most cost-effective, high-yield interventions available. At an average supply cost of US\$1.55 per user annually, it offers a safe, affordable, and effective way for governments to reduce maternal and child illness and deaths, as well as reduce national health expenditures on reproductive and children's health problems. At the household level, smaller well-spaced families mean that families can stretch their budgets further, by having fewer children to feed, clothe, and educate.

This latest edition of Family Planning Saves Lives presents updated findings on the crucial role of family planning in improving the health of women, children, and adolescents around the world. It includes new information on how family planning reduces the rate of new HIV infections and deaths from AIDS as well as a "Special Focus" section on the challenges of reenergizing family planning in sub-Saharan Africa, where



programs have languished in many countries over the last decade. This "lost decade" has had devastating results: sub-Saharan Africa continues to grapple with the highest fertility levels in the world (5.4 children per woman), the highest maternal death rates in the world (a woman's lifetime chance of dying from pregnancy or childbirth-related causes is 1 in 22), and, in Africa as a whole,

the highest child death rates—4.8 million children annually. Family planning could prevent many of these deaths—particularly in the poorest countries—by helping women space births, bear children in their healthiest years, and have their desired number of children.

(The full report is available at [www.prb.org](http://www.prb.org).)

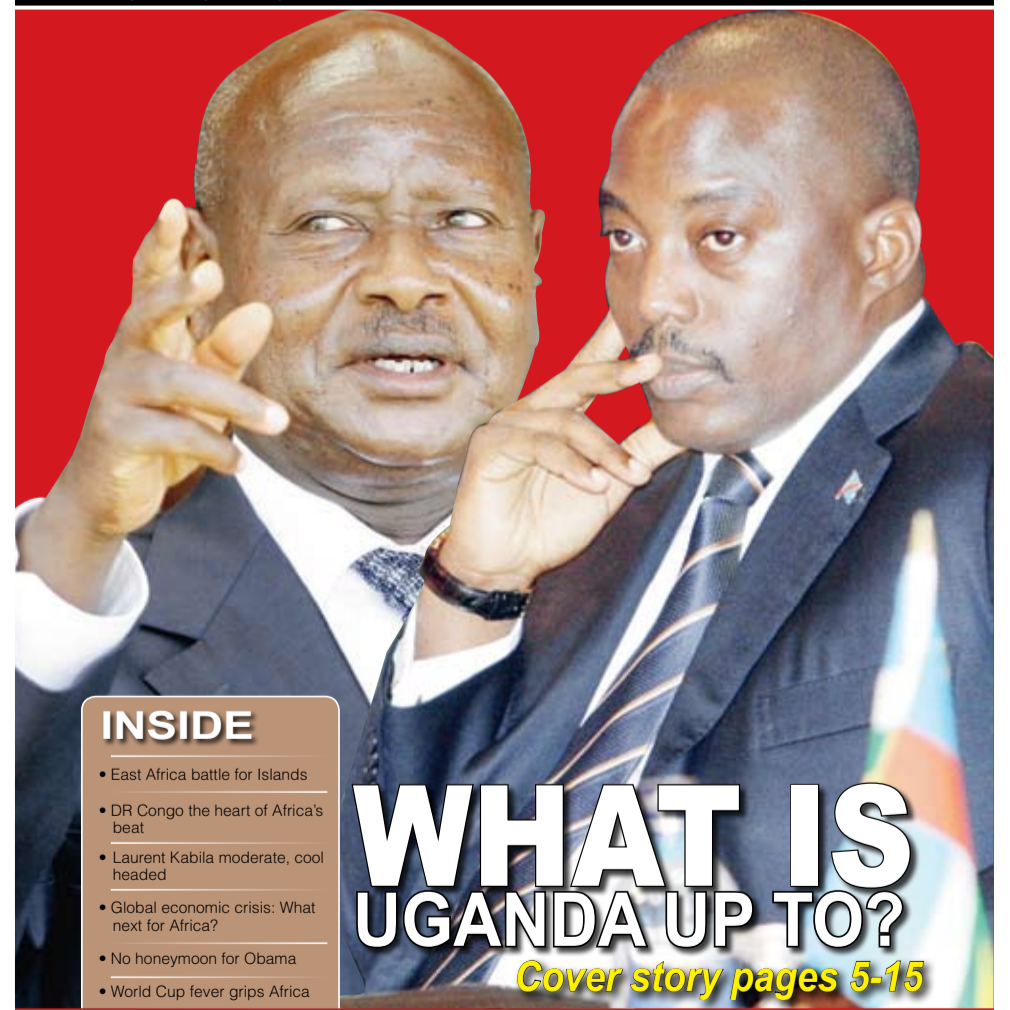
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# WHAT IS UGANDA UP TO?

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South Africa R25, Nigeria Naira 250, US\$6, UK Pound 3.7, Japanese Yen 950, Canadian \$8, Europe 4.5 Euro, Middle East \$5