Kenya Wetlands Biodiversity Research Team

Papyrus Newsletter

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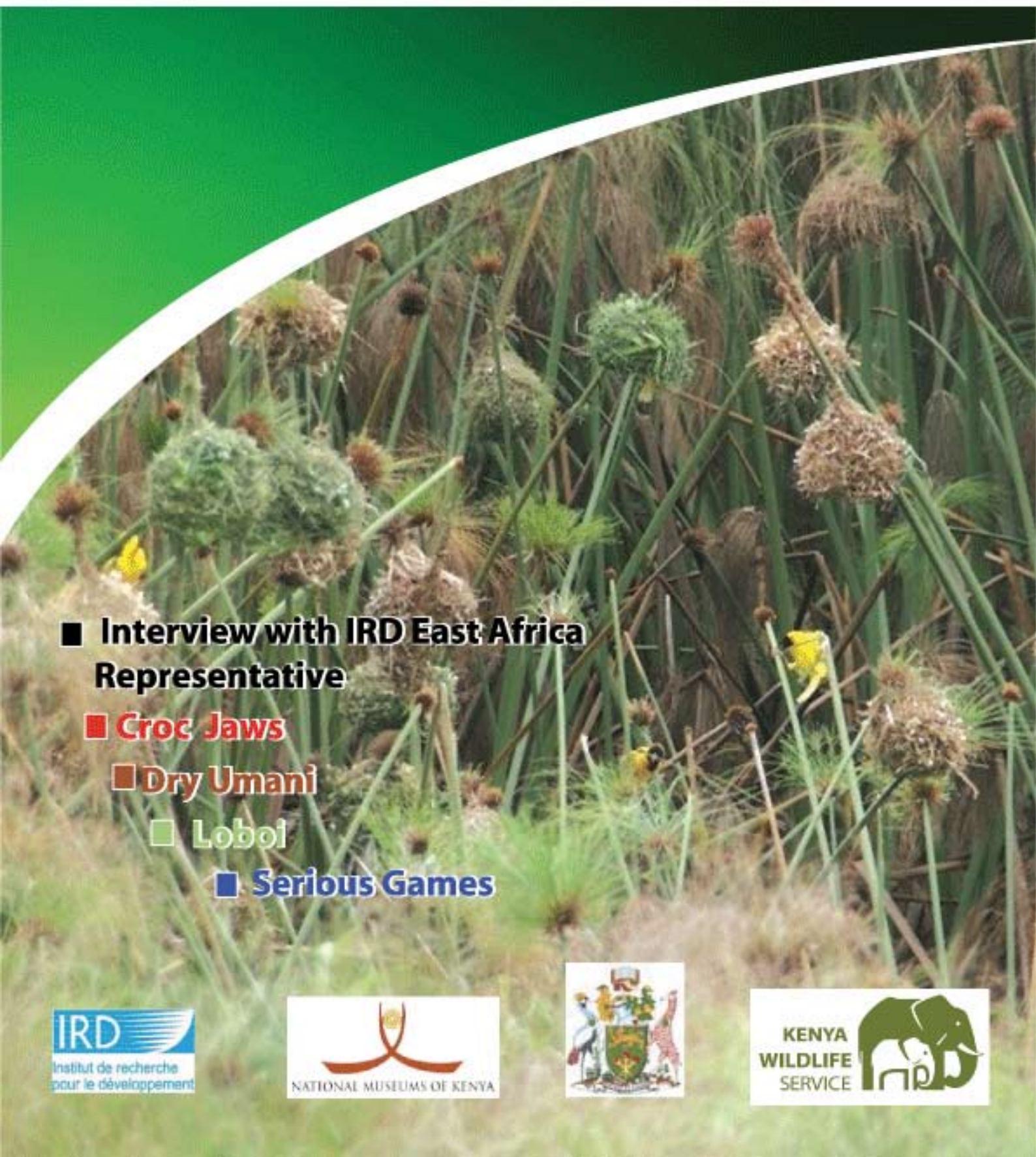
KENWEB



- Interview with IRD East Africa Representative
- Croc Jaws
- Dry Umani
- Lobol
- Serious Games

IRD
Institut de recherche pour le développement

NATIONAL MUSEUMS OF KENYA

KENYA WILDLIFE SERVICE

EDITOR'S LETTER

Perched high on the coastal dune with sunset views of the meandering Tana River, the mangrove and a wildlife rich grassland and sunrise views of an infinite stretch of pristine beach and dense coastal shrub to the north and the south, the Mulikani community lodge, owned and managed by villagers from Ozi is the ideal get-away-from-it-all place

In this Issue

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Dear Readers,

Welcome to the second issue of KENWEB's Papyrus Newsletter.

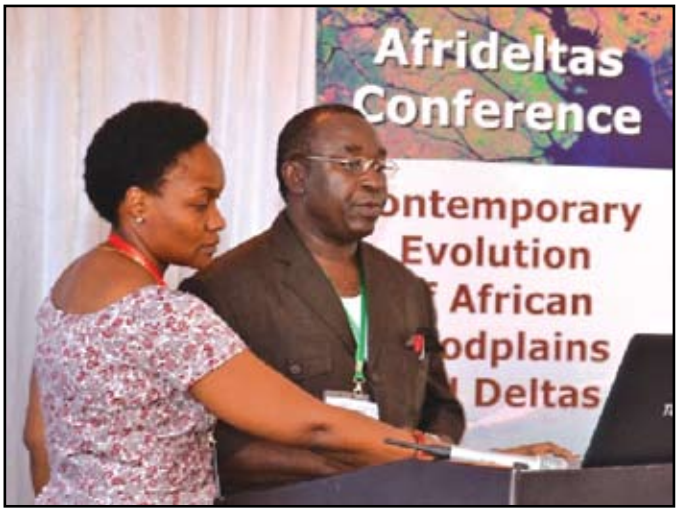
After the tragic events that affected the Tana Delta in 2012 and that led KENWEB to bring the different parties together in a dialogue http://youtu.be/MRxZkO5_bmo in the hope of contributing to the development of a common vision of the future, the wider lower Tana area has been hit again by wanton violence. Again friends of peace and cohesion lost their lives and our thoughts go out to the bereaved. The resulting insecurity has again adversely affected the well-being of the residents and puts a further constraint on the development of community-led tourism which remains the highest potential source of non-extractive income for the people of the area. The brave people who own and manage the basic but enchanting Mulikani lodge (for reservations contact hiribaeibrahim@gmail.com), a beautiful place on the coastal dune but that was vandalized during the previous violence (and their boat engine, their most essential tool to be able to show the values of the delta, stolen and thrown in the river), would really deserve your support e.g. by a visit for a few nights during the next school holidays. Please do remember it is self-catering! The one thing the Delta doesn't need this time round is another flurry of disaster tourists, vaguely mentored students and pie-in-the-sky projects from do-gooders passing through on quick fly-by trips to record disinformation and leave nothing but expectations.

In spite of all this, KENWEB endeavours to continue processing its research results into various products that are hopefully more palatable to society than scientific publications, e.g. the Tana Delta Policy Brief targeting decision makers, the Komba magazine contributions targeting the next generation and our general "clever noise" and local empowerment approach as exemplified by our facebook page and other initiatives. The African Deltas Conference 2014, held on the 27 to 30th May 2014 in Dar es Salaam Tanzania also provided us with an avenue to present our research findings to other researchers, students and policy makers. The conference was a huge success where the participants shared their research, management and governance experiences from various deltas and floodplains across Africa.

Enjoy!

AFRICAN DELTAS Conference 2014

"The contemporary evolution of African Floodplains and Deltas"



Co-organisers Prof. Amos Majule and Catherine Masao from IRA, University of Dar es Salaam

Floodplains and deltas are both environmental infrastructure and social equalizers of extremely high value which require multi-disciplinary holistic approaches to effectively manage and utilize.

The first African deltas conference was organised by the IRD, IRA and KENWEB and held on the 27th to 30th May 2014 at the Coral Beach Hotel in Dar es salaam, Tanzania. It brought together over 100 researchers and experts from all over Africa in a thought-provoking environment with the aim of comparing case studies so as to learn from each other's experiences in managing deltas and floodplains in Africa as well as drawing generic research questions. Furthermore, lessons learnt during this conference were shared with local users and decisions makers.

Opened by Prof. Florens Luoga, Deputy Vice Chancellor of Research and Knowledge Exchange of the University of Dar es Salaam. It featured 35 oral presentations and 15 poster presentations. Research institutions and Development agencies such as Belgian Technical Cooperation (BTC), French institutions such as IRD and their programmes HEREGO on heritage and PATEO on deltas in West Africa, Canadian IDRC with their DECCMA programmes on deltas, Tanzanian IRA (University of Dar es Salaam), and KENWEB also presented their work, areas of interest and methodologies.

The participants discussed three themes. Each day of the conference had a corresponding theme which were:
- Recent evolution of flooding patterns
- Sharing natural resources in a multi-user context and
- The future of African floodplains and deltas.

Day 1 focused on the recent changes in the flooding patterns and sediment supply owing to various drivers such as land use change, increased abstraction, dam-building and climate change in 3 sessions covering flood pattern change, pollution issues and carbon transformation and storage in sediments.

On day 2 participants discussed on biodiversity values, natural resource governance and management practices, floodplain and delta users including stakeholder solidarities and conflicts. The interactions between biodiversity, ecosystem services and human well-being were also explored. The sessions covered resource access and governance, mangrove dynamics and wetlands of Tanzania.

On the final day, participants focused on how to promote environmental, social and economic sustainability. Various scenarios for the future of these ecosystems were also looked into.

Kassim Kindinda, who collaborated with the IRD team in Rufiji for over ten years explains recession farming

Interactive panel sessions were held after each session where all the speakers from that session exchanged intensely with the audience on some of the key lessons for management drawn from their experience. They also provided opportunities for the development of a common vision for collaborative research, training and technology transfer.

A major highlight of the conference was the visit by H.E. Hussein Dado, the Kenyan Tana River County Governor, during the session on scenarios for the Tana and Senegal Deltas, including ecosystem restoration. The governor and his team were very active throughout the day's proceedings invited the KENWEB team to the Tana Delta to come and share their research results.

H.E. Hussein Dado, the Kenyan Tana River County Governor

The conference came to a close with an interactive wrap-up session that targeted decision-makers. All the highlights, experiences and lessons learnt from the various presentations were summarized.

In conclusion, it was proposed that an Africa-wide network of researchers could brainstorm and, based on a small set of criteria, select a few floodplain and deltaic systems we could all work on together. All disciplines and skills needed for the management and conservation of deltas are available continent-wide, but not in any single country. This network would also provide a much needed neutral space in which practitioners can share experiences continuously.

Closing speeches from the French Ambassador to Tanzania, Marcel Lescure and the Hon. Deputy Minister for Natural Resources and Tourism, M. Mgimwa officially marked the end of the conference.

On the next day the conference participants were treated to a field excursion to the majestic Rufiji River and floodplain.

For more information on all the presentations, panel session discussions, highlights of the conference, etc. visit https://www.facebook.com/afrideltas2014?fref=ts
www.kenweb.or.ke

CROCODILE JAWS DAM

In 1936, the Hoover Dam, the world's first mega-dam was built near what was then the little town of Las Vegas, Nevada. The Hoover dam's massive concrete wall holds back the water of the Colorado River, fuelling the growth of a major city and helping to turn the arid landscape into a lush, green and lucrative new Babylon of gambling and some of humanity's other sick obsessions, euphemistically designated as a "resort" city. Downstream, this dam destroyed the Colorado River delta across the border in Mexico which used to be a vital stopover for millions of migratory waders and had an important prawn fishery. A first reflooding of this delta through managed releases from dams was practiced in 2014.

While the US has entered a dam decommissioning phase and is trying to repair the damage done, Kenya is affected by dam-building fever with 36 mega-dams proposed as part of Vision 2030, the development blueprint designed by the consultancy firm Price Waterhouse Coopers with little or no bottom-up consultation or ground-truthing. In fact this blueprint is mostly a cut-and-paste exercise sold to a majority of African countries. The plan is to harness our rivers to provide for drinking water, water storage, flood control and irrigation. Previous experience, e.g. the Turkwel dam, has shown that cost overruns can be enormous, benefits intangible and negative impacts downstream huge.

In early 2013, the National Water and Pipeline Corporation (NWCP) announced plans to build a mega-dam on the Ewaso Nyiro River at Crocodile Jaws in Laikipia county, mainly to supply the planned "resort" city of Isiolo with water and electricity. The waters of this river draw wildlife in great numbers to its banks, creating an oasis of green in an otherwise arid landscape. Along its 435 mile journey, the river supports teeming wildlife also in the Samburu, Shaba and Buffalo Springs Reserves in Northern Kenya as well as recharging the groundwater of the Merti aquifer that supplies north-eastern Kenya and Southern Somalia when its surface water reaches the magnificent Lorian swamp. In Kenya, a country classified as "water scarce" by the UN, every drop of water means life, not just for wildlife but also for many private and public stakeholders who depend on the river for their livelihood and income. Pastoralist communities such as the Merti and Samburu, as well as private land owners will be affected by any changes to the flow of the Ewaso Nyiro River.

Reservoirs from large dams in drought-ridden areas evaporate huge quantities of water and often result in increased environmental problems and human health risks. Nutrient-laden sediment will be trapped behind the dam, rapidly reducing its volume and entailing a risk of eutrophication. Reservoirs are also an ideal breeding grounds for mosquitoes and snails, the vectors that carry malaria and schistosomiasis. With NWCP in line to construct many dams in Kenya, they can do them well or miserably. The whole process of environmental and social impact assessment must be improved to deal with these issues and the plight of downstream biodiversity, ecosystems and users must be assessed and compensated as well as mitigated through well-calibrated managed flood releases.

This wide valley in Laikipia, an important habitat and migration route for elephants, wild dogs and other wildlife will be drowned by the reservoir. The unfavourable surface to depth ratio will result in high evaporation and rapid filling with sediments.

Isiolo County is set to grow and develop and resources have to match that development so it is impractical and also poor strategy to oppose all dams on principle. However, alternatives for the water and power supply need to be investigated, possibly with smaller run-of-the-river dams higher up the catchment. A holistic approach, supporting community management of water resources, construction developments and population sensitisation on water resources, management, protection and conservation are vital to ensure Kenya utilises all sound options to avail water for its people, biodiversity and ecosystems. This would also mean looking at to wider picture of why the flows in the river have changed so much with lower flows and more extreme peaks. To restore the original flows, essential with or without dams, would mean looking into catchment restoration, rehabilitation of wetlands converted to irrigation, introduction of more water-effective techniques, etc.

EVENTS & ACTIVITIES

The Satoyama Initiative European Regional Workshop
27th – 29th May 2014, Florence, Italy

The International Partnership for the Satoyama Initiative (IPSI) held its European Regional Workshop in Florence, Italy, in cooperation with its co-host, the Romualdo Del Bianco Foundation and its "Life Beyond Tourism" portal. The theme of the event was "Revitalizing production landscapes in Europe: travel and dialogue for people and biodiversity."

The Satoyama Initiative, whose vision for sustainable societies in harmony with nature, is being realised through the work of the IPSI, a partnership KENWEB has been involved with since 2011. KENWEB joined IPSI as an organisation committed to promoting and supporting socio-ecological production landscapes and seascapes (SEPLS) for the benefit of biodiversity and human well-being. Additionally, KENWEB is a member of the steering committee for IPSI.

SEPLs have formed important linkages between humans and nature in Europe since ancient times, and have contributed to vibrant and resilient societies. However, they are rapidly disappearing in Europe as a result of abandonment of rural lands and changing land use. This has weakened local production, land management and cultural practices. To address these issues, residents of production landscapes have increasingly taken a strategy of accepting more travellers as a way to revitalize their landscapes.

In view of this, the purpose of this workshop was to deepen understanding of the conservation and revitalization of the European SEPLs using responsible and sustainable models of travel and dialogue, and to identify ways to further promote them in the future.

To try and mitigate these SEPL losses, participants agreed that more inclusive involvement of communities is key. KENWEB fully encouraged the adoption of a bottom-up approach in the implementation of conservation initiatives.

KENWEB's experience with SEPLS in Kenya, particularly within the Tana Delta enabled us to share our own experiences to broaden perspectives on different approaches in promoting SEPLs. Our IPSI collaborative activity with Laikipia Wildlife Forum also highlights work with Water Resource Users Associations in securing water in Arid and Semi-arid Areas. KENWEB advocates the use of scientific research and indigenous knowledge in promoting SEPLs as highlighted through two case studies submitted to the IPSI on two deltaic ecosystems in Eastern Africa.

The 5th Global IPSI Conference will be held on 3-5 October 2014 in the Republic of Korea.

CONSERVATION TECHNOLOGY MILESTONE

On Monday 15th September 2014, Conservation Solutions Afrika (CSA)officially partnered with iLab Africa at Strathmore University to further develop and market the iConserve digital monitoring and evaluation platform. The MoU detailing the partnership was signed at iLab Africa premises by Dr. Mordecai Ogada of CSA and Dr. Joseph Sevilla of iLab Africa.

This M&E platform has huge potential for application in Natural Resource Management programs, law enforcement, and other fields of conservation practice. Both Conservation Solutions Afrika and Strathmore are now making plans to roll it out with various institutions and make a big difference in conservation practice in Kenya and beyond.

We at KENWEB congratulate Dr. Mordecai Ogada's, a founding member of KENWEB and look forward to applying this Android-based monitoring tool in monitoring work in Aquatic Ecosystems.

CONSERVATION TECHNOLOGY MILESTONE

Dr. Mordecai Ogada, Director Conservation Solutions Afrika with Dr. Joseph Sevilla, Director iLab-Africa sign MoU for iConserve digital monitoring and evaluation platform

SPECIAL FEATURE: INTERVIEW WITH IRD EAST AFRICA REPRESENTATIVE

Dr Alain Borgel, director of the IRD in Eastern Africa

Dr Alain Borgel is the Representative of the French Institute of Research for Development (IRD) in Eastern Africa. His scientific specialty is in Plant Genetics and Biotechnology and has worked for 30 years in that field particularly in West Africa and France. He was the IRD Representative in Reunion Island (Western Indian Ocean) from 2007 to 2012.

You have been director of the IRD in Eastern African since November 2012. The scope of the institute's work is broad both in terms of location and research. Could you give us a brief overview of what the IRD does? And what is the focus of your current tenure?

The IRD is a French governmental research institution with 2400 staff including 1000 Researchers, Engineers and Technicians who are posted in the South . Some others operating in Kenya are "The French Agricultural Research Centre for International Development"(CIRAD) and some French Universities through the "The French Institute for Research in Africa" (IFRA) in social and political sciences. The IRD has a network of 27 Representations in the South around the world.

The IRD is original and unique on the European development research scene. Emphasizing interdisciplinary, the IRD has focused its research for over 65 years on the relationship between Man and his environment, in Africa, Mediterranean, Latin America, Asia and the French tropical overseas territories. Its research, training and innovation activities are intended to contribute to the social, economic and cultural development of southern countries.

The research we do, aims to build capacity among young researchers in the South. Our mission is to work together in science with the Southern countries to address international development issues. We achieve this by utilizing various tools for partnership such as the JEAIs (Jeunes équipes associées à l'IRD- International Research teams associated with the IRD) , but also providing PHD scholarships to students from the South, supporting research networks, and strategic partnership with key institutions in countries. My mandate as the Director in Eastern Africa, is to manage the IRD teams in the region and help them to attain their goals. I also seek to bring opportunities for development with universities and other institutions and link them, depending on the

possibilities, with research teams of IRD not in the East African region.

The IRD has supported over 90 JEAIs (translation- Jeunes équipes associées à l'IRD- International Research teams associated with the IRD) since 2001, spanning over 25 southern countries and including over 50 institutions. In your opinion, how successful are these JEAIs, including KENWEB, in the region? How has the IRD supported the sustainability of JEAIs in the past and plan to continue to do so in the future?

Yes, the JEAIs have generally been a huge success particularly in the East African region. Since 2009 IRD has supported four JEAIs in the region, KENWEB being one of them. The others are: 1) ISHAC who are a group of historians researching on the legacies of slavery and its consequences in the contemporary Kenyan society. It is actually the first young team in the East African region. Researchers in this group are drawn from the National Museums of Kenya (NMK) in Mombasa, the Catholic University of East Africa (CUEA) and IRD. 2) M-PRAM that is a group of social scientists looking into the history of land use of the territories with researchers from Makerere University, Kenyatta University and IRD. 3) KENCAA which is comprised of a group of agricultural scientists from the University of Nairobi. The team focuses on researching on the impacts of climate change on the threats posed by stem borers on maize. To support the sustainability of these teams, IRD provides them with both financial and institutional support for the first three years. The teams are expected to be autonomous after the end of the 3 year IRD funding period. Links with the teams are maintained thereafter through IRD correspondents who are part of the teams.

Throughout the IRDs work in Eastern Africa, what are some of the critical challenges you face in achieving the organization's goals? What are some of the key challenges specific to Kenya? And how is the IRD prepared to meet these challenges?

One of the key challenge faced in our work is integrating French and English speaking researchers. It's therefore very difficult to have a continuous working collaboration in English speaking countries. In the same way it is very difficult for Kenyan researchers to have working collaborations in French in 27 African countries. The IRD representation in the region is among the lowest of all IRD operations in the South. The challenges faced in working in Kenya in particular, encompasses the fact that the country is large with many universities making it difficult for IRD to have a big impact at the country scale. To overcome this challenge, IRD has very precise or specific actions such as the JEAI's. Other useful tools used include offering PHD scholarship opportunities to Kenyan students. Another specific action taken by IRD, is by providing network support to the researchers in the region through networks such the "Heritage, Resources and Governance" HEREGO Network. It brings together 158 researchers from Eastern and Southern Africa and Western Indian Ocean Islands too, and aims at gathering Scientists together to address all questions arising from both human heritage, tangible and intangible, and natural heritages as well. Several Research Units from IRD are committed in this network with many institutions in this big region.

You recently attended the African Deltas Conference, co-organized by KENWEB, in Tanzania at the end of May. Regarding wetlands particularly, how important do you think platforms like these are in highlighting issues and finding solutions to current problems?

The conference was a success as it brought together people from all over the continent. Such kind of a platform is important because it allows the exchange of ideas and experiences which will go a long way in finding solutions to the current problems faced in the management and evolution of deltaic ecosystems in Africa. By comparing several examples of wetlands in Africa, it is also instrumental for the preparation of the COP 21 on Climate change which will be held in Paris in December 2015, as it was highlighted by the French Ambassador in Tanzania, S.E. Marcel Lescure in his closing speech.

In 2013, the IRD introduced a new charter on professional equality between women and men in the workplace. How useful and effective do you think this will be in the regional representation of the IRD in East Africa?

This charter has been very useful not to mention effective in the southern region when compared to northern region. However, the policy for gender equality is now better than when I started working in IRD some 40 years ago. In the Eastern African Region the gender equality in the workplace is very well balanced.

Professional equity has also been promoted through "The Research for Development Partnership Charter" that is signed by IRD's partners in the North and South. The signatories of this charter are expected to endorse and implement ten principles on good practices in cooperation with the sixth being to promote gender equity in all research and development initiatives.

The IRD has been a huge supporter of KENWEB, playing a key role in supporting the research group in carrying out its activities. Do you have any advice/ comments regarding our activities or do you have any suggestions for us for the future?

KENWEB is one of the success stories of the JEAIs that IRD has supported in the East African region. It has managed to achieve its objectives and also expanded the scope of its activities. The group has also managed to be autonomous even after the end of the funding period. It's my hope that KENWEB can grow and become a most recognized team of researchers, in Kenya and at the International level.

THE RESEARCH FOR DEVELOPMENT PARTNERSHIP CHARTER

The charter that aims to promote a fair and balanced partnership relationships based on reciprocal support with a view to reinforcing, through research, training, innovation and public policies that favour the development of the countries of the South. Its 10 principles are:

1. To involve national, regional and international stakeholders in the strategic debate leading to the conception of research for development programs aiming at research excellence in harmony with the ethical principles of research and its applications.

2. To promote sustainable social and economic development in the South by reinforcing capacity building in research, education, training and innovation.

3. To mobilize resources for the benefit of research and higher education communities in the South so as to strengthen research for development and foster resource sharing and sustainability.

4. To contribute to the establishment and consolidation of international research networks and structures (platforms, observatories, etc.) integrating global issues of development.

5. To adopt a regional approach to the conception of research programs, and particularly, of large-scale interdisciplinary regional programs related to societal, health as well as environmental challenges, so as to respond to the priorities shared with research partners in the South.

6. To promote gender parity in all research and development initiatives, from their conception to their development, and in representative and advisory bodies.

7. To co-design and co-finance programs and participate jointly to fund raising.

8. To involve all stakeholders in the management, implementation and evaluation of research and training programs, as well as in the conception and implementation of value addition plans.

9. To co-edit and co-publish between and within North and South, and to promote dissemination of knowledge and innovation, in particular through exchanges between both research and higher education, and research and industry, while acknowledging traditional knowledge.
10. To promote the release of outcomes to all stakeholders and to enrich the science/society dialogue, by ensuring benefit sharing and by involving all stakeholders.

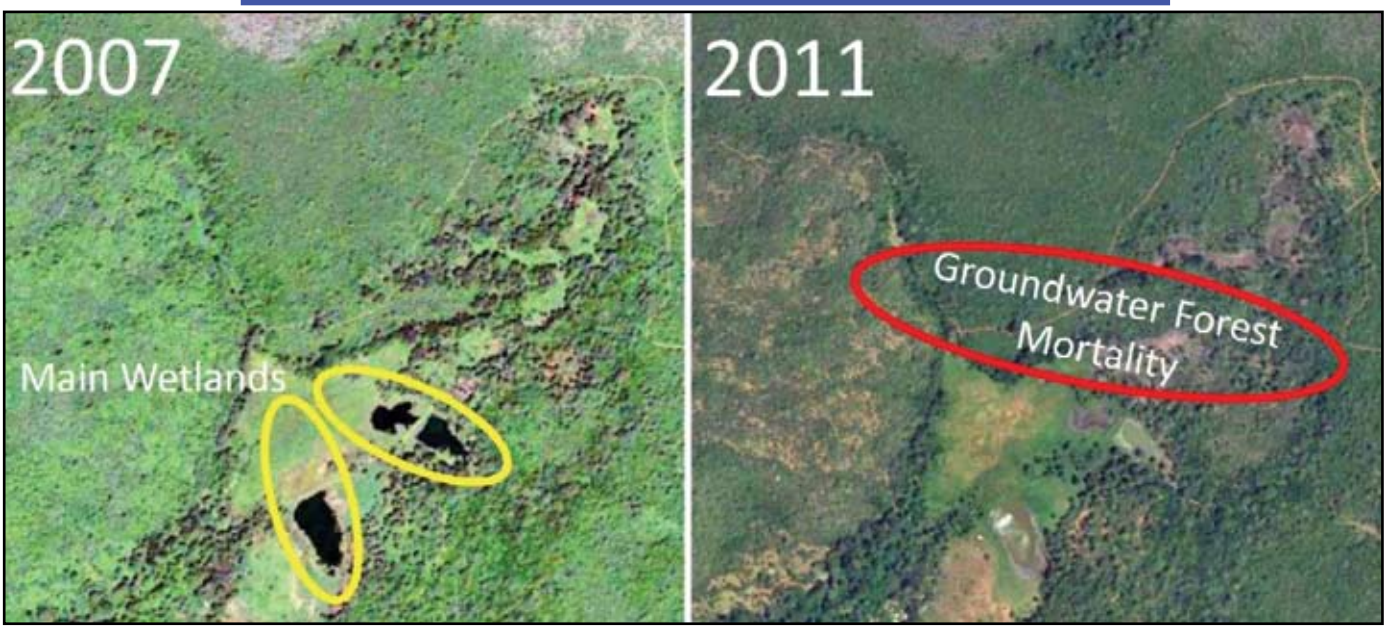
KENWEB & EDUCATION

Komba magazine is a thrilling publication by the Wildlife Clubs of Kenya featuring activities, articles and other kinds of write-ups on issues relating to the environment and wildlife. Komba targets youth in primary and secondary schools nationwide.

This makes it an ideal channel for KENWEB to support environmental education and to raise awareness in future conservationists. The first issue of Komba of 2014 (http://www.kenweb.or.ke/index.php/8-latest-news/69-komba-2014.html to download) was dedicated to the Tana River Delta and was predominantly written and illustrated by KENWEB, featuring stories on the threatened Tana River Red Colobus and Mangabey, on the forest dwellers, on how deltas function and why and how they are threatened, on the breeding and migratory and on the discovery of rare plants species.

PROJECT AREAS

THE UMANI SPRINGS/KIBWEZI FOREST COURTCASE



On the left the main wetlands downstream of the Umani Springs in December 2007, the black is open water but there were also a lot of marshes, very attractive to buffalo and elephant. The marshes have gradually dried out and since 2010 this has started to impact on the groundwater forest downstream again of the marshes. This dead front will most likely move towards Kibwezi town and the local springs there will dry up also (Google Earth pictures)

The Umani springs and the Kibwezi forest ecosystem have continued to suffer from the over-abstraction of water for the Kisayani and Mtito-Andei water projects which have caused most of the wetlands that are vital to the wildlife of the area to dry up. This has resulted in, most notably, the mass mortality of,the groundwater dependent Acacia xanthophloea (Yellow Fever Tree). The drying up of wetlands has been experienced since 2005 after the implementation of the Kisayani project but worsened with the implementation of the Mtito-Andei Project in 2011. Incidentally, this project went ahead without the approval of the EIA license from the National Environment Management Authority (NEMA).

The landscape that will soon be disfigured by a cut line, 50 m high masts and a power line

In response to the threats to their livelihoods as well as the ecosystem, the Kibwezi Water Resource Users Association (WRUA) filed a petition against the Mtito Andei project in the High Court of Kenya, Land and Environment Court on the 18th of February 2014. The petition seeks to have conservatory orders issued to stop the project. The five respondents in the petition are: Attorney General, National Environment Management Authority (NEMA), Water Resource Management Authority (WRMA), Kenya Forest Service (KFS) and Makueni County respectively.

The first mention of the petition was on 28th May 2014 and NEMA was allowed to withdraw their initial submission and sought more time to file a reply.

The case came up again on Tuesday 22nd July 2014 before Justice Mutungi and encouragingly, NEMA submitted a response that supported and confirmed the validity of the petition. They agreed that there was indeed a problem of over-abstraction that was having detrimental effects on the environment. A sixth proponent, the Tanathi Water Services Board, was added as they are responsible for the Mtito Andei project. Parties were advised to pursue an out of court settlement.

In the meantime another threat to the springs has emerged with the Mombasa Nairobi power line (co-funded by "western" donors, all signatories of the Convention on Biological Diversity!!!) now planned to run just upstream of the springs with all the associated risks for disturbing the fragile groundwater flows as well as the opening up of a wide cut line through dense forest that can potentially block animal migrations to the springs. The destruction of the magnificent view on the Chyulu Hills is of course a major loss also for Kenya's tourism potential.

DEVELOPMENT OF A WATER CONSERVATION STRATEGY FOR LAIKIPIA COUNTY

Water, it can be argued, is the most precious and vital resource on earth and challenges associated with water resources can be universal in their scope. Demand for water is growing and its supply is limited. Nowhere is this more obvious than in Laikipia County- an arid, dry yet visually spectacular region in north central Kenya.

In Laikipia, expanding agriculture and population growth have increased the demand for water. Its supply is being directly affected not only by anthropogenic activities, such as deforestation which has intensified the speed of run-off and the drainage of marshes which has reduced their storage capacity, but also indirectly by factors such as climate change. This affects the amount of rainfall and also the rainfall patterns leading to increasingly stochastic extremes of drought and flooding.

With a diversity of water pressures present within the county, there is a fundamental need to address these issues at both a temporal and spatial level and at a local and national scale using a strategic approach. As a result, a Water Conservation Strategy for Laikipia County was conceptualised to determine how demand and supply of water resources should be managed in order to ensure that water quality and quantity are not undermined. This requires developing actions to promote responsible water use by all.

KENWEB, with its broad research experience in water and wetland management and use undertook the mammoth, year long, task of developing a Water Strategy for Laikipia County funded by the USAID through the Laikipia Wildlife Forum. A fully multi-sectoral and multi-stakeholder participatory process, including NGOs, CBOs and national and county government was implemented. A number of meetings involving all stakeholders have been held, including a large number of field visits to over 26 different Water Resource Users Associations (WRUAs) based in Laikipia. Consultations with both the Water Resource Management Authority (national government) and with the Laikipia County government were also held to discuss challenges, causes and remedies in water allocation and governance and to discuss water policies. The Water Strategy, now available on our website www.kenweb.or.ke, focuses on WRUAs' role in managing water at sub-catchment level and reveals the various challenges faced by these CBOs in governance (committee level), compliance and enforcement of water regulations. The strategy development process also involved the development of a Community Based Monitoring Guide for Ecosystem Health of Streams and Wetlands of Laikipia and a Documentary on Water Governance and the role of WRUAs in water resource management. The guide and documentary are under development.

With Laikipia's population expected to continue to increase, water users are staring at a future that demands smart management of a resource that is likely to become scarcer with each passing decade. The development of the water strategy for the county, if acted upon by all stakeholders, will go a long way in ensuring that this most vital of resources is available for both humans and wildlife alike for years to come.

LOBOI: PROSOPIS VS PAPYRUS

Wetlands are known to harbour high levels of biodiversity. They also provide a myriad of regulating, provisioning, cultural and supporting services resulting in them being amongst the most "valuable" ecosystems on the planet, i.e. if well managed they provide "free" ecosystem services that would be very expensive to replace by technical solutions, in particular their filtering and flood attenuation capacities. Still, wetlands are under immense pressure ranging from conversion into agricultural land, drainage and unsustainable extraction of wetland vegetation. Most of these challenges arise due to the fact that wetlands are perceived as common property resources, therefore "owned" by nobody in particular and comparatively easily privatised when demography booms. Loboi wetland, located in Baringo County is experiencing similar challenges and now most recently the invasion by the woody vegetation, *Prosopis juliflora* (Mathenge). *P. juliflora*

was introduced into the area in the late 1980s and early 1990s, by the FAO, ICRAF and the government with the aim of improving vegetation cover in degraded areas. However, despite these good intensions, *P. juliflora* has spread uncontrollably in many ecosystems in the past 10 years.

Although *Prosopis juliflora* can be said to have negative ecological, economical and social impacts such as reduced pasture due to the invasion into grazing areas, tooth decay in herbivores and poisonous thorns, the plant hasn't fallen short of its initial targeted outcome of reducing gully erosion and the dust storms that were rampant in the 1990s, as well as providing fuelwood and charcoal for local populations.

As part of his Master's thesis, KENWEB student, Peter Ng'ang'a aims to establish how *P. juliflora* has spread within the Loboi wetland ecosystem including the seasonally flooded areas. He is also investigating the relation between its spread and the level of the groundwater, affected by human activities such as draining and various agricultural practices. In addition, the impact of *P. juliflora* on soil nitrogen, phosphorus and carbon which are nutrients that support vegetation will be explored. Peter carried out his fieldwork in July and August collecting soil samples, *P. juliflora* stem discs to help in aging of the trees, water table measurements and also ground-truthing the extent of its spread.

The results of his research will hopefully contribute to improved management of *P. juliflora* and also feed the never ending debate on the "Good" and the "Bad" of the species which is most likely anchored in each individuals' practice, e.g. whether one is a farmer or a pastoralist.

Peter coring to establish groundwater level

Peter Ng'ang'a is a MSc student at the Free University in Brussels, Belgium.

ICCAs in Kenya – a tough balancing act

The ICCA consortium is an international organisation dedicated to promoting the appropriate recognition of and support to Indigenous Peoples' and Community Conserved Areas and Territorieshttp://www.iccaconsortium.org/ and KENWEB is a member.

The prospects for the establishment of ICCAs in Kenya are not rosy. Indigenous communities, with the exception of the Ogiek, have not been officially recognised, the supposedly 42 tribes have become a political battleground issues and communal land is everywhere being converted into private holdings. Many of the potential ICCAs are being gobbled up in all sorts of setups, sometimes with the backing of the green-grabbing type of conservation NGOs who are not beyond taking a few shortcuts around the free prior and informed consent by the concerned communities. In Kenya there is already a long tradition of "conservancies" on communal land but the governance of these ranges from the flagrantly exploitative, with virtually no benefits accruing to the community or only to a few individuals in it, all the way to the marvellously pure of heart but that often lack the means to implement crucial management interventions such as surveillance.

In addition, many government-run protected areas have actually been established through top-down command-and-control processes on non-formalised ICCAs and its dispossessed people have faced enormous difficulties in getting access rights to some of their most vital resources, including spiritual. With climate change making the fenced and state-controlled approach to biodiversity conservation increasingly irrelevant, there is recognition that networks of well-governed and appropriately supported ICCAs are increasingly an avenue for the conservation of significant landscapes that integrate multiple uses. Unfortunately rushed formalisation, inappropriate support and raised expectations on monetary gains potential can be very divisive and destructive. There is pressure from all sides to either convert them to single use, from large-scale agriculture (irrigation, biofuels) to fortress conservation type areas. The REDD+ tool can also go either way from pure land grabbing scams to tangible benefits for the legitimate custodians. It will always be hard to empower the powerless so we need to tread carefully and ethically.

STUDENTS CORNER

KENWEB continues to make progress in building the capacity of young researchers in the region through our student mentorship programme. Last quarter, an additional two students were accepted into the team bringing the total number of students to nineteen. The two are Joylene Kanyaris , a graduate from the University of Eldoret and Geoffrey Mwangi an Environmental Planning and Management Phd student from the University of Nairobi who is a also a tutorial fellow at the Karatina University. One of our students, Herman Chege has recently published his second paper from his Master's thesis in the IUCN Otter Specialist Group Bulletin titled "Temporal Detection Patterns of the African Clawless Otter *Aonyx capensis* in the Laikipia plateau of Central Kenya".The first paper has been published in the Reyono Journal of Interdisciplinary Studies titled "What's on the Menu: Important Food Sources for Aquatic Mesocarnivores in the Laikipia Ecosystem of Central Kenya".

Other notable events last quarter from the students' docket is that two of our students have gotten scholarships for their Masters which they began in September. Christine Mburu is doing a Masters in Limnology and Wetland Management, a joint programme of UNESCO-IHE, BOKU: University of Natural Resources and Life Sciences, Austria and Egerton University in Kenya. Joylene Kanyaris is pursuing a Master of Science in Biology Specialization in Human Ecology at the Free University Brussels, Belgium.

KENWEB Pro-Gamer Christine Mburu hits the ground running at Kenya Wetlands Forum with WAT-A-GAME

The Kenya Wetlands Forum (www.kenyawetlandsforum.org) is a multi-institutional stakeholder consortium that offers a platform for constructive dialogue on the conservation and sustainable use of wetlands and holds monthly meetings (on the last Thursday of each month at 12:30 at EAWLS in Riara Road) which KENWEB actively participates in. The August meeting featured a contribution from Kenwebber Christine Wambui Mburu who will be off to freezing Austria to enrol in her MSc soon. She has been working with the IRSTEA team in the Tana's upper catchment over the past few months preaching about games as a tool in Natural Resources Management, see www.watagame.info.

The use of so-called "serious" games as a participatory public policy tool is not new. For a few decades it has allowed the exploration and development of methodologies in education, training, consultation and research. Their use in natural resources management is gaining momentum and the way they can be adapted and adopted into existing participatory methods for multilevel decision support and training is currently being explored. Games can be used in the process of extracting information, initiating dialogue and to explore the impacts of policy decisions, environmental or economic interventions. Ideally, a participant observer approach is used, at it allows to monitor and evaluate how the target population perceives games and in what way they utilize the information gained while respecting their culture and acknowledging the sensitive nature of the issues under scrutiny.

Christine will produce a report on the research that was carried out with the IRSTEA team in various parts of the country engaging researchers, decision makers, implementers, enforcers and community members. At this stage, no target goals were set for the process. It was merely an evaluation of reception of the games concept and of the outcomes of knowledge gained during use of these games, if any.

To make the games "fit" as much as possible with the perceived local conditions data is collected through semi-structured interviews, photos, videos, observations, questionnaires, facilitator notes and participant lists.Descriptive and reflective field notes were also gathered and examined as part of the study.

The games animation session conducted with the Kenya Wetlands Forum is one example. Members of the forum were exposed to an interactive play session on a hypothetical river basin which generated much animated discussion on various resource utilization issues generated by the game. We will try to produce a short video of the session and put it up on You Tube for those interested. Most of it can be linked to the opposing force fields between the "tragedy of the commons" discourse as described by Garrett Harding and the"collective action" discourse of Eleanor Ostrom that (astoundingly for a non worldbank/IMF/Harvard/Princeton/Chicago boys economist) won her Nobel Prize in economics.

The "tragedy of the commons" as described by Garrett Harding is a dilemma arising from the situation in which multiple individuals, acting independently and rationally consulting their own self-interest, will ultimately deplete a shared limited resource (in this case water) even when it is clear that it is not in anyone's long-term interest for this to happen. This situation was clearly reflected in the game. It was observed that the upstream users had a more than sufficient supply for their activities whilst the downstream users had to contend with much less and somewhat dirty water with which to conduct their daily affairs, including farming and domestic consumption.

Outcomes observed were that downstream users run the risk of water scarcity in the event of a drought or the construction of dams were constructed for hydropower or large-scale abstraction. They would also experience an increased disease burden and a high risk of crop failure. Resultant coping mechanisms identified were, for example, vandalizing water pumps of upstream users, stealing water and illegal abstractions. Other alternatives were to form water user associations (WRUAs, IWUAs), have negotiations between all river basin stakeholders on equitable water sharing and water sales by those with surplus amounts. This would reflect the "collective action" option.
It would be safe to assume that such scenarios are a reality for communities faced with resource stresses - the main being water- in many parts of the country.

The objective of these serious games is first, to bring out problems, issues and challenges faced by different levels of Natural Resource users and management; second is to set in motion discussions or negotiations for equitable use of available resources which result in working documents such as policies, management plans and community memorandums of understanding.

The ability of games to simulate a parallel reality allowing a comparison of different scenarios of resource use is probably their greatest success factor. Another success is their ability to give voice to both the educated and uneducated persons at all stages of development. At the community level, environmental awareness is created which initiates a change of practice from "business as usual" to a progressive achievement of a more desirable state of environment. At the policy decision level games give knowledge support on the best possible interventions for existing or perceived future resource issues.

There is great need to understand that enduring commitment to such a process benefits the enhancement of the larger community. It is through such commitment, participation and interactions that an identity as members of a community of practice can be developed and as such effect change towards sustainable resource use and management the world over.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