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Letter from the Chairman of the Sponsoring Group of icipe (SGI)

Dear colleagues and friends of *icipe*,

With a new year come new opportunities, for *icipe* this most certainly will involve work on biological control of the Diamondback moth pest on crucifiers supported by a $ 1.0 million grant by IFAD. The excellent work carried out by icipe scientist and partners have been recognised, most notably by Prof. Zeyaur R. Khan who received icipe's first TRO Distinguished Research Fellow award and icipe's partner, Muliro Farmers Conservation Group that was announced among the 2012 ONE Africa Award Finalists. Additionally, icipe's Beekeeping Project scooped the 3rd Prize in ApiExpo Africa 2012 Awards in Addis Ababa, Ethiopia

icipe has signed a Memorandum of Understanding (MOU) with the University of South Florida's College of Public Health and Signs Agreement where the main areas of cooperation will be in public health and capacity building. New research finding include how common host-derived chemicals increase catches of disease-transmitting mosquitoes and how this can improve early warning systems for Rift Valley Fever Virus *(Tchouassi DP, et al. (2013) PLoS Negl Trop Dis 7(1))*

As the new chair of the Sponsoring Group of icipe (SGI) I hope that the coming year will include discussions with other donors on how we ensure a stable and predictable funding for *icipe* in its mission to help alleviate poverty, ensure food security and improve the overall health status of peoples of the tropics by developing and extending management tools and strategies for harmful and useful arthropods, while preserving the natural resource base through research and capacity building.

Dr. David Lymer, Sida

IN THIS ISSUE

NEW FUNDING

icipe launches a regional programme for biological control of the Diamondback moth pest on crucifers

icipe has been awarded a grant of $ 1 million by the International Fund for Agricultural Development (IFAD) to support its technology transfer and dissemination activities in scaling-up the biological control of the Diamondback moth (DBM) pest on crucifers in East and southern Africa. Previously, in order to reduce insecticide misuse and its associated problems of public and environmental health, *icipe* embarked on a project to improve natural control of DBM through importation and release of natural enemies. Two parasitoid species, *Diadegma semiclausum* and *Cotesia plutellae* were introduced from Taiwan and South Africa, respectively, to Kenya in 2001 and tested for their adaptation to different growing conditions. *Diadegma semiclausum* is suitable to cooler climatic conditions and has been released in all highland cabbage and kale growing areas of Kenya, Tanzania and in Uganda with outstanding results, and the technology is currently being promoted in Ethiopia and Cameroon. *Cotesia plutellae,* on the other hand, is adapted to warmer and dryer conditions and was released in the Lake Victoria Region of Uganda in 2003 from where it has since spread to Western Kenya, also providing good control of the pest. Both natural enemies have great potential for similar growing conditions across

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Country representatives from Mozambique, Malawi, Zambia, Rwanda and icipe during the DBM Launch Meeting held in October 2012, in Maputo, Mozambique

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NEW FUNDING

Large scale vegetable production in peri-urban areas of Maputo. Inset: Dr. Luisa Santos (infront) from University of Eduardo Mondlane and icipe's Dr. Brigitte Nyambo, closely examine vegetables heavily infested by DBM

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Africa and the new IFAD funding is instrumental for *icipe*'s R&D activities aimed at scaling-up this approach across other African crucifer production areas. The lessons learned in the DBM biocontrol–based integrated pest management (IPM) in parts of eastern Africa will be used as the entry points and also springboard for the introduction and promotion of this approach in the new target countries of Mozambique, Malawi, Zambia and Rwanda.

The new project was officially launched in Maputo, Mozambique on 15-16 October 2012 by Dr. Mohammed Valla, the National Director of Agrarian Services, Mozambique. In attendance was also Dr. Custódio Mucavele, IFAD Country Programme Officer as well as Dr. Albertina Alage, Deputy National Director, Ministry of Agriculture, National Directorate of Agricultural Extension. All new project countries are very eager to implement the project. The occasion, attended by 20 participants, also included a field trip to the peri-urban vegetable production areas around Maputo that are heavily affected by DBM. The group witnessed 100% damage on cabbage and kale on a 36ha farm communally owned some 15km from central Maputo. *icipe* entomologist Dr. Brigitte Nyambo, who was already closely involved in the earlier DBM control programs in East Africa, will coordinate the project.

RECOGNITION

icipe's partner, Muliro Farmers Conservation Group announced among the 2012 ONE Africa Award Finalists: Saving a Forest while developing a Community

Founded in 1997 and formally registered as a Community Based Organization in 1999, a group of small-scale farmers in rural Western Kenya established the *Muliro Farmers Conservation Group* (MFCG) (http://www.mulirufcg.org/) with the mission to protect and conserve Kakamega Forest. Kakamega Forest, covering an area of 240 km^2 and containing >1,000 unique species of flora and fauna, is Kenya's last remaining rainforest, which was once part of the vast equatorial Congo-Guinean forest that stretched from the continent's Atlantic coast to the Indian Ocean. The farmers that founded MFCG saw an acute, urgent need to raise awareness in the local communities of the dire state of the forest and to support the local and national governments' efforts to conserve the forest.

In 2000, MFCG partnered with *icipe* with the strategic objective of using science to discover natural resources that could be developed and commercialized to promote the conservation of the endangered forest. MFCG and *icipe*'s efforts focused on traditional plants that the communities around Kakamega used, in particular wild *Ocimum kilimandscharicum*, which had been traditionally used to treat insect bites, muscle aches, colds and nasal congestion. *icipe* scientists soon determined the active compound in the plant and began testing different products for potential commercialisation. MFCG managed to domesticate the plant and encouraged farmers around Kakamega forest to grow the plant in order to provide enough material for extraction of its essential oils. Fast forward a few years and MFCG now has 460 farmers growing *O. kilimandscharicum*, which is turned into a whole range of products like under the Naturub brand (http://www.icipe.org/naturubr.html) that are sold in supermarkets across Kenya, providing an additional income to the farmer and creating employment at the local processing and collection centres.

icipe is proud to be in partnership with MFCG, a finalist for the 2012 ONE Africa Award! The **ONE Africa Award** celebrates these innovations and progress towards achievement of the Millennium Development Goals (MDGs), the world's blueprint to a better future, ranging from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education.

MFCG farmers harvesting the Ocimum kilimandscharicum plant

More info:
http://www.one.org/africa/blog/announcing-the-2012-one-africa-award-finalists and

http://www.one.org/international/blog/2012-one-africa-award-saving-a-forest-while-developing-a-community/

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RECOGNITION

Prof. Zeyaur R. Khan receives icipe's first TRO Distinguished Research Fellow Award

Prof. Zeyaur R. Khan (middle) receives the Distinguished Research Fellow plaque from Prof. John Pickett (left), icipe's Governing Council Chair and Prof. Christian Borgemeister (right), icipe's Director General

icipe designated Prof. Zeyaur R. Khan, leader of the widely reputed *icipe* Push–Pull Programme (www.puh-pull.net), the first recipient of its highest honour, the **Thomas Risley Odhiambo Distinguished Research Fellow** (TRO DRF), in recognition of his outstanding achievements in the advancement of agricultural sciences. The award giving ceremony was carried out on 7th November 2012 during the Centre's 2012 Annual Governing Council Meeting held at *icipe*'s Thomas Risley Odhiambo Campus (TOC), Mbita Point, on the shores of Lake Victoria. In attendance were 11 *icipe* Governing Council members, two members of the Sponsoring Group of *icipe* (SGI), *icipe* Management and staff.

Prof. Khan has dedicated his 30-year career as an entomologist and agricultural scientist to advancing the science and practice of entomology by studying and applying chemical ecology, behaviour, plant–plant and insect–plant interactions to improve agricultural production to combat poverty and food insecurity in Africa. Following the original dream of *icipe*'s founding father Prof. Thomas R. Odhiambo, the work of Prof. Khan is a wonderful combination of scientific creativity and agricultural innovation that provides practical solutions for real problems of thousands of small-holder poor farmers which in turn promotes their food security and sustainable livelihoods.

More info:
http://www.icipe.org/news/645-prof-zeyaur-r-khan-receives-icipes-first-tro-distinguished-research-fellow-award.html

icipe's Beekeeping Project scoops the 3rd Prize in ApiExpo Africa 2012 Awards in Addis Ababa, Ethiopia

It was a memorable occasion during the ApiExpo Africa 2012 event held in Addis Ababa, Ethiopia between 26-30, September 2012, when *icipe*'s programme on beekeeping technology and eco-honey production for the improvement of the livelihoods of the Tolay Community, Ethiopia was assessed very positively and emerged as the 3rd overall winner. The event was attended by more than a thousand participants.

icipe's Tolay beekeeping demonstration and presentation by the farmers was identified as very successful in its mission and rated highly amidst international participants from Africa, Europe and Canada. Project staff received a Certificate from The Ethiopian Minister of Trade and Industry for their good performance.

icipe Tolay Beekeeping Project staff proudly display the Certificate received during the ApiExpo Africa 2012 event

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STRATEGIC PARTNERSHIPS

icipe Director General Visits University of South Florida's College of Public Health and Signs Agreement

In November 2012, *icipe* Director General Professor Christian Borgemeister visited the College of Public Health (COPH) at the University of South Florida (USF) (http://health.usf.edu/publichealth/index.htm) for collaborative discussions with COPH's Dean Professor Donna J. Petersen that culminated in the signing of a Memorandum of Understanding (MoU). The MoU lays the groundwork for future collaborations between USF's COPH and *icipe*. The main areas of cooperation will be in public health and capacity building, initially through joint supervision of COPH MSc students that will conduct their thesis research affiliated to *icipe* projects.

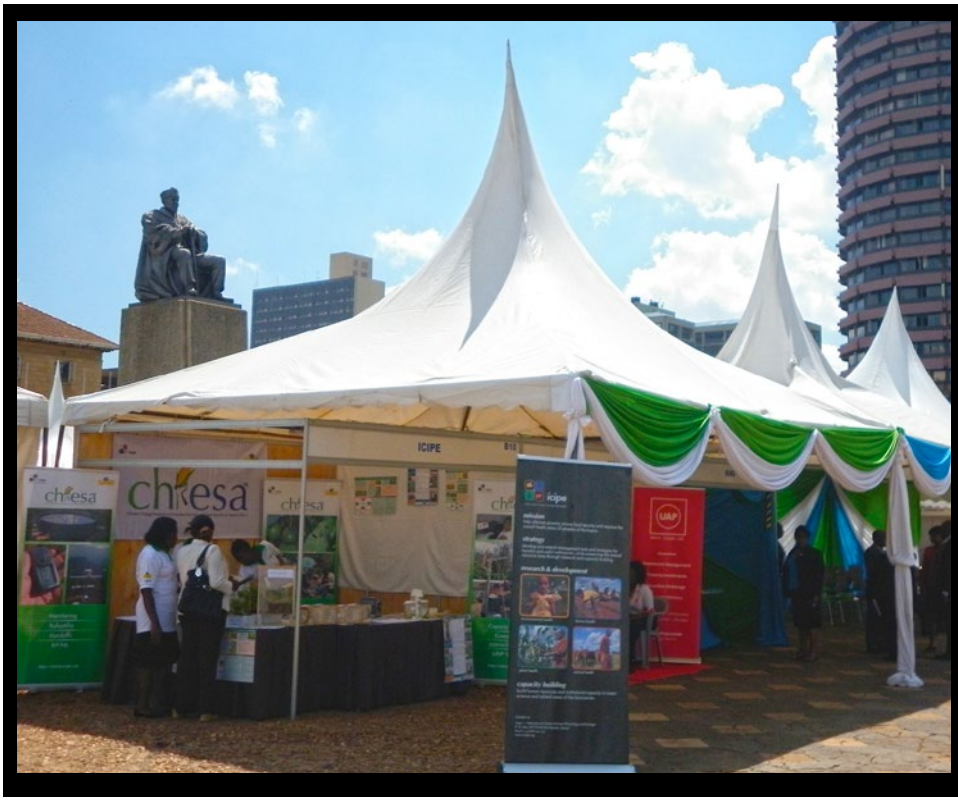
More info:
http://www.icipe.org/news/652-icipe-director-general-visits-coph-to-sign-agreement.html

INSTITUTIONAL EVENTS

icipe participates in '2012 Save the Earth Expo'

The 2012 Save the Earth Expo, held from 13th – 14th November 2012 with the main theme being *Building Resilience against Climate Risks*, involved both local and international participants whose work, career, business or undertaking makes them stakeholders in the environmental discourse. The Expo was hosted by the Kenya Meteorological Society and convened at Kenyatta International Conference Center in Nairobi.

icipe participated in the Expo and showcased its R&D accomplishments, key among them its flagship programme activities on Climate Change Impacts on Ecosystem Services and Food Security or CHIESA Project (http://chiesa.icipe.org), funded by the Finnish Ministry for Foreign Affairs. *icipe* benefitted from strategic partnership discussions and highlighted its contributions towards the course of climate and environmental conservation as the Expo was attended by over 30,000 persons.



Top: *Sarah Achola Murabula, icipe staff member (in white CHIESA T-shirt), briefs a participant on the Centre's R&D activities*

Left: *icipe exhibition booth at the "2012 Save the Earth Expo"*

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RESEARCH FINDINGS

Common Host-Derived Chemicals Increase Catches of Disease-Transmitting Mosquitoes and Can Improve Early Warning Systems for Rift Valley Fever Virus

In an article recently published in *PLoS Neglected Tropical Diseases*, *icipe* scientists and collaborators from South Africa and the US demonstrate that enzootic transmission of arboviral diseases such as Rift Valley Fever (RVF) continues to occur at a low intensity among mosquito vectors in Kenya, which may remain undetected by most monitoring programs unless very sensitive tools are employed to detect virus activity before an outbreak occurs. In the article, the scientists present a more sensitive and mosquito-specific surveillance trapping system for RVF mosquito vectors based on mammalian-skin derived semiochemicals. They show that these vectors detect similar components (heptanal, octanal, nonanal, decanal) in the skin of RVF mammalian hosts. In field trials, each of these compounds when combined with CO_2 increased captures of the mosquito vectors in a dose-dependent manner. Additionally, a blend formulated from optimal attractive dose of each of these compounds combined with CO_2 significantly increased trap captures compared to control traps baited with CO_2 alone. The four-component blend attracted multiple RVF mosquito vectors under field conditions suggesting that a trapping system based on this formulation offers opportunity for its use as a tool for RVF vector surveillance. For these findings lead author David Tchouassi, and ARPPIS fellow currently enrolled in a PhD program at the University of Pretoria, received the **Young Investigator Award** during last year's annual meeting of the American Society of Tropical Medicine and Hygiene Conference held on 11-15th November in Atlanta, USA.

David Tchouassi, a postgraduate scholar at icipe, is pictured in a homestead in Naivasha division, one of the areas of Kenya that are prone to Rift Valley Fever outbreak, in the course of the research that led to the identification of aldehydes.

More info: http://www.plosntds.org/article/info%3Adoi%2F10.1371%2Fjournal.pntd.0002007

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