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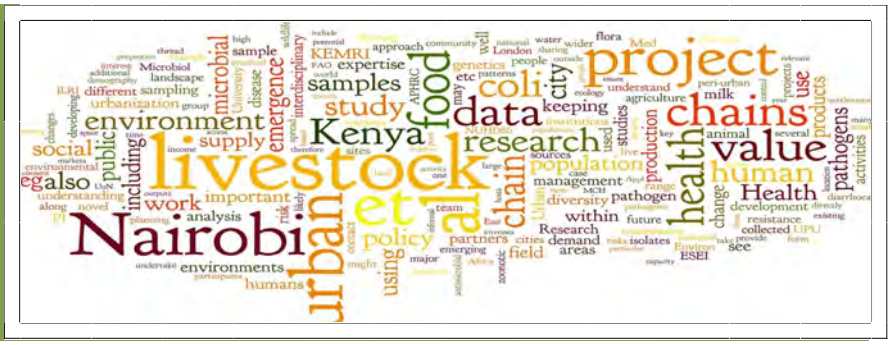
The "URBAN ZOO" Newsletter



AUGUST,2015

Quarterly Newsletter on "Epidemiology, Ecology and Socio-Economics of Disease Emergence in Nairobi"

Co PI's Letter: Planning and Policy Team

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URBAN ZOO PROJECT

Urban Zoo is an interdisciplinary programme focused around the role of urbanization in the emergence of zoonotic pathogens. We are funded by the Environmental and Social Ecology of Human Infectious Diseases initiative (ESEI), a joint UK Research Council initiative which is part of the Living With Environmental Change Programme.

Dr. Cecilia Tacoli

The Planning and Policy Team's work focuses on the socio-economic and environmental conditions that contribute to the diversity of microbial exposure of urban residents. It is estimated that 60 percent of Nairobi's residents live in informal settlements, where inadequate housing, insufficient basic infrastructure and services and widespread livestock keeping translate into severe environmental hazards. Understanding how this affects local residents' exposure to microbial diversity is key in formulating and implementing appropriate policies.

Much has happened since the last letter from the Team in April. We have continued to support the work of the Kenyan Federation of the Urban Poor, *Muungano wa Wanavijiji*, thanks also to additional funding from the UK Department for International Development. Building on the piloting of innovative participatory methodologies, researchers decided to focus more on food street vendors, for several reasons. The first is the central role of food vendors in providing cheap food to residents of informal settlements who often do not have space to cook and store food, nor time to prepare meals at the end of long working days. Street vendors also play an important role in the social life of the settlements, by congregating along the main roads until late at night and in this way increasing security for those residents, especially women, returning home after dark. Because of its flexible working hours and minimal need for starting capital, selling food, either raw or cooked, is also one of the main sources of income for women, especially those responsible for young children and sick relatives.

But while they may not be harassed by the authorities like their colleagues working in the 'formal' part of the city, street vendors within informal settlements face several challenges which can also generate health risks to their customers. These include food contamination due to proximity to solid waste dumps, open air sewers and roaming livestock; limited access to water – in many cases only available at high prices from private vendors – to wash food, hands and utensils thoroughly; inadequate public lighting and high levels of insecurity that can prevent sellers, especially women, from selling after dark. Such issues require holistic interventions that address both socio-economic and environmental conditions. Documenting the challenges and setting up vendors' associations that can establish a dialogue with local authorities to develop appropriate interventions are key steps, as described in a new working paper: Cooking up a storm: Community-led mapping and advocacy with food vendors in Nairobi's informal settlements .

Another step has been the joint organisation with our Urban Zoo partners APHRC and ILRI of a series of 'training of trainers' on food safety and handling for street vendors and *Muungano* members, the first of which took place in July. Collaboration between grassroots organisations and scientists in the project enriches our understanding, and helps identify ways in which research can inform and stimulate action.

Dr. Cecilia Tacolo is a Principal researcher, Human Settlements Group and a team leader, rural-urban development at IIED.

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Urban Zoo Partners:

University of Liverpool · ILRI · Kenya Medical Research Institute · UCL · RVC Royal Veterinary College University of London · University of Nairobi · The University of Edinburgh · iied · APHRC African Population & Health Research Center

Out and About!!! International One Health Conference—2015

A group photo of the visit to National Public Health Institute (RIVM)

The 3rd international One health conference was held from 15th - 18th March 2015 in Amsterdam, Netherlands. The Urban Zoo group was represented by Annie Cook, James Hassel, Dishon Muloi, Patrick Muinde, Lorren Alumasa, Maud Caron, Fredrick Amanya and Maurice Karani.

The focus of the congress was on multidisciplinary collaboration involving human, veterinary and eco-health disciplines, other life sciences, social sciences, and informatics. The need for one health approach was stressed to ensure an improved and sustainable human and animal health which is key to improving monitoring, analysis and prevention of novel global threats posed by re-emerging (infectious) diseases and food safety hazards.

The highlight of the conference were visits to various places which included Bilthoven Biologicals— a Polio vaccine production plant and National Public Health Institute (RIVM) with which we are collaborating on the MERS Corona Virus investigations as part of the Camel Value chain. Another place visited was the Utrecht Science park which included Utrecht University facilities.

Some of the group members on an evening tour—Amsterdam

Urban Zoo Team-KVA Scientific Conference, Kenya 2015

The Urban Zoo Team pose for a photo—KVA Conference in Busia

The Kenya Veterinary Association (KVA) 49th Annual Scientific and 15th World Veterinary Day celebrations were held in Busia, Kenya from 22nd to 26th April 2015. The Theme of the conference was “One Vision for a Sustainable Animal and Human Health and Welfare”.

The Urban zoo group was presented by Prof. Erastus Kangethe, Pablo Alarcon, Maurice Karani, Patrick Muinde, James Akoko, James Orungo and Victoria Kyallo.

Several members from the team made presentations during the conference and mainly on the Value Chain Mapping.

Some of the group members visiting the ZooLink Lab in Busia

Yukiko Nakamura...Intern for the 99HH study

Yukiko Nakamura

Yukiko Nakamura is currently in her final year of veterinary school in Japan, and for the past few years has been doing research against *Lawsonia intracellularis* infection, which is causing a wasting disease in pigs and horses throughout the world. She is visiting ILRI using the “Tobitate! Young Ambassador Japan” scholarship founded by the Japanese Education ministry, and she is excited to start participating in the wildlife/livestock sampling for the “99 households” study under the Urban Zoo Project.

More info about Yukiko to be found in our website http://www.zoonotic-diseases.org/who-we-are/currentstaffstudents/yukiko/

Training of Food Vendors in Informal Settlements

Group discussions during the Food vendors training

Vendors in Viwandani recently participated in a training session that not only enhanced their knowledge of food safety and hygiene, but also offered a highly engaging discussion. On 31st July, a total of 25 vendors recruited from Viwandani were trained by two nurses with expertise in food safety from KEMRI. *Muungano wa Wanavijiji* members and staff mobilized the participants while ILRI and APHRC facilitated the training The activity was in response to vendors' own requests for capacity-building and offered a crucial opportunity to support livelihoods and bolster community health across informal settlements.

These vendors provided a wide array of foods, including cooked items (e.g., githeri, green grams, or roasted corn), fresh produce, meat and eggs, or snacks like mandazi. Some are mobile vendors, while others sell their items from kiosks and restaurants known as 'hotels.' Even with all their diversity, vendors were consistently engrossed in the training session and stayed throughout their lunch-hour, which would otherwise be a lucrative time for many traders.

The session began with a group activity, where vendors brainstormed thoughtfully about how to define 'good' and 'bad' foods. Other key topics included good hand-washing practices and how to cut, wash, and prepare vegetables or meat properly. All participants were encouraged to provide their own examples and to ask questions; handouts were provided to share with other vendors in their settlements. Future sessions are envisioned with vendors in Korogocho and Mathare, which can be filmed to disseminate information amongst additional vendors. Finally, radio programs are planned to raise awareness and educate consumers on food safety in informal settlements.

Training session –food preparation and handling techniques

Nevertheless, the training has fostered widespread benefits in Nairobi's informal settlements, in addition to meeting vendors' own demand for improved skills. Educating vendors *and* consumers in food safety will bolster awareness across their settlements, thereby helping to prevent food-borne illnesses and the associated socio-economic losses. Recognizing vendors as vital providers of food and as community leaders will build their confidence and self-awareness, which is otherwise difficult in the atomized, competitive environment of informal settlements. Above all, the trainings are supporting enhanced access to healthy, affordable meals with multiple benefits for buyers and sellers alike.

Group Photo of the trainers and food vendors—Viwandani

Training of Food Vendors is one of the outputs for the Urban Zoo Project—we aim to give back to society by training such lay groups on some of the good practices of handling foods.

Three more trainings are planned in Mathare, Viwandani and Korogocho (some of the main study sites under the Urban Zoo Project). We are very grateful to the UK-Medical Research Council which has agreed to fund these future events which will take place before the end of the year.

This article has been written by the Muungano team

MRC Medical Research Council

URBAN ZOO PROJECT: The 99 Household Study

The 99 Households Study is part of the Urban Zoo Project http://www.zoonotic-diseases.org/project/urban-zoo-project/ which is a joint project between scientists from Kenya and the UK. We are interested in how diseases can be transmitted between animals and people living in close contact in a city environment.

The 99 Household study aims to collect in-depth information from 99 families from 33 different neighbourhoods stratified by socio-economic status across the whole of Nairobi. We are testing humans, animals and the home environment for bacteria that can be shared and spread between them.

Using a tablet to scan the barcodes on samples before submission to the labs

Drs. Karani and Muinde collecting samples from a guinea fowl

Prof E Fevre using boot socks to collect environmental samples

KEMRI Lab staff explaining the lab procedures to a reporter from the Voice of America News Programme

Faecal sample collection from a goat

Boot socks samples ready for the lab

Red sticker indicates the E.coli sample that has been selected for whole genome sequencing

The blue sticker indicates the sample has been identified for Campylobacter isolation

A motorbike rider loading the cool box full of samples for delivery to the labs

Find us on Twitter
@ZoonoticDisease

All Tweets #UrbanZoo

www.zoonotic-diseases.org

UPCOMING EVENTS:

- 11th Safepork 2015 in Porto, Portugal. 7th to 10th of September 2015. http://www.safepork2015.com/index.php Several papers from the urban zoo team have been accepted for oral presentation
- ISVEE 14 in the City of Merida, Yucatan, Mexico, during 3-7 November 2015. Pre- and post-symposium workshops will be offered during 1-2 and 8-12 November, respectively. The Theme for ISVEE 14 is "Veterinary Epidemiology & Economics: Planning Our Future" http://www.isvee2015.org. Several papers from the urban zoo team have been accepted for oral presentation.
- 2nd OHCEA International One Health Conference, Kampala, Uganda at Speak Resort Munyonyo on 16-20 November, 2015. Theme: "Strategic Approach to Global Health Security through One Health Innovation: Vision 2035". http://ohconference.ohcea.org/

MRC Medical Research Council
BBSRC bioscience for the future
E·S·R·C Economic & Social Research Council
NERC
Living With Environmental Change LWEC