THE 1st ALL AFRICA POST HARVEST CONGRESS & EXHIBITION

Reducing food losses and waste: Sustainable solutions for Africa

1st All Africa Postharvest Congress and Exhibition

Theme: Reducing Food Losses and Waste: Sustainable Solutions for Africa

Venue: Safari Park Hotel, Nairobi Kenya

Dates: 28th to 31st March, 2017

BACKGROUND AND RATIONALE

According to the United Nations, the world population is predicted to hit the 9 billion mark by the year 2050. During the same period, Africa's population is expected to double from the current 1.2 billion to 2.5 billion. To meet the food and nutrition needs of this rising population, food production (under the current trends) will have to increase by 70%. Increasing production requires additional resources (land, water, energy, and other agro-inputs) that are scarce and inelastic. One strategy for increasing the food available to feed the ever-increasing population is to ensure proper and better utilization of the food that is already produced. It is estimated that one third (30%) of the food produced for human consumption is lost or wasted along the supply chains globally. Proportionately this translates into 1.3 billion metric tons of the total volume of the food produced. This figure is an estimation based on scanty data available on food loss and waste and is probably conservative.

Food is lost or wasted throughout the supply chain, from the farm/production stage down to the consumption stage. Each actor along the supply chain incurs or concedes some level of loss/waste. For developing countries in Sub-Saharan Africa, higher food losses (FL) are reported at the production and immediate postharvest stage (downstream). The two stages alone account for 25.2% of the total losses. These downstream losses are attributed to lack of appropriate technologies, poor postharvest handling practices, and general inefficiencies in food supply chains. On the other hand, in developed countries, widespread adoption of mechanization, postharvest technologies such as cold storage and other necessary infrastructure has reduced downstream postharvest losses to lower levels (less than 10%). On the contrary higher losses (wastage) occur at the retail and consumption stage (upstream).

Food Losses and Waste (FLW) impact food security and nutrition in three ways: 1) reduction of global and local availability of food; 2) a negative impact on food access, for those who face FLW-related economic and income losses, and for consumers due to the contribution of FLW to tightening the food market and raising prices of food; and 3) a longer-term effect on food security results from the unsustainable use of natural resources on which the future production of food depends.

Therefore, reduction of FLW is an important strategy to ensure food and nutritional security in efficient and sustainable food systems. It has become even more critical as most

countries appreciate the futility of increasing production (using limited resources) to make up for the lost food. Putting value (economic, social, and environmental) to FLW makes the impact clearer. For example some reports estimate that the global FLW amounts to 1 trillion USD per year. If environmental and social costs are factored in, the value rises to about 2.5 to 3 trillion, which is approximately 5 % of the world GDP. In Sub Saharan Africa (SSA), annual losses in grains alone are valued at USD 4 billion (World Bank, 2011). This value exceeds the total food aid received in SSA over a decade and equates to the annual value of cereal imports to SSA. Food production in SSA is dominated by smallholder farmers who account for more than 70% of the agricultural production. For the smallholder farmers, intermediaries, processors, and other actors in the supply chain, the lost income from postharvest losses is estimated to be more than 15%. The losses therefore directly impact their food and nutritional security and overall livelihoods. Therefore, interventions to reduce FLW would greatly improve the livelihoods of smallholder farmers.

African nations have come to realize that food security is linked to national security as well. Food shortages can lead to civil unrest that can subsequently lead to conflict and even terrorism. Governmental upheavals in Egypt and Tunisia during the Arab Spring were partially triggered by food shortages.

Therefore, an urgent need exists for a concerted effort at national, regional, and global levels to reduce FLW. At the global level, the importance of reducing FLW in achieving sustainable development is recognized among the newly agreed sustainable development goals by the **United Nations (SDGs), particularly SDG 12: *Ensure sustainable consumption and production patterns*.** Among the set targets under SDG 12 is to halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses by 2030. As a result, FLW reduction is a priority agenda for the United Nations Food and Agriculture organization (FAO). At the continental level, in June 2014 at the African Union Summit, African heads of state and government adopted the **Malabo Declaration on 'Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods'.** Among the goals in the declaration is goal 3b) which targets to halve the current levels of Post-Harvest Losses, by the year 2025. Realization of these targets requires a multi-faceted approach that involves all stakeholders in the food supply chain. Such an approach is envisaged to include application of appropriate technologies and practices; education and training of food supply chain actors; an enabling policy environment that rewards or incentivizes FLW reduction champions.

Insights from Rockefeller Foundation on food wastage and spoilage in SSA indicate that proven technologies for effectively reducing loss already exist, but they are vastly under-utilized, due to a combination of a lack of awareness among farmers, prohibitive costs, or limited distribution. For most food supply chain actors, the situation in compounded by lack of know-how and skilled personnel to use applicable technologies and good postharvest handling practices to minimize the losses. This situation is partly attributed to disproportionate investments of agricultural dollars in the production of food (95%) as compared to investments in the preservation of food (5%). As a result, Africa and the rest of the world finds itself with a Postharvest "Skill Gap" and "Technology Gap." Greater investments in postharvest programs in the higher education systems at African universities will generate much-needed highly skilled leaders and new technologies to reduce postharvest food losses and waste.

It is against this background that the University of Nairobi and a consortium of Universities and Research & Development Institutions in Africa in conjunction with the World Food Preservation Center® LLC (WFPC) are organizing the 1st All Africa Postharvest Congress and Exhibition.

CONGRESS OBJECTIVES

The 1st All Africa Postharvest Congress and Exhibition is the first of its kind to be held in Africa. The congress will provide an excellent platform for researchers, academics, farmers, industry, development agencies, civil society and policy makers to learn, share information, build networks and partnerships with the overall objective of identifying effective strategies and interventions to reduce FLW in the continent. The specific objectives of the conference are as follows:

1. To raise awareness on food losses and waste through data and information sharing.
2. To document the impact of postharvest food loss and waste on food and nutrition in Africa.
3. To identify and disseminate effective and appropriate technologies and practices for FLW reduction in the African context.
4. To identify postharvest "Skill Gaps" and "Technology Gaps" in Africa's higher education and extension systems
5. To identify effective multi-stakeholder strategies and policy interventions for FLW reduction
6. To provide a platform for participants to build networks and partnerships for resource mobilization and other activities geared towards FLW reduction
7. To generate a comprehensive action plan for the reduction of food loss and waste for the African continent

CONGRESS THEME AND SUBTHEMES

Theme: *Reducing Food Losses and Waste: Sustainable Solutions for Africa*. This theme is premised on the understanding that there are proven and emerging technologies and practices that have potential to reduce FLW in the African context. These have been successfully applied in other parts of the world but remain largely underutilized in Africa. It is also recognized that a need exists for innovative new food preservation technologies targeted toward the needs of smallholder African farmers, as well as, a need for more highly skilled postharvest researchers, administrators, and business personnel. The congress will contribute to this agenda through sharing of data and information on tested strategies and promising technologies to be scaled up to reduce FLW in Africa and identifying new resources and initiatives that need to be brought to bear. The congress theme has been unpacked to five sub-themes anchored on the key sub-sectors in agriculture. For each sub-theme various aspects including postharvest loss

assessment methods and data, technologies, practices, strategies, investment, policies, cases studies, success stories will be discussed and show-cased.

SUBTHEMES

1. Perishable food crop commodities (fruits, vegetables, roots & tubers, edible fungi). Various aspects including postharvest loss assessment methods and data, technologies, practices, strategies, investment, policies, cases studies, success stories will be discussed and show-cased including but not limited to
   - Cold chain management technologies; storage technologies; packaging technologies; agro-processing/value addition; quality preservation technologies; postharvest pest/disease management; reuse/recycling/valorization options; traceability systems; food safety, labeling/dating of packaged and processed foods; market access strategies for smallholder farmers
   - Emerging technologies with the potential for postharvest preservation of food in Africa such as solar/wind refrigeration, nanotechnology, active and intelligent packaging; biological control for pest and diseases; innovative information and communication Technologies (ICT)
2. Perishable livestock and fish food products (including milk, meat, eggs, fish). Various aspects including postharvest loss assessment methods and data, technologies, practices, strategies, investment, policies, cases studies, success stories will be discussed and show-cased including but not limited to
   - Cold chain management technologies; storage technologies; packaging technologies; agro-processing/value addition; quality preservation technologies; reuse/recycling/valorization options; traceability systems; food safety, labeling/dating of packaged and processed foods; market access strategies for smallholder farmers
   - Emerging technologies with the potential for postharvest preservation of food in Africa such as solar/wind refrigeration, nanotechnology, active and intelligent packaging; biological control for pest and diseases; innovative information and communication Technologies (ICT)
3. Non-perishable food commodities (grains; including cereals and pulses, processed foods). Various aspects including postharvest loss assessment methods and data, technologies, practices, strategies, investment, policies, cases studies, success stories will be discussed and show-cased including but not limited to
   - Storage technologies, processing, postharvest pest management, aflatoxin management, reuse/recycling/valorization options, traceability systems, reuse/recycling/valorization options, food safety, labeling/dating of packaged and processed foods
   - Emerging technologies with the potential for postharvest preservation of food in Africa Including nanotechnology, hermetic storage, active and intelligent packaging; innovative information and communication Technologies (ICT)
4. Capacity development including training, education, research and extension/outreach programs

- Farmers training programs, training of trainers, on-line training programs, farmer field schools, curricula and training approaches; innovative ICT training approaches
- Postharvest training and research programs (Msc. M.Phil. and Ph. D.) at universities and tertiary level institutions in Africa

5. Gender, Policy and Governance issues affecting postharvest management
    - Including gender considerations in postharvest technology development, role of women in postharvest management; enabling policies for postharvest loss management, effect national/regional/ global strategies for FLW reduction

CONFERENCE STRUCTURE

The congress will have a four-day program with scientific and technical sessions. Research and development papers will be presented in different session with will include plenary sessions with keynote speakers, panel discussions and research paper presentations. There will be dedicated sessions for poster presentations where presenters will be allocated time to share their findings with participants on one-on-one basis. Exhibitions by companies, organizations, institutions and individuals will run throughout the four-day conference period with a dedicated space for business to business discussions.

An optional pre-event excursion has been organized for congress participants to have a chance to experience the FLW situation in Africa from 'farm to fork' first hand. The excursion sites have been carefully selected to ensure that the participants interact with various practitioners/actors in the food supply chain, from production to retail stages. The overall program has been structured to attract participation and foster maximum interaction of participants from developing and developed countries.

The congress will also feature the Postharvest Technologies Challenge/Competition involving innovators of new postharvest technologies. Entries into the challenge from all over Africa will be screened by a panel of experts drawn from various sectors. The finalists (top 10 innovations and technologies) in various value chains will be show-cased during the congress. The innovators will pitch for their innovations in a special session of the congress where entrepreneurs, investors, donors have been invited. The ultimate goal of this special initiative of the congress is to unveil hitherto unknown innovative solutions for postharvest loss management to fast track their commercialization and scaling up.

PLANNING AND ORGANIZING COMMITTEES

a) Local Organizing Committee – drawn from universities, research institutions, non-governmental organizations and development agencies
b) Global Partners led by World Food Preservation Center® LLC - these include African "Sister" Universities, Institutes, and Associates of the World Food Preservation Center® LLC
c) Co-opted Graduate Students

ENGAGEMENT WITH DEVELOPMENT PARTNERS

This initiative has attracted financial and technical support from key partners in the postharvest space. The key strategic partner in this initiative is the Rockefeller Foundation. The other partners/sponsors include: Food and Agriculture Organization (FAO), Swiss Agency for Development and Cooperation (SDC), Netherlands Development Organization (SNV), Horticulture Innovation Lab, UC Davis (USAID), Postharvest Education Foundation (PEF), Global Alliance for Improve Nutrition (GAIN), East Africa Grain Council (EAGC), International Institute of Tropical Agriculture (IITA), East Africa Trade and Investment Hub (EATIH-USAID, the World Food Programme, among others.

The local organizing committee and the event organizers are reaching out to other local and global partners to support this great initiative.

PARTICIPANTS

Congress participants will be drawn from a diversity of stakeholders across Africa who are involved in the food sector. This includes farmers, traders, researchers, academia, innovators, policy makers, development partners, government departments, private sector/investors, civil society amongst others as listed below:

- Relevant government ministries' representatives (Ministry of Agriculture, Industrialization, environment, water resources, cooperative development)
- Universities
- Research Organizations (National and International)
- Development agencies and donor community
- Private Sector organizations/companies
- Retailers, Service and Hospitality Industry
- Regulatory Bodies
- Processors
- Millers
- Transporters
- Exporters
- Professional associations/Societies
- Farmer/Producer Organizations
- Technology promoters/distributors/partners
- Packaging material manufacturers
- Farmers (selected farmer group representatives)

EXPECTED OUTCOMES

- Awareness created about the extent of postharvest losses and applicable technologies, practices and strategies that have worked to reduce FLW for the benefit of all stakeholders. Lessons and experience sharing from other regions will help inform country strategies for FLW reduction.
- Documentation of postharvest technologies, practices and strategies
    - Database developed from the Postharvest technologies challenge in the congress proceedings/report
    - Publication of a special edition book on postharvest technologies applicable in the African context by the CRC Press (Taylor and Francis). This book can be used as a reference book for teaching in Postharvest Science and Technology from practical examples that are relevant to the African context as opposed to the references currently in use.
- Linkages and partnerships among the various stakeholders including technology developers and vendors; the end users of the technologies, policy makers; development agencies; investors. The linkages among the stakeholder are expected to facilitate and enhance up-scaling opportunities with the ultimate goal of reducing FLW. Reduction in FLW is expected to result in better profit margins for various actors in the supply chain.
- A communiqué (call to action) that sets the stage for action towards FLW reduction – what needs to be done, who should do it and by when. Possibility of setting up a Postharvest Loss management secretariat that is mandated to coordinate and monitor FLW reduction activities and initiatives in Africa
- A policy brief and a strategy paper on FLW communicated that can inform action by Counties, Ministries of Agriculture and other Government agencies involved in research and development in Postharvest