The Postharvest Education Foundation (PEF):
Postharvest capacity building for global food loss and waste reduction

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The Postharvest Education Foundation
World population is rising at an alarming rate and expected to reach **more than 9.1 billion** by 2050, increasing the demand for food.

More than **795 million** are hungry, more than **1.3 billion tonnes** of food is lost or wasted.

The food losses are evident in all parts of the world and may constitute **up to 50%** of total produce in developing countries.

Two-thirds of **total food losses** are postharvest losses, occur at beginning of the food chain even before reaching consumers.
Causes of Postharvest losses
Causes of Postharvest losses

Main causes of Postharvest Food Losses:

- Improper harvest & handling
- Improper storage/ cold chain
- Poor packing
- Technology availability
- Market delays
- Improper transport
- Environmental conditions
- Pests/ Diseases

Main causes of Food Waste:

- Too strict sorting and grading standards
- Packing materials
- Confusing labels
- Serving oversized proportions
Need for Postharvest Capacity Building

✓ The proper knowledge and training in postharvest handling of crops is critically lacking especially in developing nations.

✓ Capacity building, education and training about factors affecting food loss and wastage and suitable remedies is essential to reduce food loss and wastage.

✓ Create cadre of well-trained postharvest professionals.
The Postharvest Education Foundation (PEF)

✓ a variety of **postharvest e-learning programs** for young professionals who work with small scale farmers in developing countries.

✓ **free postharvest training materials** for those involved in extension work and training of farmers, produce handlers, small scale food processors and marketers.

✓ **access to postharvest tools and basic equipment** for use in applied research and for improving practical field operations

✓ **postharvest workshops** for e-learners who successfully complete their online programs

✓ **long term mentoring for participants** in e-learning programs via social networking websites

✓ **sponsor** short courses, study tours, conferences and workshops.

✓ advice and guidance for establishing local **postharvest training centers**.
PEF Global Postharvest E-learning Program

✓ PEF has successfully completed six years of postharvest e-learning, with more than 160 participants from more than 30 different countries.

✓ Year-long mentor guided training program.

✓ 10 Assignments (readings, fieldwork and written reports)

✓ Commodity Systems Assessment (CSA) Methodology.

✓ Free online e-learning manual.

✓ To make familiar with loss assessment, small-scale postharvest and processing techniques, using basic postharvest instruments, cost-benefit calculation and designing postharvest demonstrations.
PEF Activities

✓ Provide access to essential training materials and other postharvest literature.

✓ PEF Newsletter

✓ Postharvest Workshops

✓ Long term mentoring for participants in e-learning programs via social networking websites.

✓ Postharvest tool kit and training to use.
Success Stories

Noel Valentin Mulinda (Rwanda) (2012):
• Started POLYTASK LTD. (www.polytask.net), a Postharvest Consultancy Services in Kigali.
• Trained 60 leaders of “IMPUYAKI COOPERATIVE”, Rwanda (representing another 880 member farmers).

Esther Mwaisango (Tanzania) (2012)
• Established a new packinghouse in Lushoto, Tanzania following simple design based on “Small-scale Postharvest Handling Practices” manual.
• The packinghouse serves 3500 members of 2 local vegetable producer cooperatives.
Success Stories

Mekbib Seife Hailegebrile (Ethiopia) (2012):
• Trained thousands on home gardening, postharvest handling of fruits and vegetables and food cooking demonstration.
• Translated small-scale postharvest manual into Amharic

Dr. Olubukola Odeyemi (Nigeria) (2013)
• Trained many in different topics related to production and postharvest handling of vegetables.
• Postharvest consultant and volunteer trainer for her local community
**Success Stories**

**Roseline Marealle** (Tanzania) (2014):
- Conducted postharvest training for >800 participants.
- Zero Energy Cool Chamber (ZECC) and solar drying of vegetables.

**Dr. Mohammed Razu Ahmed** (Bangladesh) (2015)
- Trained >600 people to develop a low-cost solar dryers in collaboration with BARI which will be used by 3000 project beneficiaries.
- Trained project staff of CARE and other local organisations.
Success Stories

Dr. Mohmad Arief Zargar (India) (2012):
• Trained farmers, traders, cold storage operators and marketers.
• Technical advice for local apple agri-businesses to design, construct and manage a large cold storage/controlled atmosphere facility in the Baramulla district of Kashmir.

Gerefa Sefu (Ethiopia) (2015):
• Works at Bahir Dar University – assist training events for East African postharvest practitioners and professionals.
• Organizing committee for a postharvest conference 1st National Conference on Postharvest Loss Management (PHLM) for Improved Livelihood and Sustainable Development (Feb, 2018)
PEF sponsored postharvest conferences

- First Africa-wide Postharvest Food Loss Reduction Conference and Exhibition (University of Nairobi, Kenya 2017).

- Ethiopian Society of Postharvest Management (ESPHM) Inaugural and First International Conference (Addis Ababa, Ethiopia 2018)
PEF sponsored E-learners’ travel to attend

- UC Davis Postharvest Short Course (USA)
- The First International Congress on Postharvest Loss Prevention (Rome, Italy 2015)
- MASHAV Intensive Hort. Training (Israel, 2018)

- 1st Africa-wide Postharvest Conference and Exhibition (University of Nairobi, Kenya 2017).
- ESPHM Inaugural and First International Conference (Addis Ababa, Ethiopia 2018)
- PEF e-learning program closing workshops in Tanzania and Rwanda.
Partner Organisations

✓ PEF’s partners have included WFPC, WRI, Save Food, GAIN, ABA Inc, WFLO, ADMI, GKI and Champions 12.3.
Books and Literature Reviews

✓ Book project with CRC Press - Postharvest Capacity Building and Extension Education in Developing Countries. Edited by PEF board members Dr. Majeed Mohammed and Vijay Yadav Tokala.

✓ Several publications are in the development stage, on “Postharvest education, extension and capacity building” and on “Issues and opportunities for improved measurement of postharvest losses in plant based food crops”.

✓ Dr. Lisa Kitinoja, PEF board members & WFLO colleagues reviewed the existing literature on food loss measurement and food loss reduction for the World Bank to design postharvest projects around the world.
Current Global Developments

✓ World evidenced wonderful developments with considerable **increase in awareness** on postharvest losses.

✓ Several regional and global outreach projects/organisations for small-scale *growers*: to reduce postharvest losses and to provide essential capacity building and infrastructure.

✓ On Sep 25, 2015 UN SDG 12.3 for 2030 - to reduce FLW by 50%, followed by planning several programs to achieve the goal
Current Global Developments

✓ Wide usage of ICTs: SAWBO, E-Kisan
✓ SAWBO create and distribute free the short animated videos on different topics.
✓ GKI _ Case studies on PICS bags, ZECC, the PTSC Model.
✓ Government subsidies.
✓ Inclusion of Postharvest topics in curriculum in universities.
✓ Postharvest technology and management is a growing field for future careers in research, extension work and private companies.
Future Tasks

✓ In the past years PEF has trained >160 people as “postharvest specialists” but globally **thousands more are still needed** to address the issues of food losses and waste in their home countries.

✓ PEF along with partner organizations will be involved in reducing food loss/waste by **providing advice, mentoring, tools and technical support** for the postharvest projects and programs.

✓ Actively working to **develop books, manuals, loss assessments and organize workshops** collaboratively.
Our Team

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Thank You..!!