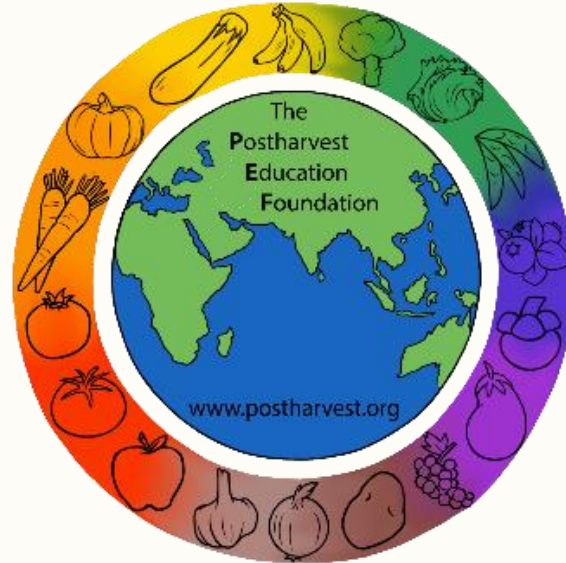


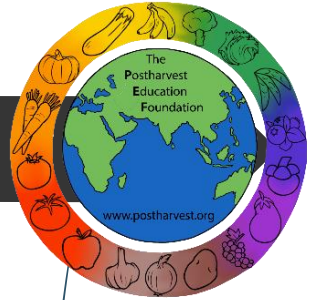
The Postharvest Education Foundation (PEF):

Postharvest capacity building for global food loss and waste reduction



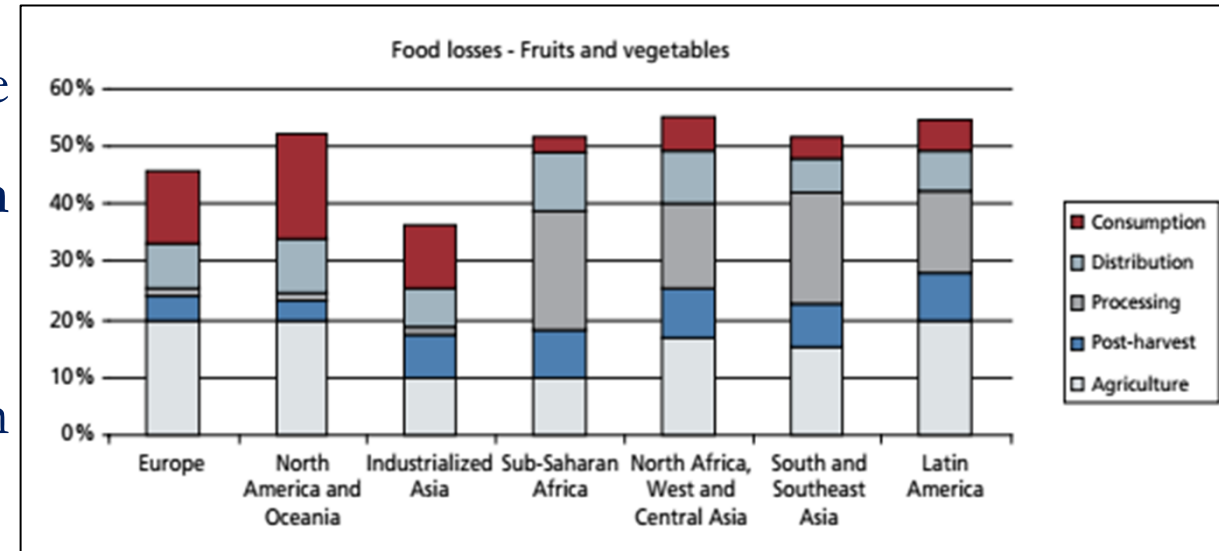
Vijay Yadav Tokala and Lisa Kitinoja

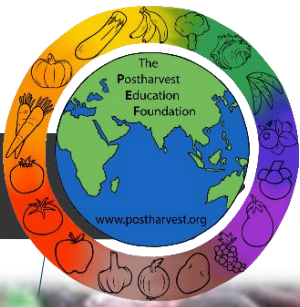
The Postharvest Education Foundation



Postharvest losses – Global scenario

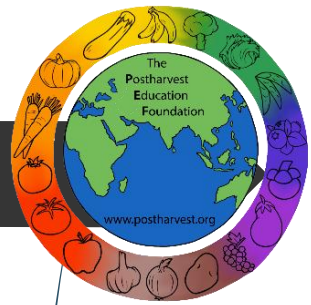
- ❖ World population is rising at alarming rate and expected to reach **more than 9.1 billion** by **2050**, increasing the demand for food.
- ❖ More than **795 million** are hungry, more than **1.3 billion tonnes** of food is lost or wasted.
- ❖ The food losses are evident in all parts of the world 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





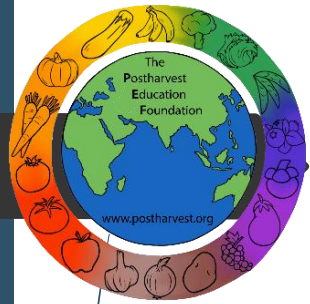
Causes of Postharvest losses

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

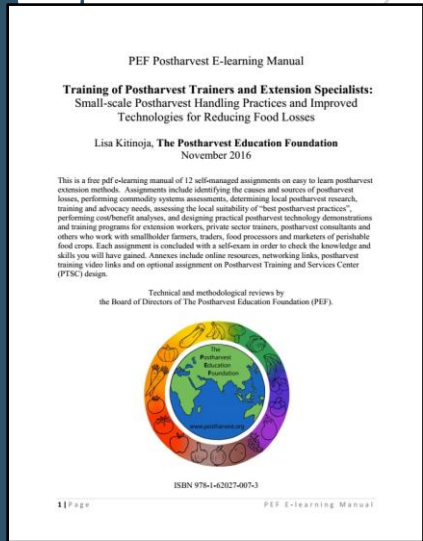


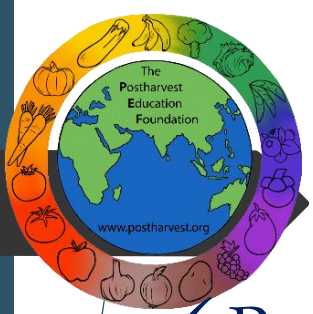
✓ PEF has successfully completed **six years** of postharvest e-learning, with more than **160 participants** from more than **30 different countries**.

- ✓ **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

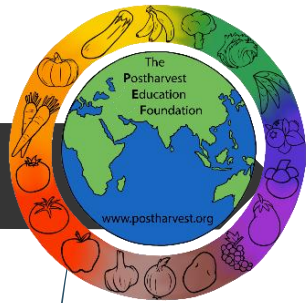
Mekbib Seife Hailegebrile (Ethiopia)(2012):

- 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

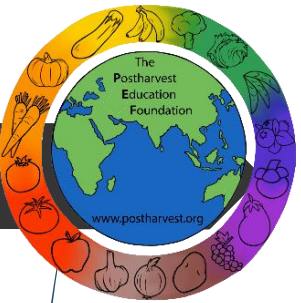
Roseline Marealle (Tanzania)(2014):

- 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)



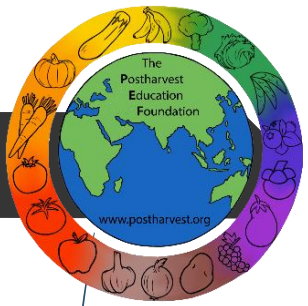
- ❖ 1st Africa-wide Postharvest Conference and Exhibition (University of Nairobi, Kenya 2017).
- ❖ ESPHM Inaugural and First International Conference (Addis Ababa, Ethiopia 2018)
- ❖ PEF e-learning program closing workshops in Tanzania and Rwanda.



Partner Organisations

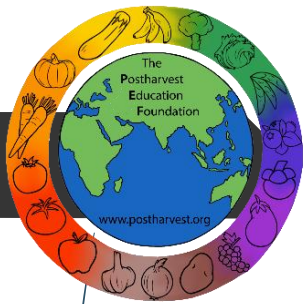
✓ PEF's partners have included WFPC, WRI, Save Food, GAIN, ABA Inc, WFLO, ADMI, GKI and Champions 12.3 .





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.

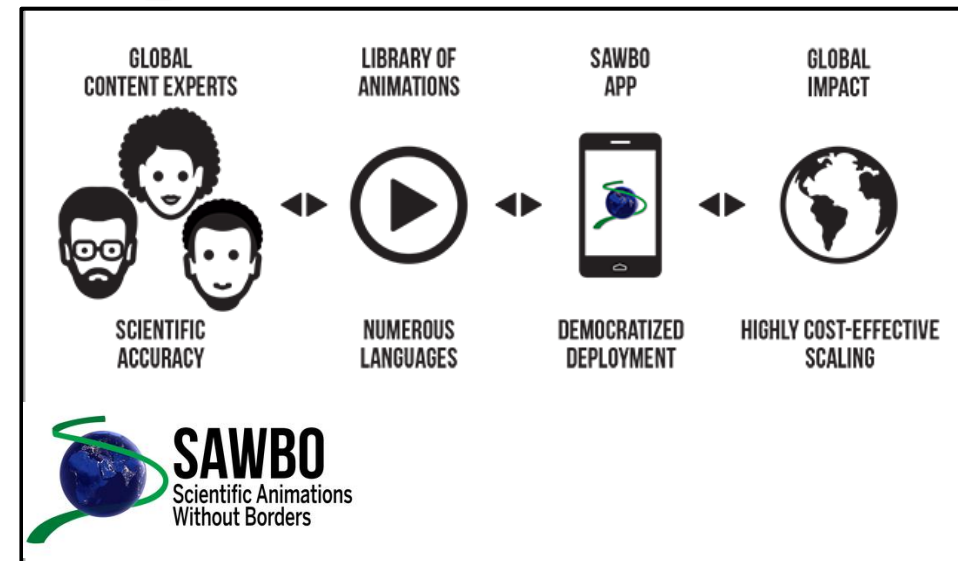


- ✓ Several regional and global outreach projects/organisations for small-scale **growers**: to reduce postharvest losses and to provide essential capacity building and infrastructure.
- ✓ On **Sep 25, 2015 UN SDG 12.3 for 2030** - to reduce FLW by 50%, followed by planning several programs to achieve the goal



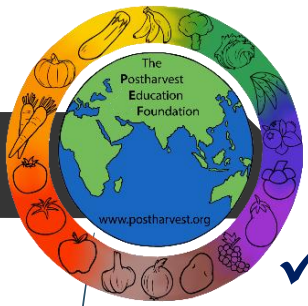
Current Global Developments

- ✓ Wide usage of ICTs: SAWBO, E-Kisan
- ✓ SAWBO create and distribute free the short animated videos on different topics.



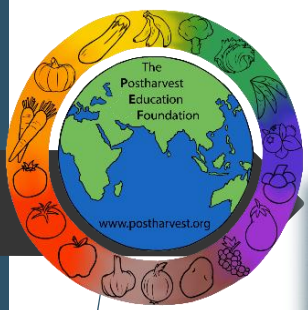
GLOBAL
KNOWLEDGE
INITIATIVE

- ✓ **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



Dr. Deirdre Holcroft



Ms. Bertha Mjawa



**2011 Founding Board of Directors
L to R: Dr Adel A. Kader (late), Dr Diane M. Barrett,
Dr Lisa Kitinoja (Founder), Dr Devon Zagory,
Mr. Patrick D. Brown**



Ms. Cathy Kitinoja



Dr. Majeed Mohammed



Mr. Vijay Yadav Tokala



President:
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Thank You!!!

