

EU platform on Food Losses and Food Waste:
Sub group on food waste measurement
Brussels, 31 March 2017

FAO activities on food waste measurement and SDG reporting

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Food and Agriculture Organization
of the United Nations

OUTLINE

Context

- ✓ Global Policy Frameworks on Food Losses
- ✓ Agenda 2030: FAO role in monitoring
 - ✓ SDG Target 12.3

Actions

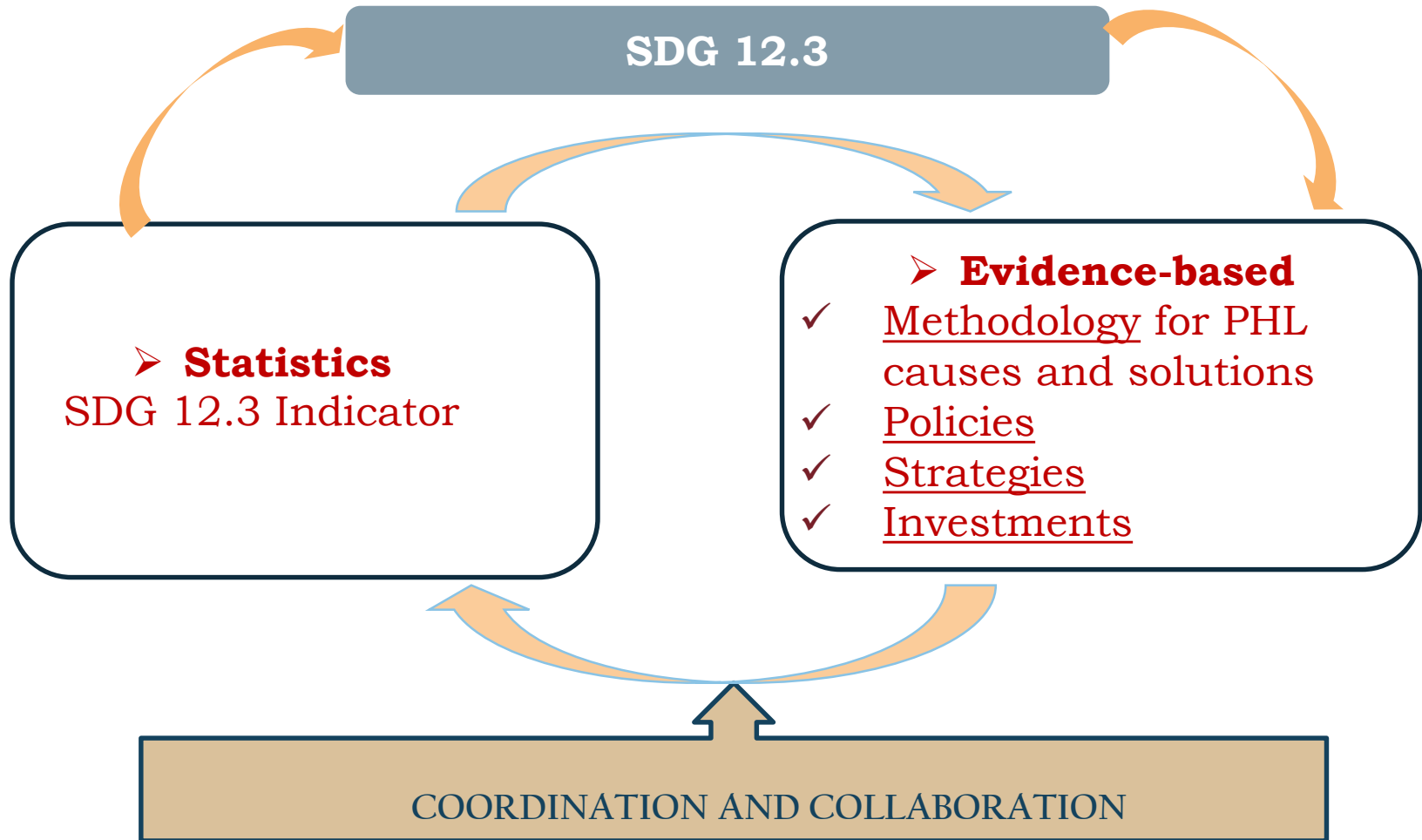
- ✓ Food loss analysis: causes and solutions.
 - ✓ Case studies in the small-scale agriculture and fisheries subsectors methodology
 - ✓ Food loss measurement research in the context of the Global Strategy to Improve Agricultural And Rural Statistics
- ✓ Food loss and waste measurement (including in the context of the SDGs)
 - ✓ Current “place-holder” SDG indicator 12.3.1
 - ✓ Food loss index
 - ✓ Household food waste global indicator

Opportunities

- ✓ Definitions, Terminology, Analytic frameworks, Data, Evidence



SDG 12.3



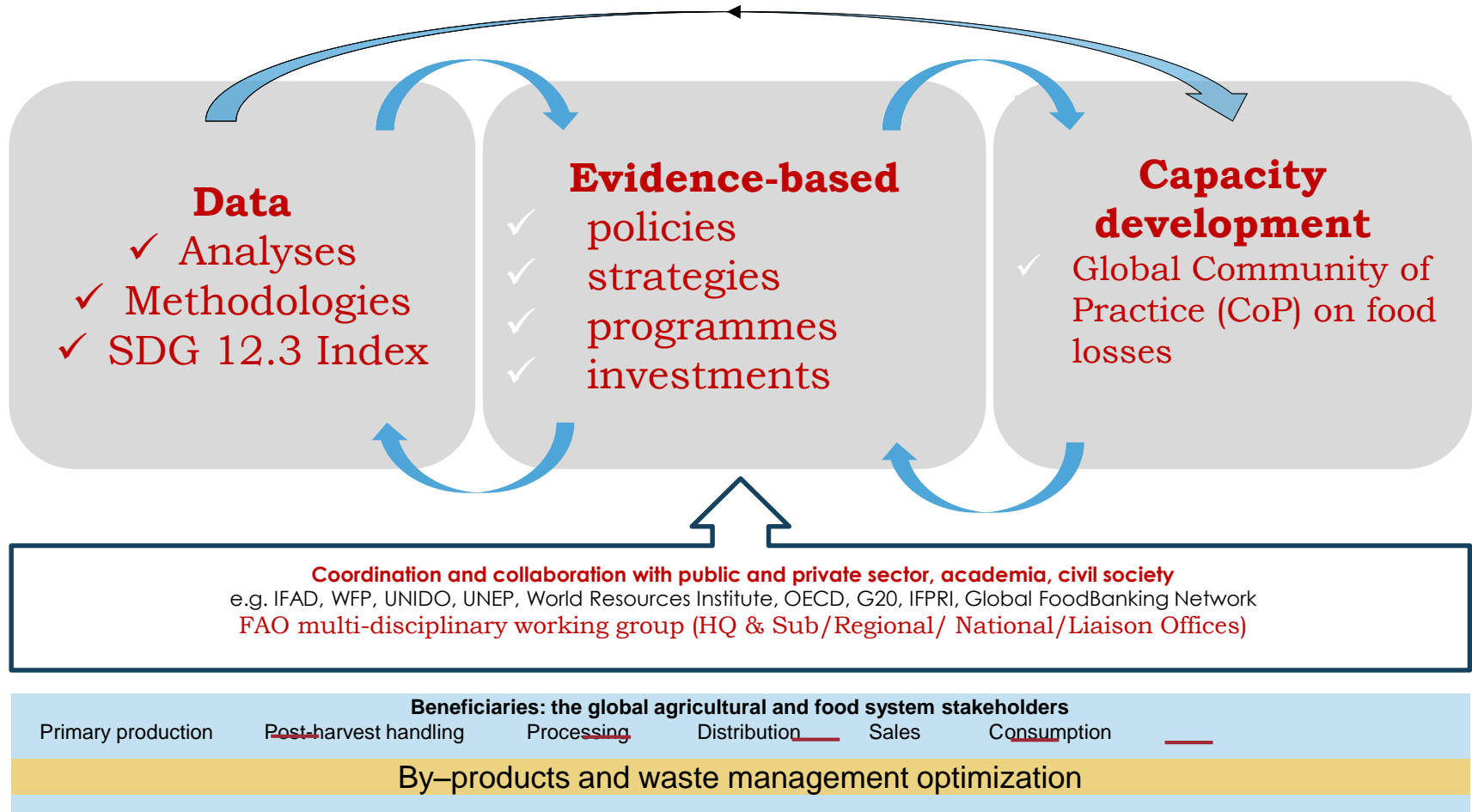
DEFINITION OF FOOD

Food is any substance, whether processed, semi-processed or raw, which is intended for human consumption, and includes drink, chewing gum and any substance which has been used in the manufacture, preparation or treatment of "food" but does not include cosmetics or tobacco or substances used only as drugs.

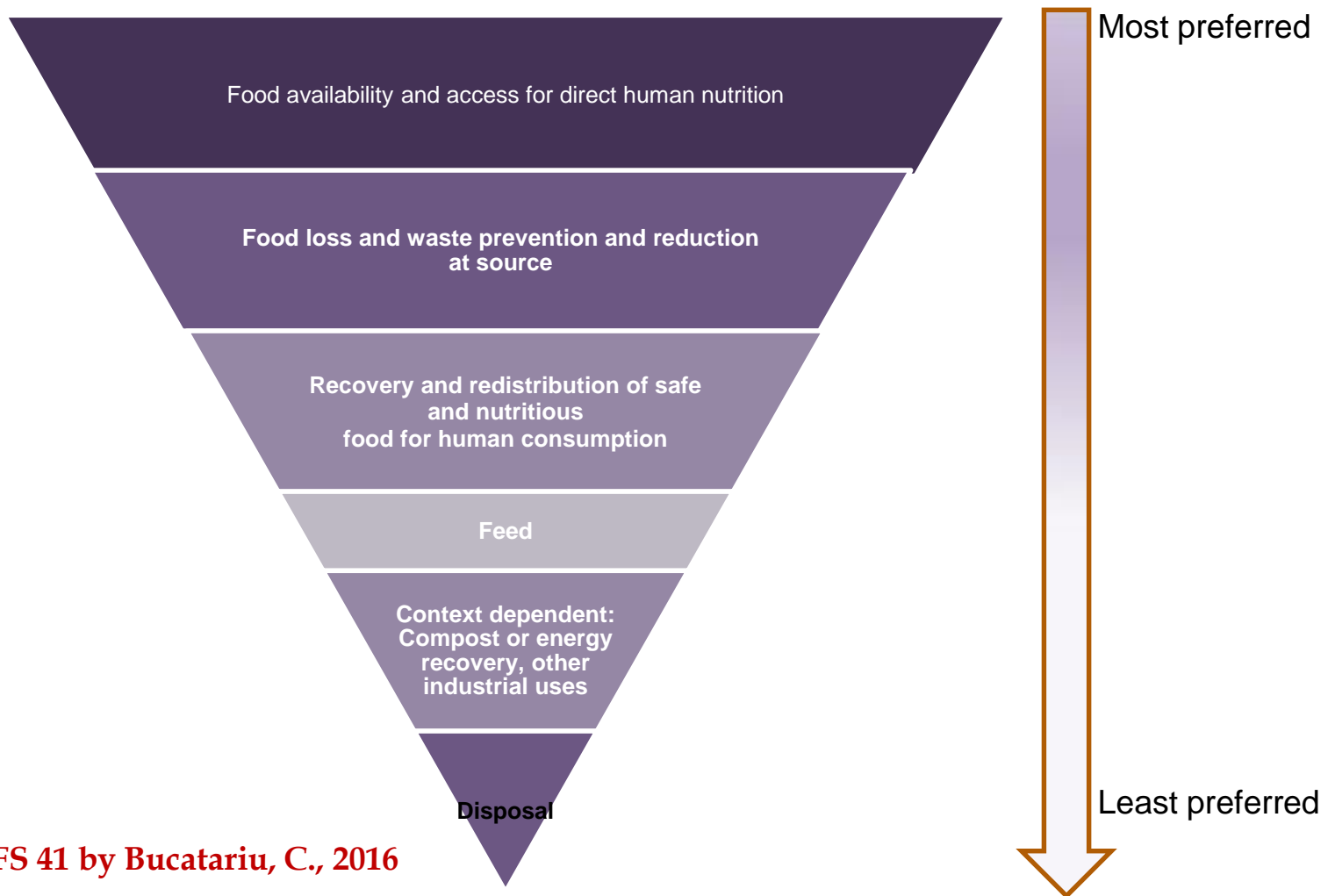
Codex alimentarius commission, procedural
Manual, 2013



GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION



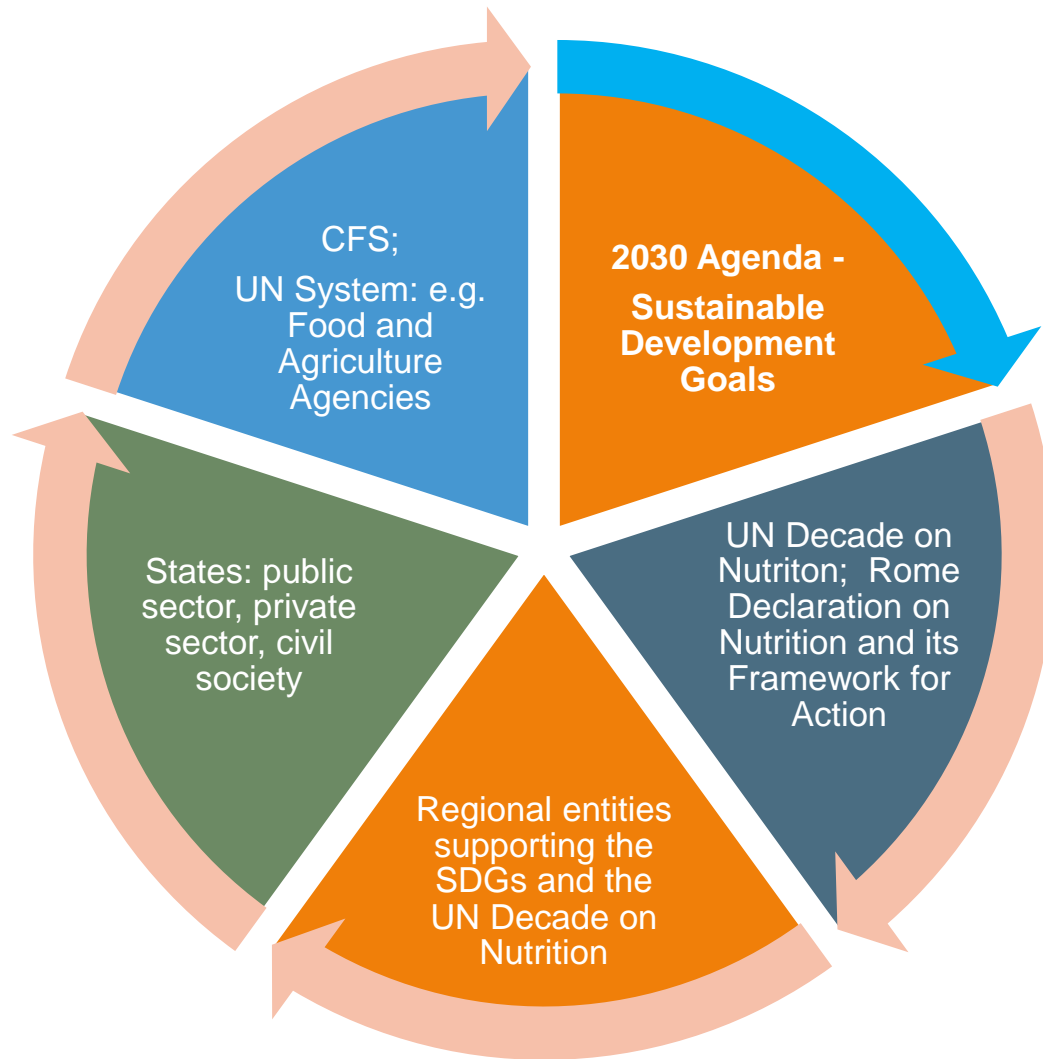
FOOD-USE-NOT-LOSS-OR-WASTE HIERARCHY



adapted from CFS 41 by Bucatariu, C., 2016



POLICY PRIORITY AT GLOBAL, REGIONAL, NATIONAL AND LOCAL LEVEL



GLOBAL, REGIONAL, NATIONAL AND LOCAL ACTIONS

2013 – on going: Near East and North Africa

- Regional Strategic Framework Reducing Food Losses and Waste in the Near East & North Africa

2012- on going: Asia and the Pacific

- The Asia and the Pacific regional initiative

2012- on going: Africa

- Malabo Declaration; target to reduce by 50% the PHL by 2025

2012- on going: Europe and Central Asia

- Regional Initiative

2012- on going: Latin America and the Caribbean

- First regional dialogue on FLW
- Fourth Summit of the Community of Latin American and Caribbean States (CELAC)
- Creation of the Regional Alliance for Reducing Food Waste and Loss



GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION

Food Supply Chain level

- Example of action implemented by the Global Initiative on FLW Reduction - > with Governments' request
- Improvement of Primary data on Food Loss through Food supply chain level case studies
 - Identification of Consultants
 - Selection of Food Supply Chain
 - Multi-stakeholder validation workshop
 - Food Loss Reduction Strategy
 - Investment program to reduce food losses
- Currently : ongoing assessments in around 30 countries for 48 FSCs



GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION

2017

Low cost, high impact solutions for improving the **quality and shelf-life of bananas in local markets - Sri Lanka**

Losses at various stages of traditional and improved chains

Parameter	Supply chain level	Handling practice	
		Traditional	Improved
Total loss (%)	Wholesaler	5.4	2.1
	Retailer	14.4	12.0
System loss (%)	Farm to retail	21.0*	14.1

Results of the FAO, Technical Cooperation Project: TCP/RAS/3502

Reduction of post-harvest losses in horticultural chains in SAARC Countries



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GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION

2017

Low cost, high impact solutions for improving the quality and shelf-life of cauliflower in local markets - **traditional cauliflower supply chains in Nepal**

Losses at various stages of traditional and improved chains

Parameter	Supply chain level	Handling practice	
		Traditional	Improved
Total loss (%)	Wholesaler	11.0	4.5
	Retailer	41.0	13.8
System loss (%)	Farm to retail	52.0	18.3

Results of the FAO, Technical Cooperation Project: TCP/RAS/3502

Reduction of post-harvest losses in horticultural chains in SAARC Countries



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GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION

2017

Low cost, high impact solutions for improving the **quality and shelf-life of mandarins In local markets - Nepal**

Losses at various stages of traditional and improved chains

Parameter	Supply chain level	Handling practice	
		Typical	Improved
Total loss (%)	Wholesaler	7.2	4.1
	Retailer	13.0	4.6
System loss (%)	Farm to retail	20.2	8.7

Results of the FAO, Technical Cooperation Project: TCP/RAS/3502

Reduction of post-harvest losses in horticultural chains in SAARC Countries



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GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION

2017

Low cost, high impact solutions for improving the **quality and shelf-life of mangoes in local markets - Bangladesh**

Losses at various stages of traditional and improved chains

Parameter	Supply chain level	Handling practice	
		Traditional	Improved
Total loss (%)	Wholesaler	0.01	0
	Retailer (Day 5)	25.10	7.0
System loss (%)	Farm to retail	25.11	7.0

Results of the FAO, Technical Cooperation Project: TCP/RAS/3502

Reduction of post-harvest losses in horticultural chains in SAARC Countries



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FAO STATISTICAL ACTIVITIES IN THE AREA OF FOOD LOSS MEASUREMENT

1. Current FAO FBS record quantities of losses by commodity and country
 - The data covers the food value chain from post-harvest to retail level
 - Reported loss data coverage have been historically low (4% of the required matrix data point)
 - Most loss data in the FBS have been imputed
 - Based on production, trends and expert judgment
 - For some commodities as a residual, to balance the FBS
2. Existing (sparse) food loss data used to model food-losses
3. Definition of a Food Loss Index (FLI)
4. Definition of a global indicator for household food waste



FOOD LOSS VS. FOOD WASTE IN THE PRODUCTION/SUPPLY CHAIN

Agriculture Production/Supply Chain

Pre-harvest/
Pre-slaughter

Agriculture
Production

Post-harvest/
Post-slaughter
Handling and
Storage

Processing
and Packing

Distribution
to retail

Retail

Public and
household
consumption

Mostly loss (and some waste)

Mostly Waste
(and some loss)



ACTIONS

Research project under the aegis of the **Global Strategy to improve Agricultural and Rural Statistics (GSARS)** to “develop statistical methods for collecting data and measuring grain post-harvest losses to deliver the best results for the lowest cost”

1. Final objective: to produce **guidelines for developing countries on cost-effective methods for estimating post harvest losses**
2. Triggering factors:
 - a. Strong request from Sub-Saharan countries at the 2011 African Commission for Agricultural Statistics (AFCAS), Malabo Declaration of African Union countries in 2014
 - b. Lack of availability and quality of PHL data
3. Challenges:
 - a. Scope (where does post-harvest start and where does it end? Are we measuring quantitative, qualitative, nutritional losses?)
 - b. Integrating expert opinion into statistical processes
 - c. Reliability, Coverage and Cost-effectiveness



GUIDELINES TO ESTIMATE POSTHARVEST LOSSES (PHL)

1. Literature review ([published](#)) and methodological reports
2. 2016: Field tests and desk-studies (Ghana, Malawi)
3. 2017: Prepare and finalise the published guidelines
4. Technical assistance to countries (starting in 2017): Mexico, Malawi, Namibia and Zimbabwe



FAO ROLE IN SDG MONITORING

1. FAO has been identified as the “custodian” agency for 21 SDG global framework indicators by the IAEG-SDG of the UNSC
2. As custodian agency, it has the mandate to:
 - a. Contribute to the definition of the methodology for the indicators
 - b. Collect and validate estimates from countries, aggregate them, and report to UNSD for the SDG global report
 - c. Provide technical assistance and capacity development services to countries
3. The SDG Agenda (and the related monitoring framework) is universal, inspired by the leave no one behind principle
 - a. Indicators must be applicable to both developed and developing countries

<http://www.fao.org/3/a-i6919e.pdf>



SDG INDICATOR(S) FOR TARGET 12.3

“By 2030, ...



“...reduce **food losses** along **production and supply chains**, including post-harvest losses.”



“...halve per capita global **food waste** at the **retail and consumer levels**.”

- Different methods for measurement, estimation and data collection
- Different statistical programs at country level
 - Issues of coordination and collaboration with countries (e.g. Mexico) and other organizations (EU, WRI, UNEP, etc.)
- Consistency with the text of the target
 - Decreases the potential for double counting losses and waste along the food supply chain



A FOOD LOSS INDEX (FLI)

Laspeyres-type (constant prices) index of loss values.

$$FLI_{jt} = \frac{\sum_i p_{i0} * q_{ijt}}{\sum_i p_{i0} * q_{ij0}}$$

where:

p_{i0} = “base period” average international price (\$) for the commodity i

q_{ijt} = loss quantity (tons) for the commodity i in the country j at time t

q_{ij0} = loss quantity (tons) for the commodity i in the base period (2005)



MEASURING HOUSEHOLD FOOD WASTE

1. Leveraging on existing methods to estimate the prevalence of undernourishment
 - Recent FAO-EUROSTAT initiative to analyze food consumption data collected through household consumption surveys
2. Using evidence on the prevalence of overweight and obesity in the national population
 - Particularly relevant for EU countries
3. Excess food consumption (acquisition) at household level beyond what would explain existing rates of overweight and obesity, is taken as an estimate of food wastes.

http://www.globalnutritionreport.org/files/2014/11/gnr14_tn_n4g_03excessive.pdf



LINKS WITH EU ACTIVITIES

1. Losses, which are not covered by the waste directive, can be tracked through the annual FBS reporting by EU member countries
2. EU Platform has created the push for better measurement on the waste component
3. Clear link to food security and nutrition



OPPORTUNITIES

1. Multi – stakeholder operational implementation
2. Improve access to safe and nutritious food by the poor, through prevention, recovery and redistribution
 - a. Implication for improving food security and nutrition in the EU
3. Evidence-based policies
 - a. Tools for monitoring and evaluation
 - b. Institutional/policy/regulatory frameworks
 - c. Coordination between local, national, regional and global level interventions and priorities



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www.fao.org/platform-food-loss-waste
4. Information on Post Harvest Operations
<http://www.fao.org/in-action/inpho/home/en/>

