# SDG 12.3.1.a

# Compiling the Food Loss Index
## SDG monitoring and reporting

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## Objectives of this session

- ❑ Understand the national SDG monitoring system
- ❑ Describe the steps in compiling the country Food Loss Index (FLI)
- ❑ Reporting on the Food Loss Index
- ❑ Provide the FAO reporting tool
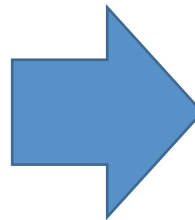
# Food Loss Monitoring System

# Build the food loss monitoring system

- Each country will build its own food loss monitoring system

- The scope and design will depend on the country priorities, the stakeholders, the data collection strategy and the national statistics system (available sources)

- The national monitoring system provides the data to report on SDG 12.3.1a

**National Monitoring System:**

- National monitoring responds to national priorities and needs
- Each country will pursue its own set of national indicators
- The guiding question is who will need to use the food loss data and how

**SDG framework for monitoring :**

- Global monitoring will use data from the national monitoring systems
- National ownership of the SDG framework is key
- The country data will be organized to report towards SDG 12.3.1.a

# Stakeholders

**Coordinating Body**: Ideally an agency:
- access to necessary administrative data
- resources to collect nationally data
- compile the analysis
- Establishes the appropriate methodology

**Data users**:
- Policy makers and institutions
- Researchers
- NGOs
- Private sector actors
- General public

**Coordinating Body**

**Data providers**
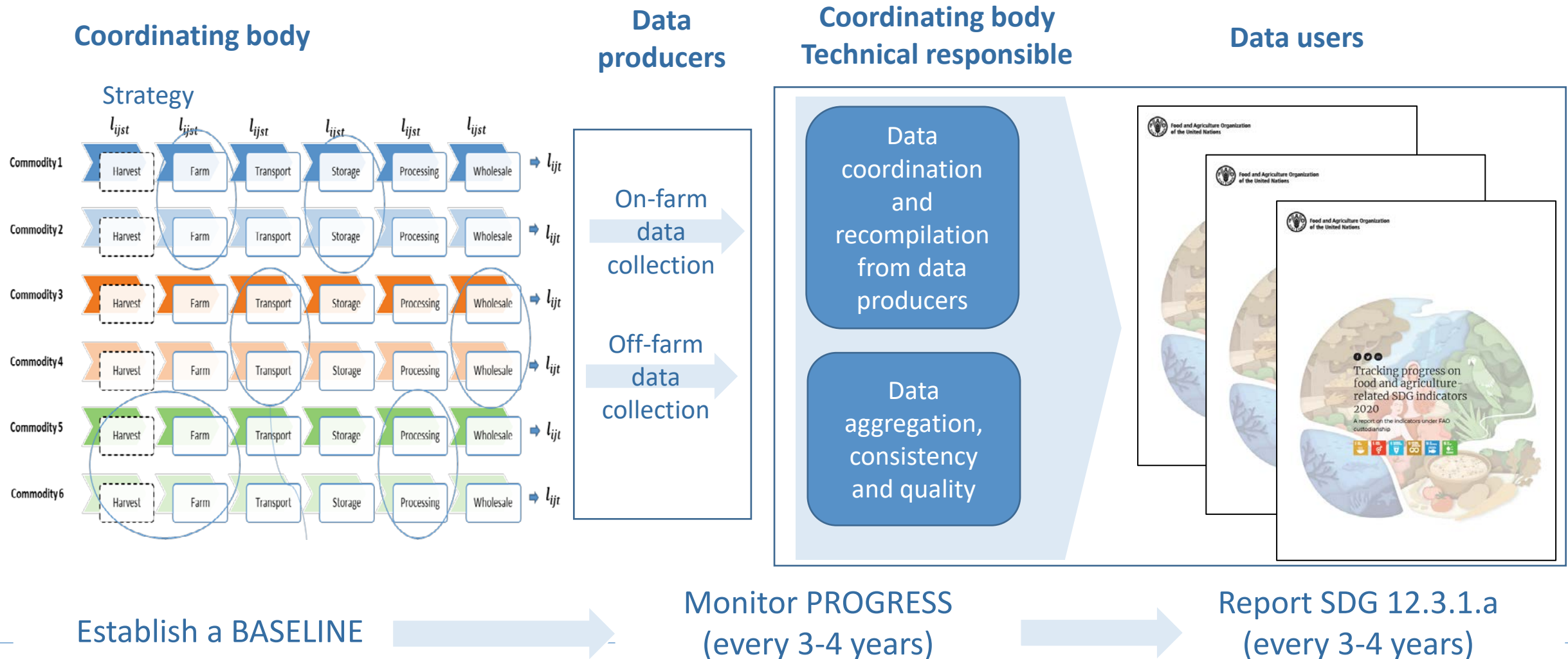
**Data users**

**Dissemination**

**Data producers**: Data producing agencies:
- Mandate and established capacities/resources to generate statistical data
- Cost-efficiency, periodicity, scope and level of disaggregation

**Dissemination**:
- Broad and efficient dissemination channels
- Access to reports, tabulators, meta-data

SDG 12.3.1.a Country level monitoring system

# From the planning and design towards implementation:

**Planning and design of food loss data collection (data collection and measurement strategy)**

❑ Set the priorities (commodities, critical food loss points)

❑ Decide how the country will measure and monitor food losses

❑ Set base year and data collection frequency

❑ Implement data collection / models

**Measure and monitoring food losses in time (institutional framework):**

❑ Coordinate data production, integration and monitoring

❑ Institutional feedback and dissemination mechanism

➢ Analyze and disseminate food loss data

Steps for compiling the FLI

1. Select the **commodity basket** for the country FLI and intergrate the required data (prices, imports, …)

2. Choose the **base year**

3. Compile **the weights**

4. **Collect/Compile data at** country level for each year

5. **Aggregate the food loss percentages** for the selected commodities and years

6. **Compile, monitor and report** the country food loss index

**Reasoning for allowing countries to select a national commodity basket:**

- Loss statistics cannot cover the entire basket
- The same commodities are not relevant for all countries
- Trade-off between relevance at country level and comparability across countries

**FAO will use the following default process in case the country does not provide a selection:**

1. Compile value of production for every commodity (in the base year)
2. Group commodities by category and rank them
3. Select the top 2

**Comparability**

1. Cereals & Pulses;
2. Fruits And Vegetables;
3. Roots, Tubers & Oil-Bearing Crops;
4. Animals products;
5. Fish and fish products
6. Other crops (stimulants, spices, sugar, etc.)

**Relevance**
Countries determine the ten commodities by analyzing:
- Policy focus
- Economic relevance
- Food security relevance

## Example of criterias to select commodity basekt for SDG 12.3.1 a

| Heading | Commodity | Production and contribution to agricultural sector | | | Food Security and Nutrition | | Socioeconomic Factors | Policy Factors | Relevance for Food Loss Reduction |
|---|---|---|---|---|---|---|---|---|---|
| | | Production Volume (tons) | Percent of total volume of commodity group | Production Value (1000 Dollar) | Percent contribution to average food basket (%) | Priorities for nutrition | Relevance small scale farmers | Part of policy priorities/ programmes | Relevance for food losses |
| Cereals and pulses | Wheat | **2,511,008** | **5%** | **609,498** | **6.0%** | Medium | Low | Medium | Low |
| Cereals and pulses | Barley | 963,288 | 2% | 116,405 | 4.0% | Low | Low | Medium | Low |
| Cereals and pulses | Rice | 587,980 | 1% | 70,791 | 8.0% | Medium | Low | Medium | Low |
| Cereals and pulses | Maize | **11,896,456** | **26%** | **4,002,147** | **18.0%** | **High** | **High** | **High** | **High** |
| Fruits and vegetable | Tomatoes | **2,669,982** | **6%** | **1,495,688** | **6.0%** | **High** | Medium | **High** | **High** |
| Fruits and vegetable | Onions | 943,848 | 2% | 20,590 | 2.0% | Medium | Low | Medium | **Medium** |
| Fruits and vegetable | Mango | 902,014 | 2% | **1,316,557** | 2.0% | Medium | Medium | Medium | **High** |
| Fruits and vegetable | Bananas | 594,295 | 1% | 671,627 | 3.0% | **High** | **High** | **High** | **High** |
| Meat & Animals Products | Eggs | 2,772,544 | **6%** | 1,178,366 | 9.0% | **High** | **High** | Medium | Medium |
| Meat & Animals Products | Raw milk of cat | 3,099,608 | **7%** | 1,197,611 | **11.0%** | **High** | **High** | Medium | Medium |
| Meat & Animals Products | Meat of cattle | 2,315,441 | **5%** | **10,315,245** | 6.0% | Medium | Low | **High** | **High** |
| Meat & Animals Products | Poultry Meat | 3,277,342 | **7%** | **4,866,832** | **10.0%** | **High** | Medium | **High** | Low |
| Roots, Tubers & Oil-Bearing | Soyabean | 433,564 | 1% | 139,646 | 0.0% | Low | Low | Medium | Medium |
| Roots, Tubers & Oil-Bearing | Palm kernals | 804,923 | 2% | 9,034 | 0.0% | Low | Low | Low | Low |
| Roots, Tubers & Oil-Bearing | Potatoes | **1,257,076** | 3% | **303,268** | **6.0%** | Medium | Low | Medium | **High** |
| Roots, Tubers & Oil-Bearing | Coconut | 1,002,283 | 2% | 127,986 | 0.0% | Low | Medium | Low | Low |

# Example of required data

| Heading | CPC | Item Name | Production | Imports | Production + Imports | Price | Percent of total value of Production | Reference Quantity | Value of Reference Quantity |
|---------|-----|-----------|-----------|---------|---------------------|-------|-------------------------------------|--------------------|-----------------------------|
| | | | *Average 2014-2016 (Tons)* | *Average 2014-2016 (Tons)* | *Average 2014-2016 (Tons)* | *International dollar prices from FAOSTAT* | *Based on value of production FAOSTAT* | *If Import/Production<0.1, Production; If Import/Production> or =0.1, Production + Imports* | *Reference Quantity * Price* |
| Cereals & Pulses | 0111 | Wheat | 2,511,008 | 8,056,666 | 10,567,675 | 232 | 0.28 | 10,567,675 | 2,451,700,600 |
| Cereals & Pulses | 0115 | Barley | 963,288 | NA | 1,700,073 | 195 | 0.04 | 963,288 | 187,984,305 |
| Fish & Fish Products | 0 | | 0 | 0 | 0 | 0 | 0.00 | | |
| Fish & Fish Products | 0 | | 0 | 0 | 0 | 0 | 0.00 | | |
| Fruits & Vegetables | 01234 | Tomatoes | 1,169,982 | 15 | 1,169,997 | 468 | 0.03 | 1,169,982 | 547,152,378 |
| Fruits & Vegetables | 01314 | Dates | 984,783 | 7 | 984,790 | 1050 | 0.03 | 984,783 | 1,034,158,936 |
| Meat & Animals Products | 02211 | Raw milk of cattle | 3,099,608 | 75 | 3,099,683 | 386 | 0.08 | 3,099,608 | 1,197,611,041 |
| Meat & Animals Products | 21115 | Meat of sheep | 272,989 | 3,492 | 276,480 | 4555 | 0.01 | 272,989 | 1,243,365,663 |
| Roots, Tubers & Oil-Bearin | 01450 | Olives | 611,007 | 190 | 611,197 | 1014 | 0.02 | 611,007 | 619,836,112 |
| Roots, Tubers & Oil-Bearin | 01510 | Potatoes | 4,657,076 | 126,347 | 4,783,424 | 243 | 0.13 | 4,657,076 | 1,132,572,941 |
| Other | 01371 | Almonds in shell | 69,135 | 46 | 69,181 | 5237 | 0 | 69,135 | 362,067,766 |
| Other | 02910 | Natural honey | 6,424 | 736 | 7,161 | 3623 | 0 | 7,161 | 25,946,684 |
| | | | | | | | | *Total Value of Reference Quantity:* | 8,802,396,426 |

## 2) CHOOSE THE BASE YEAR

**The base year for SDG 12.3.1.a monitoring and reporting should ideally be 2015**:
The benchmark at country level can be based on the first survey period (variable year).

**For international comparability**:
- A harmonized base period will have to be set to produce regional and global aggregates
- FAO needs to interpolate (model) loss percentages in the baseline year and in a common reporting year

## 3) COMPILE THE WEIGHTS

**FAO calculates SDG 12.3.1.a with weights based on economic values** to aggregate reported food loss percentages by commodity. The NFLI is then biased towards higher economic-valued commodities (fixed for the base year).

Countries can additionally apply other weights to their food loss percentages if of interest for national decision making:

- **Nutritional factors**: e.g. caloric or protein values will be biased towards meats and staples, but not on fruits and vegetables
- **Environmental factors**: e.g. water or $CO_2$ can be biased against meats, fruits, vegetables and nuts, as well as production systems by country
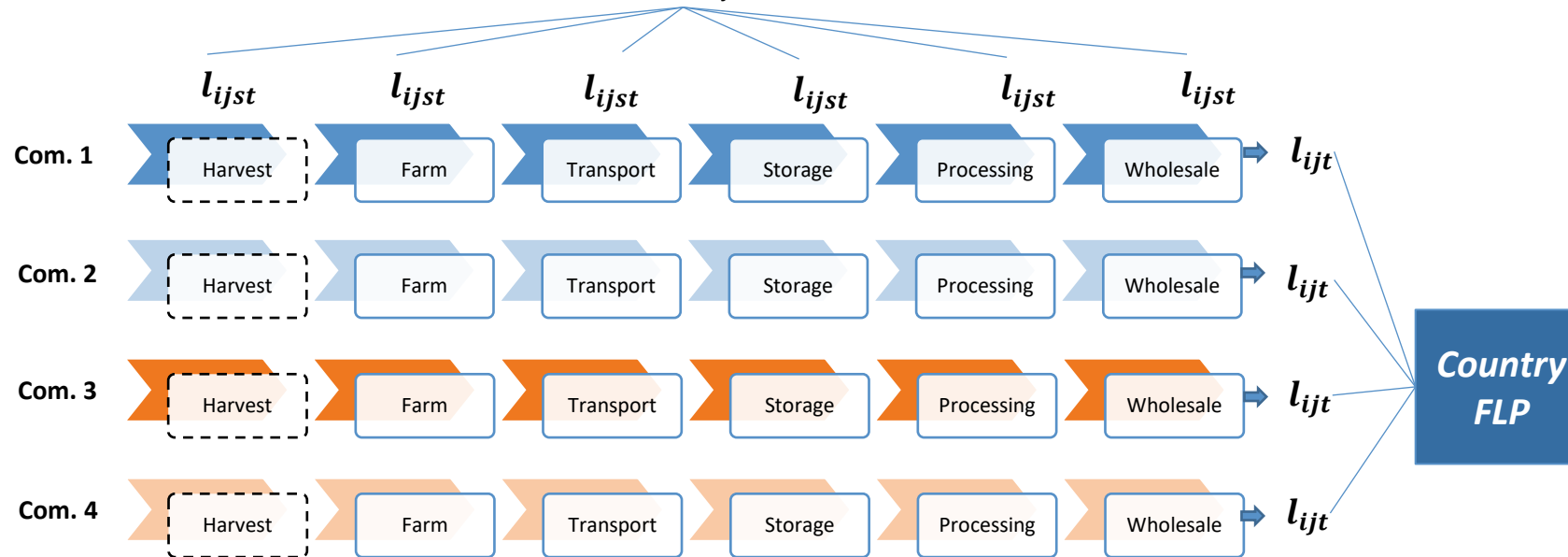
# 3) COMPILE THE WEIGHTS

| Heading | CPC | Item Name | Production | Imports | Production + Imports | Price | Percent of total value of Production | Reference Quantity | Value of Reference Quantity |
|---|---|---|---|---|---|---|---|---|---|
| | | | *Average 2014-2016 (Tons)* | *Average 2014-2016 (Tons)* | *Average 2014-2016 (Tons)* | *International dollar prices from FAOSTAT* | *Based on value of production FAOSTAT* | *If Import/Production<0.1, Production; If Import/Production> or =0.1, Production + Imports* | *Reference Quantity * Price* |
| Cereals & Pulses | 0111 | Wheat | 2,511,008 | 8,056,666 | 10,567,675 | 232 | 0.28 | 10,567,675 | 2,451,700,600 |
| Cereals & Pulses | 0115 | Barley | 963,288 | NA | 1,700,073 | 1?5 | 0.04 | 963,288 | 187,984,305 |
| Fish & Fish Products | 0 | | 0 | 0 | 0 | | 0.00 | | |
| Fish & Fish Products | 0 | | 0 | 0 | 0 | | 0.00 | | |
| Fruits & Vegetables | 01234 | Tomatoes | 1,169,982 | 15 | 1,169,997 | 4?8 | 0.03 | 1,169,982 | 547,152,378 |
| Fruits & Vegetables | 01314 | Dates | 984,783 | 7 | 984,790 | 10?0 | 0.03 | 984,783 | 1,034,158,936 |
| Meat & Animals Products | 02211 | Raw milk of cattle | 3,099,608 | 75 | 3,099,683 | 3?6 | 0.08 | 3,099,608 | 1,197,611,041 |
| Meat & Animals Products | 21115 | Meat of sheep | 272,989 | 3,492 | 276,480 | 45?5 | 0.01 | 272,989 | 1,243,365,663 |
| Roots, Tubers & Oil-Bearin | 01450 | Olives | | | | | 0.02 | 611,007 | 619,836,112 |
| Roots, Tubers & Oil-Bearin | 01510 | Potatoes | 4? | | | | 0.13 | 4,657,076 | 1,132,572,941 |
| Other | 01371 | Almonds in shell | | | | | 0 | 69,135 | 362,067,766 |
| Other | 02910 | Natural honey | | | | | 0 | 7,161 | 25,946,684 |
| | | | | | | | | Total Value of Reference Quantity: | 8,802,396,426 |

$$FLP_{it} = \frac{\sum_j l_{ijt} * (q_0 * p_0)}{\sum_j (q_0 * p_0)}$$

*Food loss percentages by commodity representative at national level ($l_{ijt}$)*

$l_{ijst}$  $l_{ijst}$  $l_{ijst}$  $l_{ijst}$  $l_{ijst}$  $l_{ijst}$

**Com. 1**
Harvest | Farm | Transport | Storage | Processing | Wholesale → $l_{ijt}$

**Com. 2**
Harvest | Farm | Transport | Storage | Processing | Wholesale → $l_{ijt}$

**Com. 3**
Harvest | Farm | Transport | Storage | Processing | Wholesale → $l_{ijt}$

**Com. 4**
Harvest | Farm | Transport | Storage | Processing | Wholesale → $l_{ijt}$

**Country FLP**

*Each commodity's supply chain can be disaggregated down to stages. Estimates for the different stages can come from various instruments and tools.*

*Weighted Aggregation of all commodities in the country basket FLP*

**Break down the problem into structured parts –stages**
Simplify the supply chain to main stages

**Get to loss estimates for each stage**
Each stage will have different measurement challenges in terms of tracking loss quantities over time

**Evaluate where the information comes from at each stage**
How to think about layering information to keep this cost-effective

**Aggregation from stage level data and final Food Loss Percentages:**

- To aggregate losses, all the loss quantities and operated quantities need to be known.

- If not, a simplified aggregation method can be used to aggregate losses for the whole supply chain starting with a reference quantity of 1000.

- To obtain the total food loss percentage, the remaining supply at the retail stage is divided by the reference quantity 1000.

| Group | Item Code | Commodity | Reference Quantities Remaining by Stage*** | | | | | | Food loss percentage and quantity | |
| | | | Harvest | Farm/ Slaughter | Collection | Storage | Wholesale | Processing | Remaining Supply at the retail stage | Total Supply Chain Loss |
|---|---|---|---|---|---|---|---|---|---|---|
| Cereals & Pulses | 111 | wheat | 990 | 970 | 970 | 970 | 956 | 923 | 923 | 7.7% |
| Cereals & Pulses | 113 | rice | 990 | 970 | 970 | 970 | 956 | 923 | 923 | 7.7% |
| Fish & Fish Products | 0 | 0 | 1039 | 954 | 954 | 954 | 899 | 694 | 694 | 30.6% |
| Fish & Fish Products | 0 | 0 | 1039 | 954 | 954 | 954 | 899 | 694 | 694 | 30.6% |
| Fruits & Vegetables | 1316 | mangoes guavas mangosteens | 983 | 943 | 943 | 943 | 910 | 864 | 864 | 13.6% |
| Fruits & Vegetables | 1359.9 | other fruits n.e. | 983 | 943 | 943 | 943 | 910 | 864 | 864 | 13.6% |
| Meat & Animals Products | 2211 | raw milk of cattle | 973 | 948 | 948 | 948 | 882 | 867 | 867 | 13.3% |
| Meat & Animals Products | 2212 | raw milk of buffalo | 973 | 948 | 948 | 948 | 882 | 867 | 867 | 13.3% |
| Other | 1652 | chillies and peppers dry (capsicum | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1,000 | 0.0% |
| Other | 1802 | sugar cane | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1,000 | 0.0% |
| Roots, Tubers & Oil-Bearing ( | 143 | cottonseed | 1029 | 972 | 972 | 972 | 931 | 857 | 857 | 14.3% |
| Roots, Tubers & Oil-Bearing ( | 1510 | potatoes | 993 | 963 | 963 | 963 | 939 | 845 | 845 | 15.5% |

| Refernce Quantity | 1000 |
|---|---|

# 5) AGGREGATE THE FOOD LOSS PERCENTAGES FOR THE SELECTED COMMODITIES AND YEARS

**The Country Food Loss Index is based on country data on food losses**:

- The data is usually generated at stage level and aggregated along the supply chain (up to retail)
- In some cases, food losses are estimated for the whole supply chain (indirect methods)
- It is probable that data is not collected each year, then the data from previous year are used or interpolation methods can be used

| Group | Item Code | Item Name | Year | | |
|---|---|---|---|---|---|
| | | | 2015 | 2016 | 2017 |
| Cereals & Pulses | 0111 | Wheat | 5.6% | 5.4% | 5.9% |
| Cereals & Pulses | 0115 | Barley | 6.1% | 6.4% | 7.9% |
| Fish & Fish Products | 0 | | | | |
| Fish & Fish Products | 0 | | | | |
| Fruits & Vegetables | 01234 | Tomatoes | 16.1% | 16.5% | 17.0% |
| Fruits & Vegetables | 01314 | Dates | 9.8% | 9.7% | 10.3% |
| Meat & Animals Products | 02211 | Raw milk of cattle | 5.9% | 4.9% | 4.0% |
| Meat & Animals Products | 21115 | Meat of sheep fresh or chilled | 5.5% | 5.0% | 5.0% |
| Roots, Tubers & Oil-Bearing Crops | 01450 | Olives | 2.0% | 2.5% | 1.5% |
| Roots, Tubers & Oil-Bearing Crops | 01510 | Potatoes | 10.0% | 12.0% | 9.0% |
| Other | 01371 | Almonds in shell | 5.0% | 5.0% | 5.0% |
| Other | 02910 | Natural honey | | | |

**The Country Food Loss Index (FLI)** is a fixed-base weighted index (Laspeyres-type) widely used in official statistics:

$$\boldsymbol{Food\ Loss\ Index\ (FLI)} = \frac{Food\ loss\ percentage\ of\ the\ current\ year}{Food\ loss\ percentage\ of\ the\ base\ year}$$

$$FLI_{it} = \frac{FLP_{it}}{FLP_{it_0}} * 100$$

- The FLI measures trends in percentage losses over time, comparing a national average Food Loss Percentage (FLP) in the current year to the same percentage in the base year.
- A FLI < 100 means that a country has met the SDG target 12.3.1.a

Commodity Food Loss Percentages $l\_ijt$ (Whole supply chain) for the selected commodities
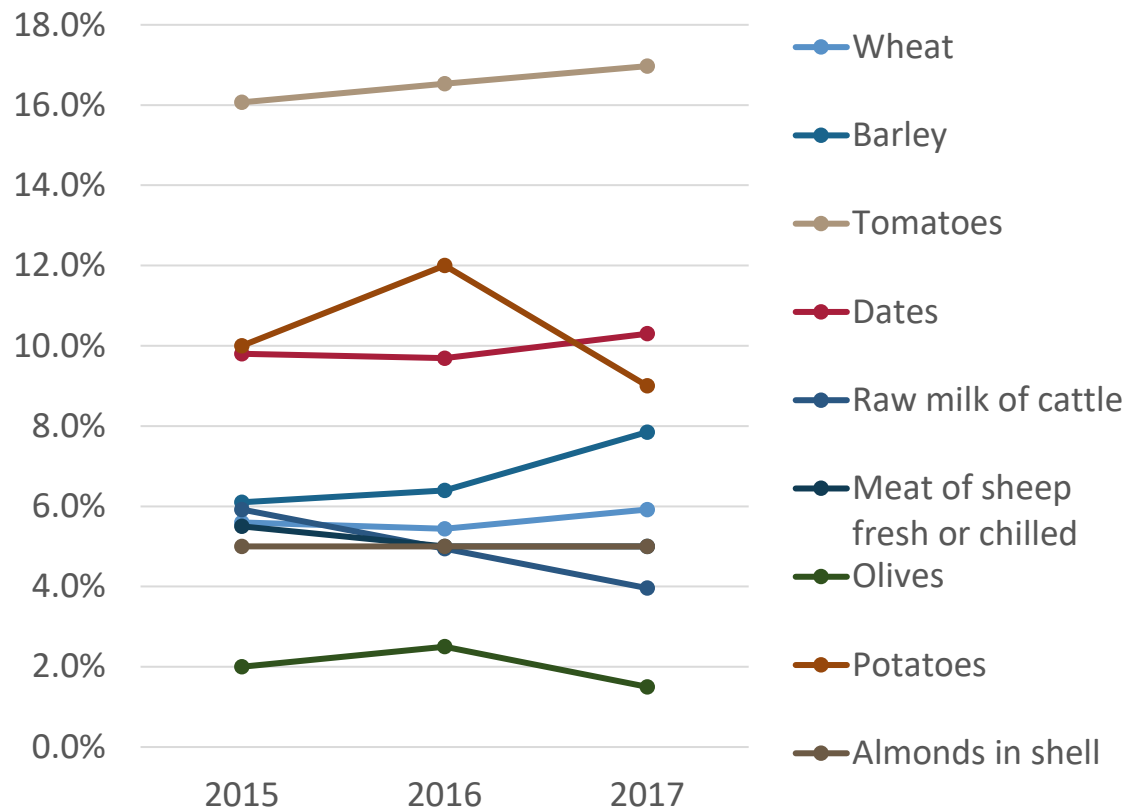
Country Food Loss Percentage for all selected commodities ($FLP\_it$) (weighting applied)
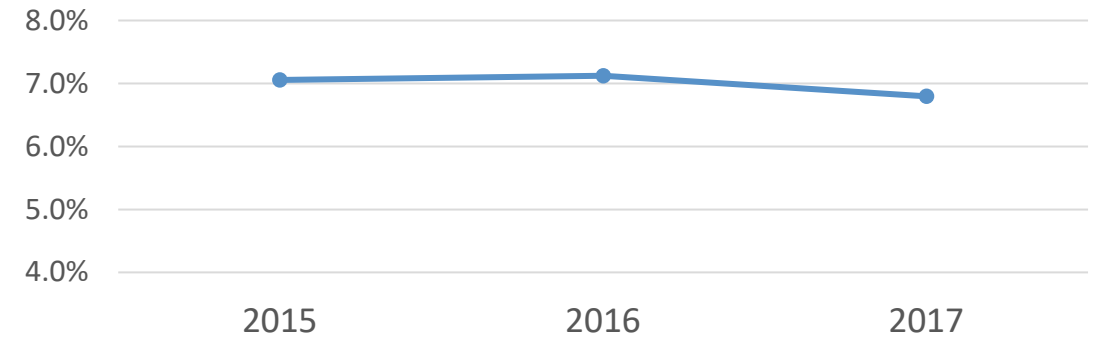
Country Food Loss Index ($FLI\_it$) (base year applied)
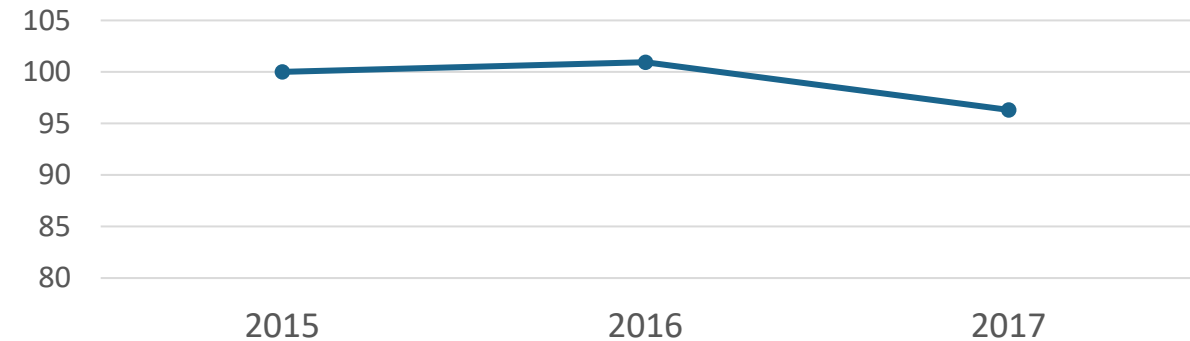
# Reporting of the SDG 12.3.1.a Food Loss Index

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# Global reporting of food losses

**FAO coordinates the reporting process:**
- Global reporting on SDG indicators should be primarily based on data and statistics produced by National Statistical Offices and the line ministry of Agriculture.
- FAO, as custodian of the SDG Sub-Indicator 12.3.1.a coordinates and integrates the reported country data to compile national, regional and global Food Loss Index.
- Global and regional FLI are aggregates of the national Food Loss Index/Food Loss Percentage.
- FAO is the custodian agency for SDG 12.3.1.a and therefore responsible to consult, integrate and report progress towards the target at the regional and global level

**If no information is reported:**
- In instances where no information is reported by the country, FAO provides modelled estimates at global, regional and sub-regional levels.

**Dissemination:**
- The results are published and disseminated in SDG reports on the SDG website.

# FAO´s Food Loss Index Reporting tool

FAO developed a reporting questionnaire for SDG 12.3.1.a Food Loss Index

This questionnaire aims at allowing countries to report their available food loss data and Food Loss Index.

The questionnaire was piloted in 2023 in a 13 countries.

It has been further revised in 2024 based on feedback from the pilot countries.

It will be translated into various languages and sent out to all countries in 2025



**Questionnaire to compile and report on SDG indicator 12.3.1.a – Food losses**
Central Production Classification (CPC) version 2.1 exp.

| | |
|---|---|
| Country: | |
| Reference Years: | 2015 - 2024 |

**National Reporting Office and Contact name**

| | |
|---|---|
| Reporter name | |
| Administration and Office | |
| Address | |
| Tel | |
| Fax | |
| E-Mail | |

| | |
|---|---|
| Description & Objectives | For countries to compile and report on the Food Loss Index (FLI) |
| Methodological Reference Documents: | http://www.fao.org/sustainable-development-goals/indicators/1231/en/ |
| FAO Division contact details and the respondent contact details | Statistics Division (ESS) focal point: Ms. Carola Fabi (Carola.Fabi@fao.org) |
| | Introduction<br>Instructions<br>Commodity Description: Description Of Commodities, Groups, and Special Observations for Selected Commodities<br>Variables Description: Description of Variables/Elements, Loss Definition: The Concept of Loss in FAO Agricultural Statistics<br>Section 1: Compilation sheet<br>Section 2: FLI Metadata<br>Feedback section |

This questionnaire contains the following sections:

Cover | Instructions | Commodity description | Variable description | Section 1- FLI Compilation Mod

# FAO reporting for SDG 12.3.1.a

**FAO Statistics Division**

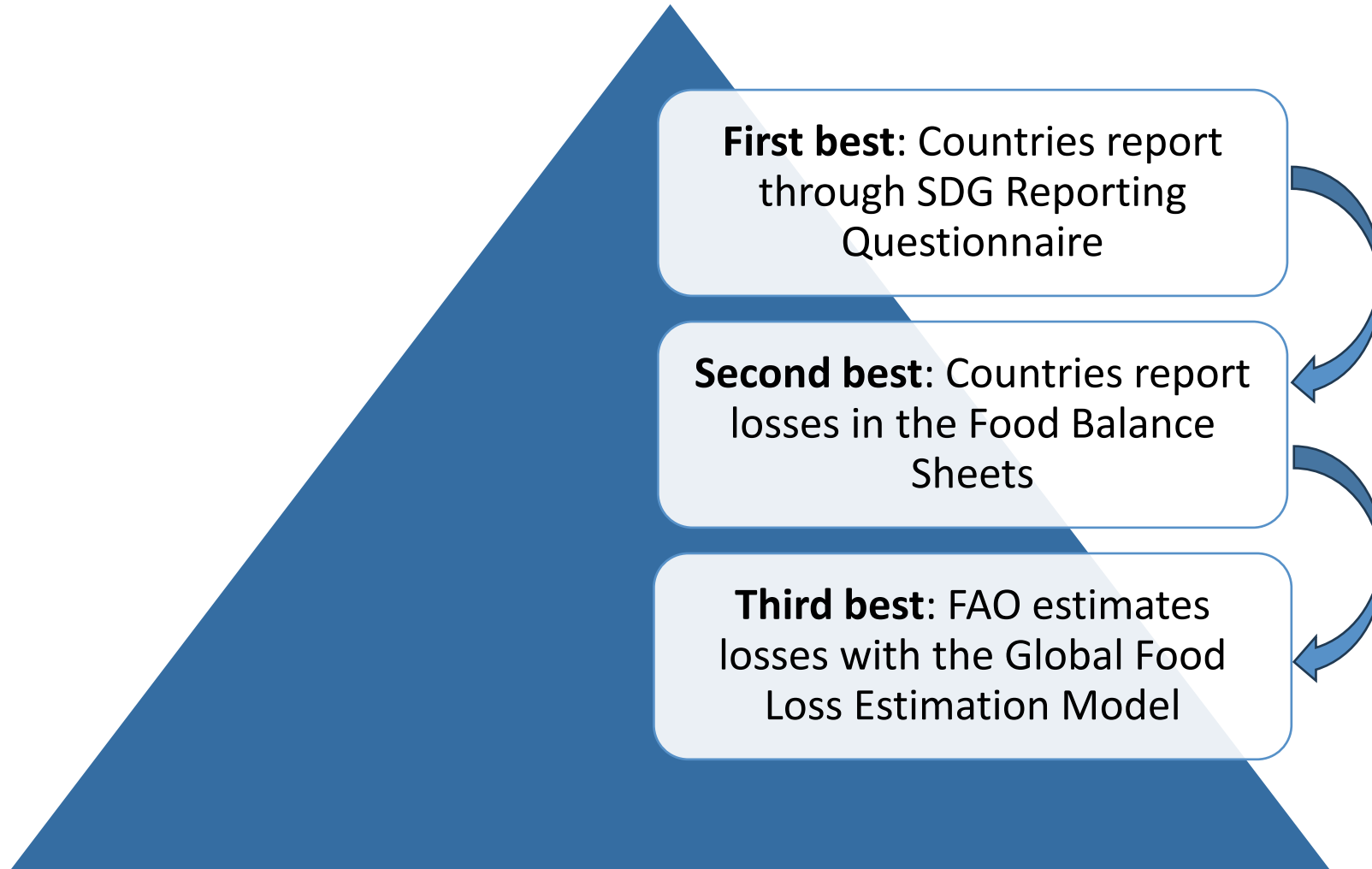SDG 12.3.1 Reporting Questionnaire to Countries every year starting 2024



**SDG Focal Points of the government that were assigned to FAO**

- Decide on the information to report officially to the SDG
- Access the national food loss monitoring/ Request the information from the national data producers

- The reporting mechanism operates through national SDG framework and focal points

- Reporting on SDG indicators should be primarily based on data and statistics produced by NSO, MoA, and other line Ministries.

- Data generated by stage needs to be **aggregated along the supply chain** for the FLI compilation

- **Data gaps** that can be filled with modeled estimates, research literature, expert opinion, or other sources (usually using fixed percentage losses)

- A **carry forward** or **carry backwards** can be used for the years with missing data.

# 1) Reporting through the SDG Reporting Questionnaire

**Directly reporting towards SDG 12.3.1.a is <u>highly recommended</u>:**
- Choose a more appropriate basket based on priorities of the country
- More clarity on the data sources and the interpretation of the resulting SDG Food Loss Index
- Better tailor the SDG to those crops and stages, where food loss reduction is an objective or possible

**Decide on the data to be used:**
- The country takes a decision on which data is more appropriate to use for monitoring losses
- It allows them to make use of different data sources (cost-efficiency)

**Decide on the frequency of the reporting:**
- It allows the country to decide on the frequency they want to report towards SDG 12.3.1.a

# FAO´s Food Loss Index Compilation Tool

**When measuring and monitoring losses:**

- It is likely data is generated by supply chain stage – these need then to be **aggregated along the supply chain** for the SDG Food Loss Index

- There might be **some data gaps** that can be filled with modeled estimates, research literature, expert opinion, or other sources (usually using fixed percentage losses)

- Not all data might be available for all years and food loss percentages from other years might be **carried forward or backwards**



→ This tool is useful **to compile and report** and obtain the commodities food loss percentages and resulting FLP and FLI for different years

# 2) Food Balance Sheets and loss data reported to FAO in Agricultural Production Questionnaire

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## Food losses in FAO´s in the Agricultural Production Questionnaires

**FAO sends an annual Agricultural Production Questionnaires to the countries**
- Well established data request that exists since many decades
- Countries report information on Availability and Utilizations of main commodities
- One of the Utilization concepts are loss quantities
- Countries report usually on the main commodities only

| COMMODITY | | ELEMENT | | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|
| | | Food | t | 4,461,000 | 4,570,000 | 4,721,000 |
| | | Seed | t | 349,000 | 298,000 | 371,000 |
| 0111 | Wheat | Feed | t | | | |
| | | Loss | t | 803,000 | 701,000 | 684,000 |
| | | Industrial Utilization | t | | | |

## Food Balance Sheets conceptual framework

The FBS is a time-referenced food accounting framework whereby supply equals utilisation (in quantities):

$$Total\ Supply = Total\ Utilization$$

$Total\ Supply = Production + Imports - \Delta Stock$

$Total\ Utilization = Food + Feed + Seed + Loss + Industrial\ Use + Tourist\ Consumption + Residual\ Other\ Use + Imports$

| | Pop. | Domestic Supply | | | | | Domestic Utilisation | | | | | | Food Balance Sheet | | |
| Item | | Prod. | Imp. | Stock Var. | Exp. | Total | Food | Proc. | Feed | Seed | Losses | Oth. Use | Per Capita Supply | Prot. | Fat |
| | | | | | | | | | | | | | Kg/Yr KCal/Day | g/Day | |
| | (1000 persons) | | | | | | (1000 tonnes) | | | | | | Kg/Yr KCal/Day | g/Day | |
| Population | 1,416,667 | | | | | | | | | | | | | | |
| Grand Total | | | | | | | | | | | | | 3,108 | 98.04 | 95.87 |
| Vegetal Products | | | | | | | | | | | | | 2,382 | 58.4 | 37.1 |
| Animal Products | | | | | | | | | | | | | 726 | 39.64 | 58.77 |
| Cereals - Excluding Beer | | 486,280 | 21,671 | (14,349) | 2,284 | 491,318 | 212,393 | 10,113 | 197,082 | 11,184 | 20,278 | 40,267 | 150 1,416 | 33.59 | 5.91 |
| Wheat and products | | 121,931 | 7,572 | (1,834) | 713 | 126,956 | 89,386 | 317 | 26,694 | 4,600 | 3,010 | 2,948 | 63 546 | 17.4 | 2.9 |
| Rice (Milled Equivalent) | | 136,873 | 2,714 | (3,998) | 565 | 135,024 | 109,725 | 12 | 12,117 | 4,679 | 6,406 | 2,085 | 77 797 | 14.47 | 2.68 |
| Barley and products | | 1,699 | 2,528 | (1) | 615 | 3,611 | 235 | 3,091 | 30 | 49 | 200 | 7 | 0 1 | 0.03 | 0 |
| Maize and products | | 218,624 | 7,407 | (8,516) | 252 | 217,262 | 9,618 | 6,693 | 153,802 | 1,651 | 10,295 | 35,203 | 7 54 | 1.17 | 0.18 |

China - 2013

# Use of the Food Balance Sheets to report SDG 12.3.1.a

- Food Balance Sheets might provide an **alternative source of food loss data**
- In general, it is **accepted as an alternative data** source to report towards the SDG 12.3.1

- Nevertheless, it might be that a monitoring of food loss reduction is limited. It depends on **how the loss quantities are estimated** in the FBS (as residual between supply and utilization, or as a fixed percentage, approximated by expert opinion, or from administrative registers)

- If not related to any data collection/loss assessment, **it might be less suited to monitor progress** towards SDG 12.3.1.a on Food Losses (quality of the data available for the accounts and estimation errors)

- The **information is not detailed enough** to provide any orientation to reduce food losses and design policies (no information about where losses happen and why)

- Losses in the Food Balance Sheet tend to **underestimate total losses** in the supply chain

# 3) FAO´s Global Food Loss Estimation Model in case countries do not report any losses to FAO

Working for #ZeroHunger

# The global food loss estimation model:

- The model uses all **official available information**, **literature data** and auxiliary variables

- It aims to provide **food loss data while countries start to put data collection efforts in place** and more good quality data on food losses becomes available → The model-based food loss estimates can **serve as a placeholder**

- For the model, **a default basket of 10 commodities** is chosen for the country (value of production)

- **Data scarcity is still a considerable** limitation: only regional and global estimates can be disseminated; it will not be used to monitor if a country has reduced their losses

$$LossRatio \sim \textbf{Country} + Product + Year + auxiliary\ variables$$

# Thank you very much!

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