

# Food Balance Sheets (FBS) - Module9

## 1. Module 9

### 1.1 Welcome



#### Notes:

Welcome to the Food Balance Sheet (FBS) course. This course will help you to understand basic concepts and main uses related to FBS, as well as the process of compiling FBS. This course consists of 11 lesson equipped with exercise and assessment test that will take place at the end of the course.

## 1.2 Lesson objective

Suggested data sources and imputation: Food processing and industrial use

Lesson objective

In this lesson we will learn about the Food Balance Sheet (FBS) with respect to:

1. Different data sources for food processing and industrial use;
2. Recommended approach for imputation and estimation of food processing and industrial use.



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## 1.3 Outline

Suggested data sources and imputation: Food processing and industrial use

Outline

- Official data sources for food processing
- Alternative data sources for food processing
- Imputation and estimation data sources for food processing
- Official data sources for industrial uses
- Alternative data sources for industrial uses
- Imputation and estimation data sources for industrial uses



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## 1.4 Official data sources

Suggested data sources and imputation: Food processing and industrial use

Official data sources

Food processing

Two official data sources on food processing should be noted

- 1 The first are agricultural production surveys. For some commodities (such as fruits or milk), production surveys may include questions on whether or not the product is destined for the fresh market or else was sold to be further processed. Quantities reported as destined for further processing are then, by definition, food processing quantities.
- 2 Industrial output surveys are another potential data source for food processing data, albeit indirectly— if production of derived goods is reported in an industrial output survey, then compilers need only divide by the extraction rate in order to calculate the primary commodity equivalent used as input for that particular transformation process.

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### Notes:

Industrial output survey are only useful if a majority of processing is covered by industrial output surveys. In instances where home processing is common, this data should be combined with an estimate of total production of the derived product at the household level to arrive at an estimate of total production of the derived good, from which a food processing quantity can be imputed.

## 1.5 Alternative data sources


Suggested data sources and imputation: Food processing and industrial use

Alternative data sources

Food processing

Where official data is not available, data from commodity organizations, manufacturer's associations, or even specific food processing facilities may also be useful in the calculation of food processing quantities. In such instances, however, FBS compilers should make some effort to take into account the representativeness of said data.

For example, if members of a hypothetical "Orange Juice Producer's Association" are thought to cover 90 percent of all production, then orange juice production data from that association can be utilized and scaled up to arrive at an estimate of the country's total orange juice production.



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## 1.6 Imputation and estimation data sources

Suggested data sources and imputation: Food processing and industrial use

Imputation and estimation data sources

Food processing

Given that estimated quantities destined for food processing are linked to production quantities of derived commodities through extraction rates, the imputation of food processing can be fairly simple in cases where data on production of derived goods exists.

$$\text{Primary commodity equivalent} = \frac{\text{Quantity of derived product}}{\text{Extraction rate}}$$

Food processing quantities must cover the inputs of all derived products. As such, the application of the above equation will only result in the total quantity of food processing if only a single derived product stems from the primary good. The equation can be applied multiple times, and the values of the primary commodity equivalents can be added together to derive the overall quantity of the primary good that entered all transformation processes.

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## 1.7 Imputation and estimation data sources


Suggested data sources and imputation: Food processing and industrial use

Imputation and estimation data sources

Food processing

If no data on derived commodity production is available, then it is recommended that total quantities destined to food processing be estimated in a panel of experts. This panel should also determine the share of the food processing quantity that is destined to different transformation processes.

In certain particular cases, food processing can also be used as a balancing item at the SUA level. Example: All olives are processed before they are consumed. As such, after accounting for net trade, loss, and any other utilization, all remaining olives can be assumed to be destined for food processing.



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## 1.8 Official data sources

Suggested data sources and imputation: Food processing and industrial use

Official data sources

[Industrial use](#)



Industrial Use

Industrial uses of agricultural products have been growing over the past few decades, to a large extent driven by the expansion of the biofuels market. For example, corn, rapeseed, soy, and sugarcane may all be used for this application in certain countries.

Industrial applications are also growing for other commodities, such as palm oil and coconut oil, which are used in many cosmetics.

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## 1.9 Official data sources


Suggested data sources and imputation: Food processing and industrial use

Official data sources

[Industrial use](#)

Industrial use refers to utilization of any food items in any non-food industry.

Country FBS compilers are first encouraged to consult any official data sources about the possibility of industrial uses of any commodities. Countries with large industrial utilizations of certain products may collect data on the quantity or share of production that is destined for such uses in either an annual statistical yearbook or industry-specific input-output tables.



If during the process of the data assessment, it is discovered that there is a large amount of industrial use of a certain product that is not captured in current official surveys or input-output data, countries are encouraged to consider collecting official data on those uses, which will better inform markets and facilitate FBS compilation.

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## 1.10 Alternative data sources

Suggested data sources and imputation: Food processing and industrial use


Alternative data sources

Industrial use

In some countries, it may be possible to obtain estimates of industrial uses by accessing purchase or sales records from private agro-industrial companies. Particularly in countries where processing of a given commodity for industrial uses is concentrated in the hands of a few processors, consulting those companies could provide valuable information for populating the FBS.

Some estimates on industrial uses may also be obtained directly from commodity associations, who likely already consult with or get information directly from agroprocessors.

In cases where industrial uses are almost entirely biofuel-related, countries may be able to use the current policy framework to assist in estimating industrial use data. For example, if a country has implemented a biofuels mandate, then those thresholds may be useful in inferring industrial utilizations.



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## 1.11 Alternative data sources


Suggested data sources and imputation: Food processing and industrial use

Alternative data sources

Industrial use

In cases where none of those strategies seem feasible, countries can also consult two additional data sources, which largely cover biofuel uses.

- 1 The first of these is the OECD/FAO medium-term outlook, which provides estimates of ethanol production, biodiesel production, and biofuel use for a selection of the world's countries.
- 2 Compilers may also wish to consult the USDA's Production, Supply and Distribution (PS&D) database estimates for "Industrial Domestic Consumption" of oil crops. These estimates are typically derived from reports of U.S. agricultural attaches, and may provide a useful starting point for FBS compilation.



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The OECD/FAO database can be accessed at: <http://www.agri-outlook.org/database/>.

The PS&D database is available at:  
<https://apps.fas.usda.gov/psdonline/app/index.html#/app/home>.

## 1.12 Imputation and estimation data sources

Suggested data sources and imputation: Food processing and industrial use

Imputation and estimation data sources

Industrial use

At present, there is no suggested imputation methodology for industrial uses

This is partly because industrial uses tend to be strongly related to the contexts of specific commodities and countries.

In order to ensure that industrial uses are properly accounted for in the balance sheet framework, compilers are encouraged to focus their efforts on consulting with commodity experts, and advocating for official data collection if industrial uses are found to be large.

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## 1.13 Quiz 1

(Multiple Choice, 10 points, 1 attempt permitted)

Suggested data sources and imputation: Food processing and industrial use

Quiz

**Q 01** If production of derived goods is reported in an industrial output survey, then compilers need only divide it by the extraction rate in order to calculate the primary commodity equivalent used as input for that particular transformation process.

Select one that apply.

☒ True

☐ False

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Feedback when correct:

## 1.14 Quiz 2

(Multiple Choice, 10 points, 1 attempt permitted)

Suggested data sources and imputation: Food processing and industrial use

Quiz

Q 02

Food processing quantities must cover the inputs of all derived products, including non-food products.

Select one that apply.

☐ True

☒ False

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## 1.15 Quiz 3

(Multiple Choice, 10 points, 1 attempt permitted)

Suggested data sources and imputation: Food processing and industrial use

Quiz

Q 03

If no data on derived commodity production is available for imputation process, then it is recommended that total quantities destined to food processing be estimated in a panel of experts. This panel should also determine the share of the food processing quantity that is destined to different transformation processes.

Select one that apply.

☒ True

☐ False

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## 1.16 Quiz 4

(Multiple Response, 10 points, 2 attempts permitted)

Suggested data sources and imputation: Food processing and industrial use

Quiz

**Q 04** Official data sources on food processing are including:

Select all that apply.

- ☒ Agricultural production surveys
- ☐ Data from commodity organizations
- ☒ Industrial output surveys

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## 1.17 Conclusion


Suggested data sources and imputation: Food processing and industrial use

Conclusion

You have finished lesson 9.

In this lesson, we have discussed:

1. Different data sources for food processing and industrial use component;
2. Recommended approach for imputation and estimation of food processing and industrial use component.




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## 1.18 Thank You

Suggested data sources and imputation: Food processing and industrial use



The image contains two logos side-by-side. On the left is the 'Global Strategy' logo, which features a stylized wheat stalk and the text 'Global Strategy' below it. On the right is the 'United Nations SIAP' logo, which features the United Nations emblem and the text 'UNITED NATIONS siap' with 'SIAP' in a larger, stylized font. Below the SIAP logo is the text 'Statistical Institute for Asia and the Pacific'.

Food Balance Sheets (FBS)

Thank You!

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