## Underlying data, sources, measurement and imputation

**SUAs and FBSs**

This sourcebook provides a description of the methodologies, the processes and the practical steps to construct an FBS. The FBS are a rather aggregate description of a more finely disaggregated set of balances. These describing Strictly speaking, the description of these methodologies should almost always refer to the underlying commodity balances

As the SUAs contain a vast number of detailed data, the analysis of which could well become an intensive resource-consuming exercise, the number of detailed food-related commodities is reduced to a far smaller number of aggregated, standardized format commodity groups in what are the Food Balance Sheet (FBS) level.

The example below shows that the four derived products (flour of cassava, cassava tapioca, cassava dried and cassava starch) from the primary cassava commodity, at the SUA level, are standardized back into their primary commodity equivalents (by dividing by the extraction rate) to obtain the “Cassava & products” aggregate at the FBS level.

|  |  |
| --- | --- |
| **Supply Utilization Account** | **Food Balance Sheets** |
| *Cassava* | *Cassava & products* |
| *Flour of Cassava* |  |
| *Cassava Tapioca* |  |
| *Cassava dried* |  |
| *Cassava starch* |  |

More information related standardization process is available in Chapter 2.3

* **Overview and basic description of SUA/FBS variables**

The SUA/FBS domains contain variables with detailed data on food and agriculture. The variables listed below are the components of the “supply equals utilization” FBS concept which translates into the corresponding FBS equation:

|  |  |
| --- | --- |
| **Supply** | **Utilization** |
| *Production* | *Export* |
| *Import* | *Food* |
| *Stock withdrawal* | *Feed* |
|  | *Seed* |
|  | *Loss* |
|  | *Industrial Utilization* |
|  | *Tourist Consumption* |
|  | *Other Uses* |
|  | *Stock additions* |

* Production

The production variable refers to the amount of agricultural goods produced in the country. It includes non-commercial production and production from kitchen gardens. In the case of a primary crop, production is reported at the farm level excluding harvesting losses and is expressed in metric tonnes. Meat production, on the other hand, is reported in terms of carcass weight; while for processed and derived commodities the production refers to the total output of the commodity at the manufacturing level.

* Import and Export

These two variables refer to foreign trade in agricultural and food commodities in quantitative forms, with corresponding monetary values. The unit of measurement of weight for all commodities, with the exception of live animals, is metric tonnes. Live animals are reported in units of heads, or 1000 heads.

* Food

This variable refers to the amounts of a given commodity that are available for human consumption during the reference period.

The variable “food” presented in the food balance sheet reflects only the quantities reaching the retail level in the supply chain. The amount of per capita food actually “consumed” at the household level is often lower than the corresponding food “available” quantity indicated in the food balance sheet. This difference is mainly due to the waste of edible food in the supermarket and household, e.g., during storage, in preparation and cooking, as plate-waste, or quantities fed to domestic animals and pets, or simply thrown away.

* Feed

The feed data represent the quantity of edible commodity available for feeding to livestock and poultry during the year, whether domestically produced or imported.

* Seed

This variable includes amounts of a commodity set aside for sowing or planting (or generally for reproduction purposes) during the year. Usually, the average amount of seed needed per hectare planted in any given country, does not greatly vary from year to year.

* Losses

These refer to amounts of the commodity lost at all stages of the supply chain from farm level up to, and excluding, the retail, and consequently, the household levels. Also excluded are the losses during the pre-harvest and harvesting stages (yield), technical losses occurring during the transformation of the primary commodities into processed products (extraction rates).

* Industrial Utilization

This variable covers the quantities of the commodity used during the year for non-food purposes and provide such information as that on bio-fuel utilization by crop.

* Tourist Consumption

This includes the food consumed by non-resident visitors during their travel and their stay at the country of destination.

* Residuals and Other Utilization

Data under this elements refer to total amount of the commodity available for non- food/feed purposes excluding Industrial Utilization.

* Stocks

This element refers to amounts put aside for use in later periods at all levels of the supply chain, from production to the retail stage.

Additional variables and elements, at the SUA/FBS level, quantifying important agricultural concepts are considered variables supporting to the accounts. The list is as follows:

* Population

The total population received from UN Population Division is used to arrive at estimates of per capita food supply. Estimates are required of the food available in a country during the year actually partaking of the food supply.

* Elements with nutrient data

These are associated with the “food” variable and provide the availability of calories, protein and fats. These nutrients are also expressed in average availability per caput per day.

|  |
| --- |
| Food: total calories equivalent |
| Calories/caput/day |
| Food: total protein equivalent |
| Proteins/caput/day |
| Food: total fats equivalent |
| Fats/caput/day |

* Primary crops elements

|  |  |
| --- | --- |
| Area sown | Data refer to the area on which sowing or planting has been carried out on the soil prepared for the purpose for the crop under consideration. Data are recorded in hectares (HA). |
| Area harvested | Data refer to the area gathered and are reported in hectares (HA). This area excludes the area from which, although sown and planted, there was no harvest due to damage, failure, etc. |
| Yield | In most cases, yield data are obtained by dividing production by area harvested. It is an important indicator of productivity. |
| Processed | The amounts of commodity used for derived product for reproductive purposes. This variable is strictly correlated to element Input available in derived products. |

* Livestock elements

|  |  |
| --- | --- |
| Stock | This includes any animals grown either for draft proposes or for meat and dairy production or kept for breeding. The unit of measurement is expressed in number of heads or 1000 of heads (poultry, rabbits, other rodents). |
| Slaughtered | The number of animals slaughtered in the country. |
| Carcass weight | Is the weight of the carcass animal slaughtered in the country. This element is usually calculated dividing meat production by number of slaughtered animal. |

* Derived products elements

The elements included in this group refer to the list of derived products that have been obtained from the primary commodity after the transformation process. For example flour of wheat from the primary product wheat.

|  |  |
| --- | --- |
| Input | This variable corresponds to the element Processed of the originating product and refer to the quantity used to obtain the production of derived commodity applying the extraction rate. |
| Extraction rate | It is a rate applied to the input to estimate the production of derived product. |

Summary of variables and elements:

The table below lists all the variables (e..g. “food”) and elements (e.g. “input”) described in this section. There are two main groups: basic and supporting.

|  |  |
| --- | --- |
| Production | Basic variables of SUA/FBS account |
| Import |
| Export |
| Food |
| Feed |
| Seed |
| Loss |
| Industrial Utilization |
| Tourist Consumption |
| Other Uses |
| Stock changes |
| Population | Supporting SUA/FBS elements |
| Food: total calories equivalent |
| Calories/caput/day |
| Food: total protein equivalent |
| Proteins/caput/day |
| Food: total fats equivalent |
| Fats/caput/day |
| Area sown |
| Area harvested |
| Yield |
| Processed |
| Stock |
| Slaughtered |
| Carcass weight |
| Input |
| Extraction rate |