Standardization & Balancing: `Utilization Table` data-table and Shiny App description

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Abstract

This vignette provides a description of the `Utilization Table` data table: The data table is used in the Standardization and balancing Process and is built from Old Sua Data. Also a shiny App for exploring Old Sua, and see how the table has been built, is described

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Download UtilizationTableApp from Share Point (select the zip file and download it)

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Disclaimer

This paper is dynamically generated on June 21, 2018 and is subject to changes and updates.

1 Introduction

This document is part of a series of documents concerning Food Balance Sheets and their computation. Other documents describe the steps for the computation of Food Balance Sheets and, in particular, the Standardization and Balancing process. The Standardization is the conversion of the variables of any child commodity in the primary-equivalent commodity. One of the main steps of the standardization is the, so called, *Sua Filling*. In this step, an automatic check is performed on the Supply-utilization accounts, for the existence of figures for all the Variables that are required for the specific commodity. The algorithm that performs this check, make use of the history of that commodity. The history is given by time series of SUAs for each country-commodity combination. This information is stored in a table called *Utilization Table*.

2 The Utilization Table in The SWS

The Table is stored inside the Statistical Working System as a `Data table` in the `SUA/FBS` domain (figures 1 and 2).

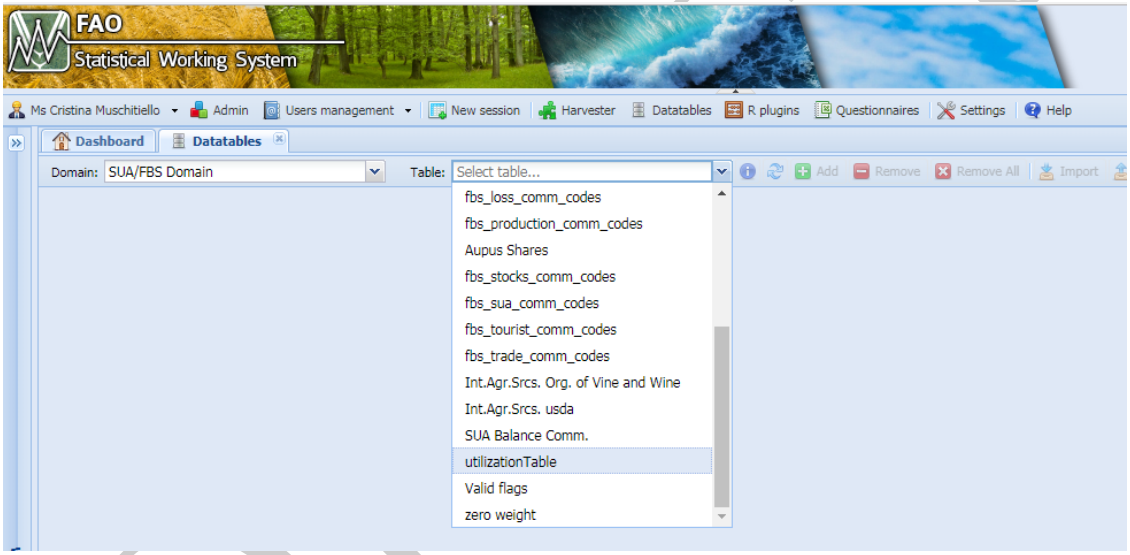
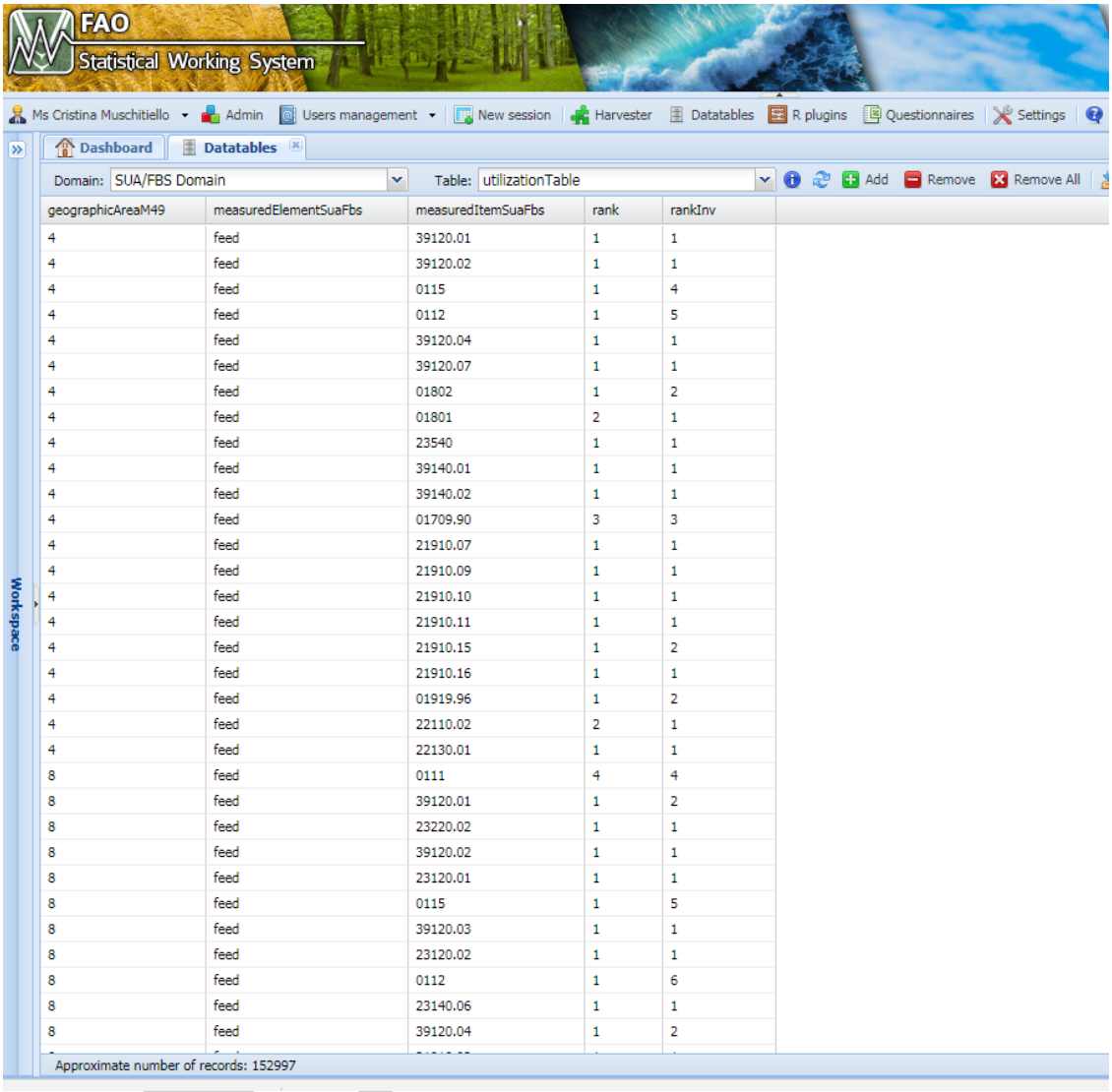


Figure 1: Selection of domain and Data - Table in the Statistical Working System

Information is given in codes:

- `geographicAreaM49` is the M49 country code
- `measuredElementSuaFbs` is the Element name
- `measuredItemSuaFbs` is the *CPC* item code
- `rank` is the rank
- `rankInv` is the Inverse Rank

The table is not very user friendly, but it can be filtered for a clearer use.



geographicAreaM49	measuredElementSuaFbs	measuredItemSuaFbs	rank	rankInv
4	feed	39120.01	1	1
4	feed	39120.02	1	1
4	feed	0115	1	4
4	feed	0112	1	5
4	feed	39120.04	1	1
4	feed	39120.07	1	1
4	feed	01802	1	2
4	feed	01801	2	1
4	feed	23540	1	1
4	feed	39140.01	1	1
4	feed	39140.02	1	1
4	feed	01709.90	3	3
4	feed	21910.07	1	1
4	feed	21910.09	1	1
4	feed	21910.10	1	1
4	feed	21910.11	1	1
4	feed	21910.15	1	2
4	feed	21910.16	1	1
4	feed	01919.96	1	2
4	feed	22110.02	2	1
4	feed	22130.01	1	1
8	feed	0111	4	4
8	feed	39120.01	1	2
8	feed	23220.02	1	1
8	feed	39120.02	1	1
8	feed	23120.01	1	1
8	feed	0115	1	5
8	feed	39120.03	1	1
8	feed	23120.02	1	1
8	feed	0112	1	6
8	feed	23140.06	1	1
8	feed	39120.04	1	2

Figure 2: Utilization Table in the FAO Statistical Working System

For example, figures 3 and 4 represent the Utilization Table filtered for Flour of wheat in China, Main.

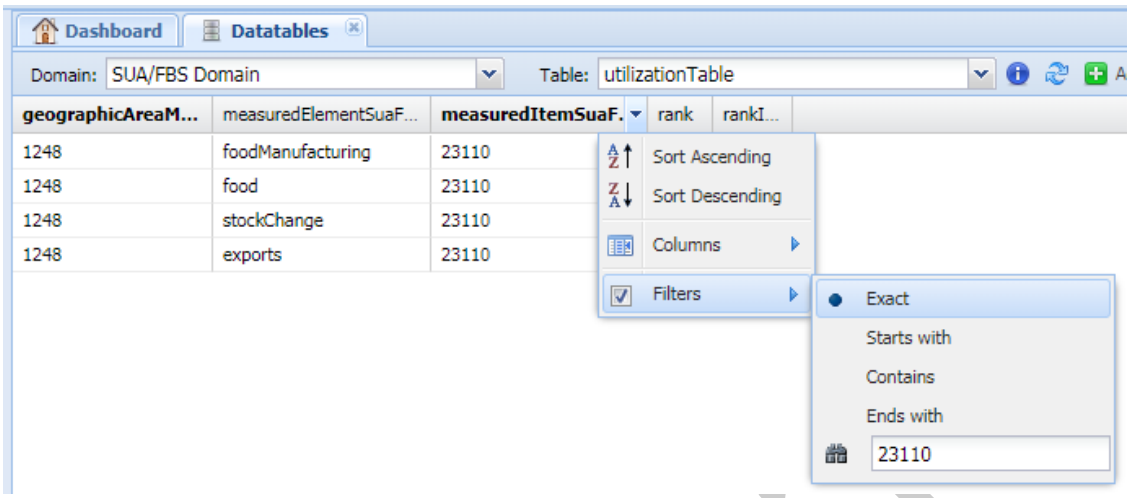


Figure 3: filtering Utilization Table

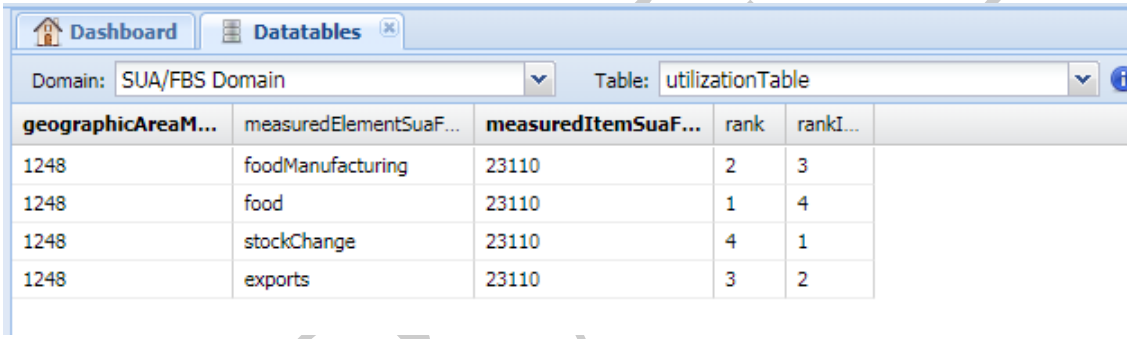


Figure 4: Utilization Table filtered for China, Main - Flour of Wheat

3 Content

The *Utilization table* is a country-commodity specified table containing, for each country-commodity combination:

1. The list of the Variables
2. A rank for each variable, identifying the *rank of the mean value over the period 2000-2013*
3. The rank Inverse

3.1 The list of variables

The Variables listed are all the variables that have been historically active for that Country-commodity combination. In other words, if the commodity has never been traded, no Import or Export will appear, if it has never been used for feed, no feed will appear and so on.

This is the first information included in the table. Indeed, the Standardization and Balancing would not have any source telling which variables are expected to be active for a specific country-commodity combination, if this table didn't exist.

3.2 The Rank

The Rank appearing in the table is built using the mean value of that variable in the time range 2000-2013. This time range has been used for the majority of validation procedure used for the new methodology. 2013 is the last year in which FBSs were produced using the old methodology, therefore it is used as last year.

3.3 The Inverse Rank

The Inverse Rank is added in the table for computation reasons. An algorithm has been developed indeed, which uses Ranks and inverse Ranks for distributing The Imbalance in the Supply-Utilization accounts during the Standardization procedure.

4 A Shiny App to explore How the Utilization Table is built

The Utilization table is given as a Data Table. There is NOT a module or plug-in for changing it, therefore a tool is needed for at least explore the data it is built on. A shiny tool has been developed for this purpose. The main aim of the App is that of knowing where the table is from. Possible actions are:

- change directly the values in the Data-Table inside the SWS
- Develop a new ad-hoc approach.

4.1 Download the App

The App can be downloaded from FAO SharePoint:

Download UtilizationTableApp from Share Point (select the zip file and download it)

Or it can be found in the ESS T-DRIVE at the following address:

`T:\Team_working_folder\A\FBS-Modules\Balancing-standardization`

4.2 Open and run the App

- unzip the folder
- run the .vbs file included (figure 5)
- wait for the Browser to open the page (figure 6)

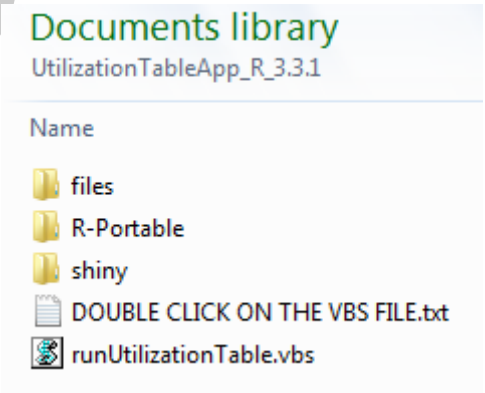


Figure 5: Run Shiny App

4.3 Content

The App has two main pages:

1. UTILIZATION TABLE
2. Exploring Old Sua

In the first page the Utilization table can be explored (figure 6). Is possible to scroll down the page or filter by one or all the Variables.

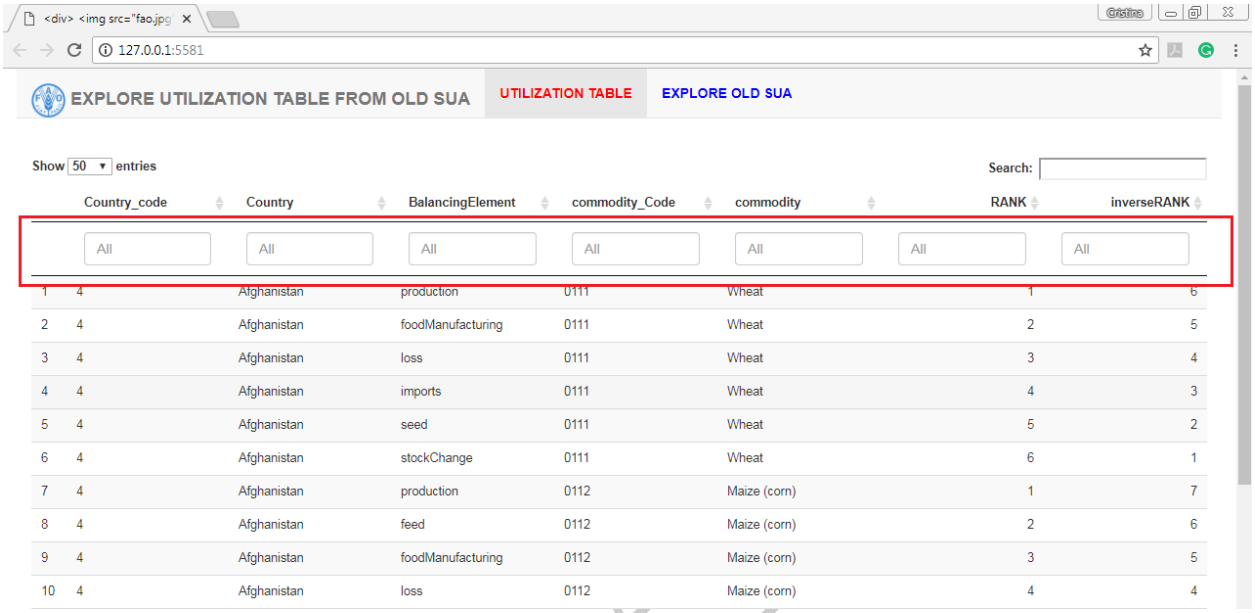


Figure 6: Shiny App Main Page - Utilization Table Page

The second page is for exploring the Data from which the table has been built (figure 7).

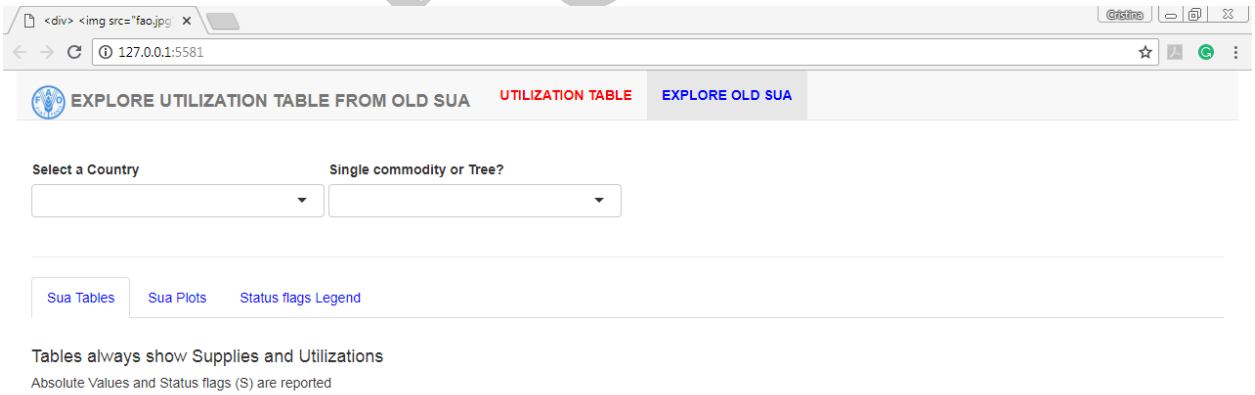


Figure 7: Shiny App 'Ranking old Sua' Page

After having selected the country (figure 8) is possible to visualize table and Plot of a single commodity or a commodity tree (figures 9 to 11). If the "tree" option is selected, a new field appears for selecting the Primary (or proxy primary) [1].

[1] notice that the Commodity Tree might be a bit changed since this App was created, therefore some difference might exist

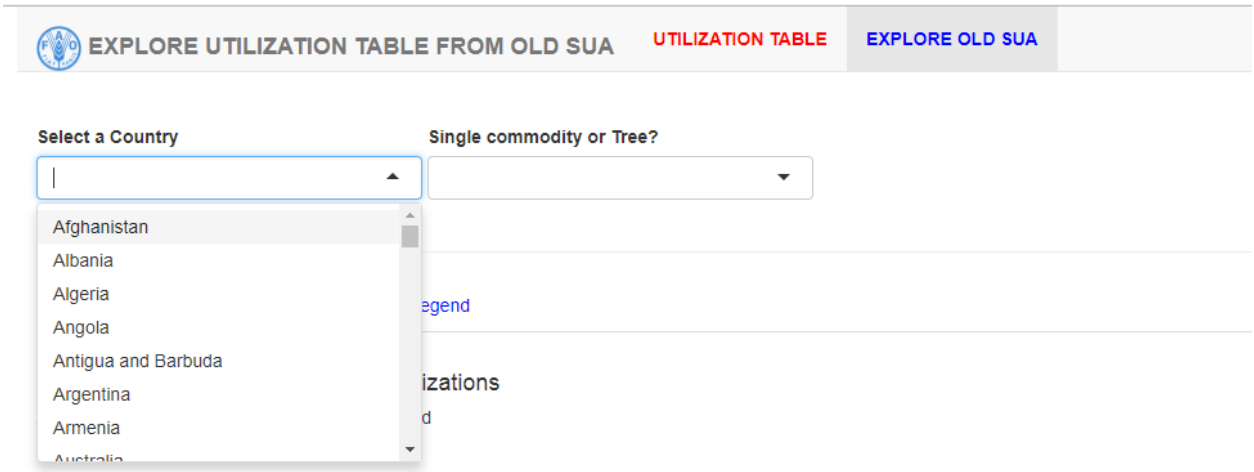


Figure 8: Shiny App - Select Country

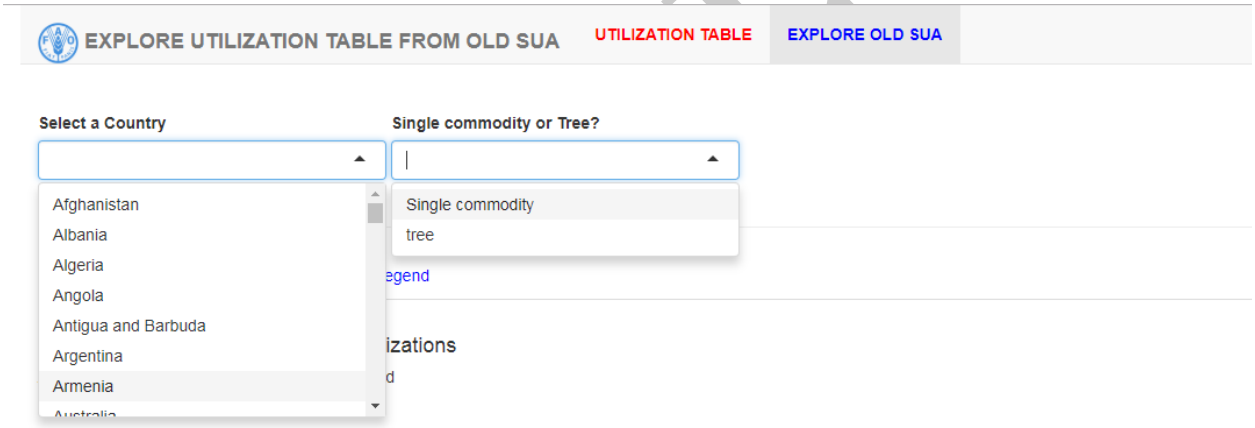


Figure 9: Shiny App - Select Commodity or Tree

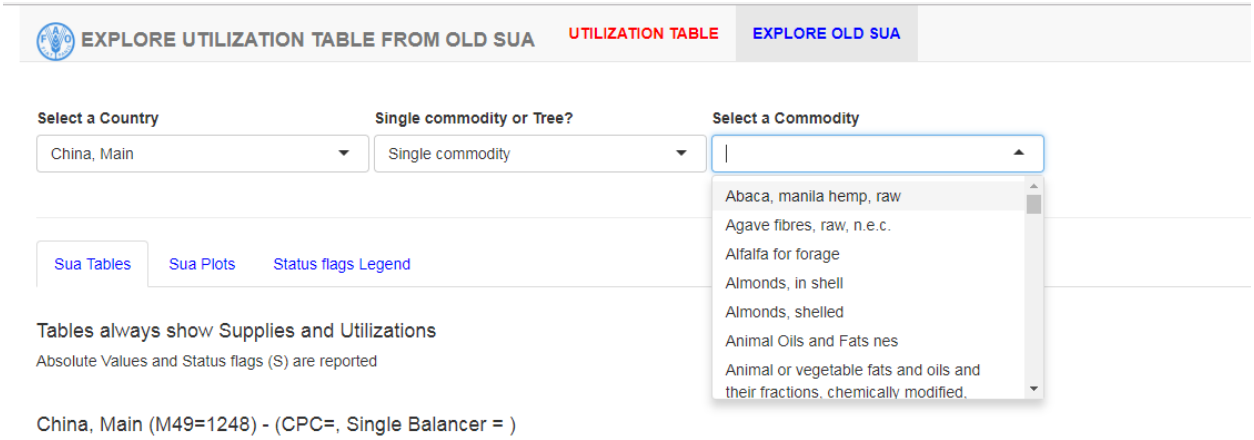


Figure 10: Shiny App - Select Commodity

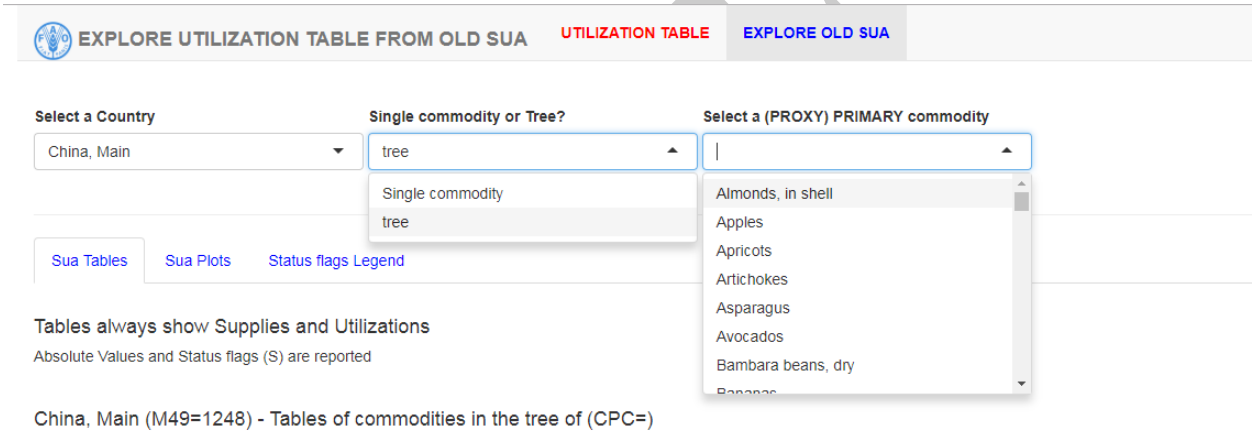


Figure 11: Shiny App - Select (PROXY) PRIMARY commodity

For each commodity or Commodity Tree selected there is a tab containing tables (figure 12) and a second tab containing plots (figure 13). In the table there are separate columns for Flags. The legend of flags is reported in the *Status flag legend* tab (figure 15).

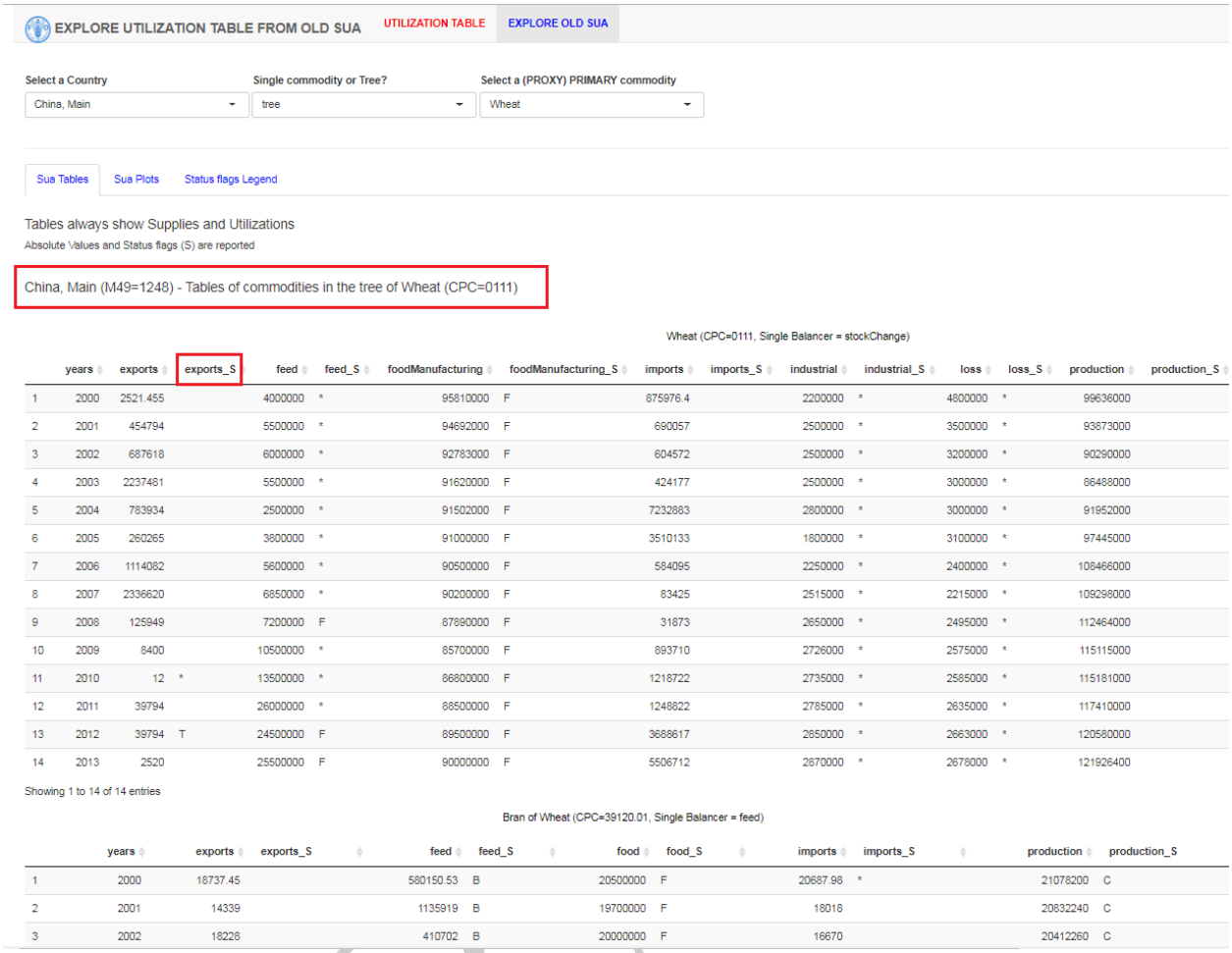


Figure 12: Shiny App - 'Sua Table' window

Plots are interactive, i.e. the Value is shown when the mouse pass on a point. Also the Single Balancer reported[2]. Plots report both supply and utilization. Is possible to show only supply or utilization (figure 14).

[2]This is the variable used as Balancer in the Previous Approach

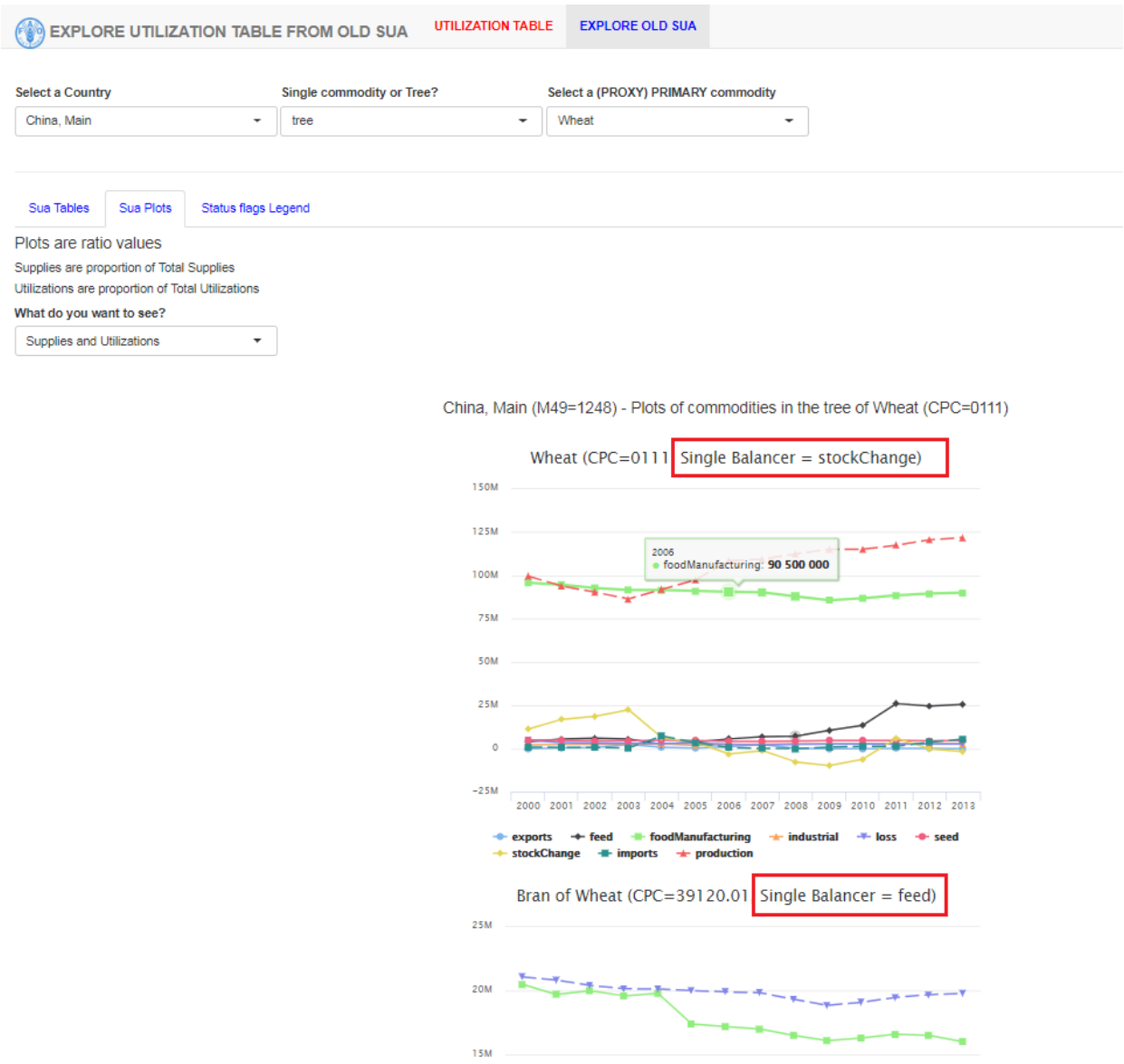


Figure 13: Shiny App - 'Sua Plots' window

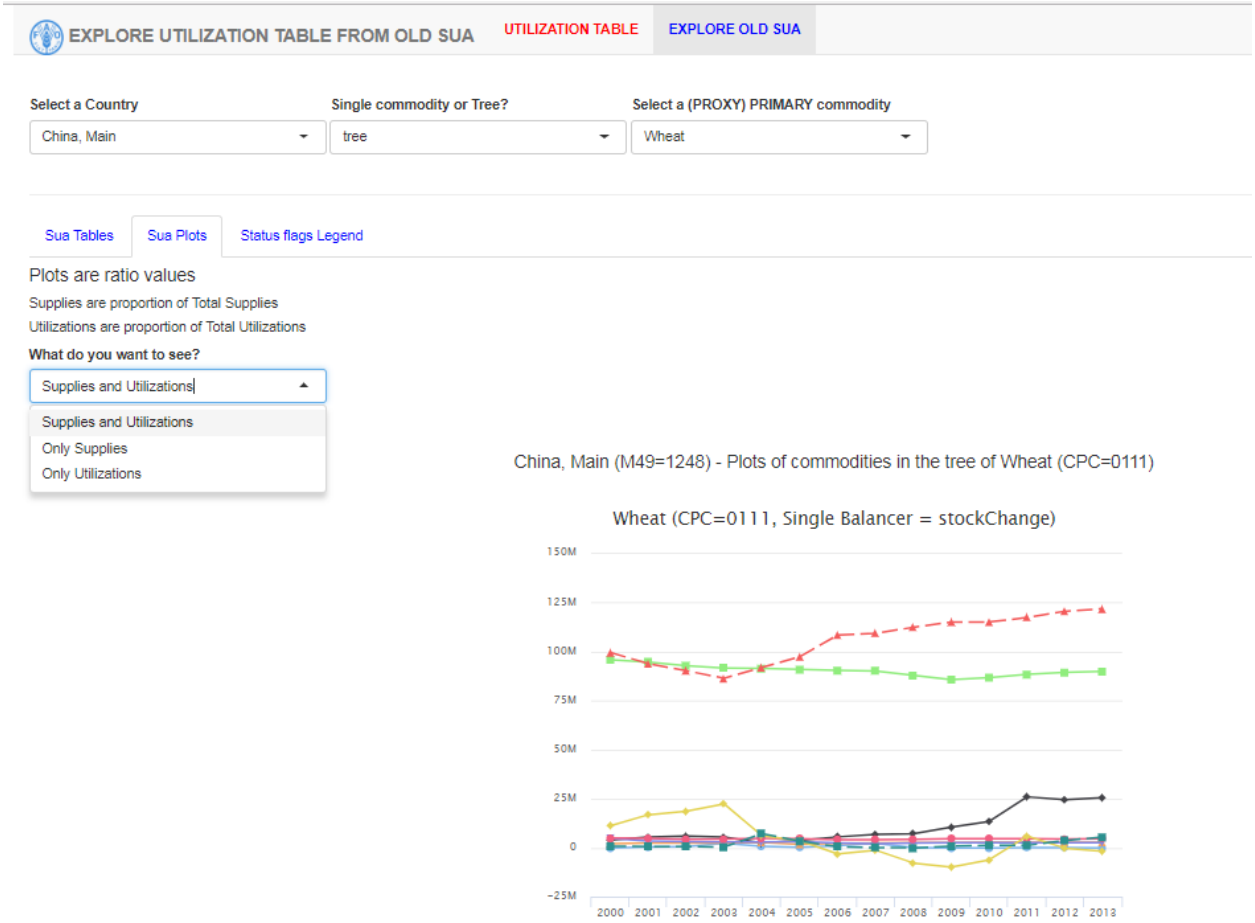


Figure 14: Shiny App - select visualization: Supply and/or utilization

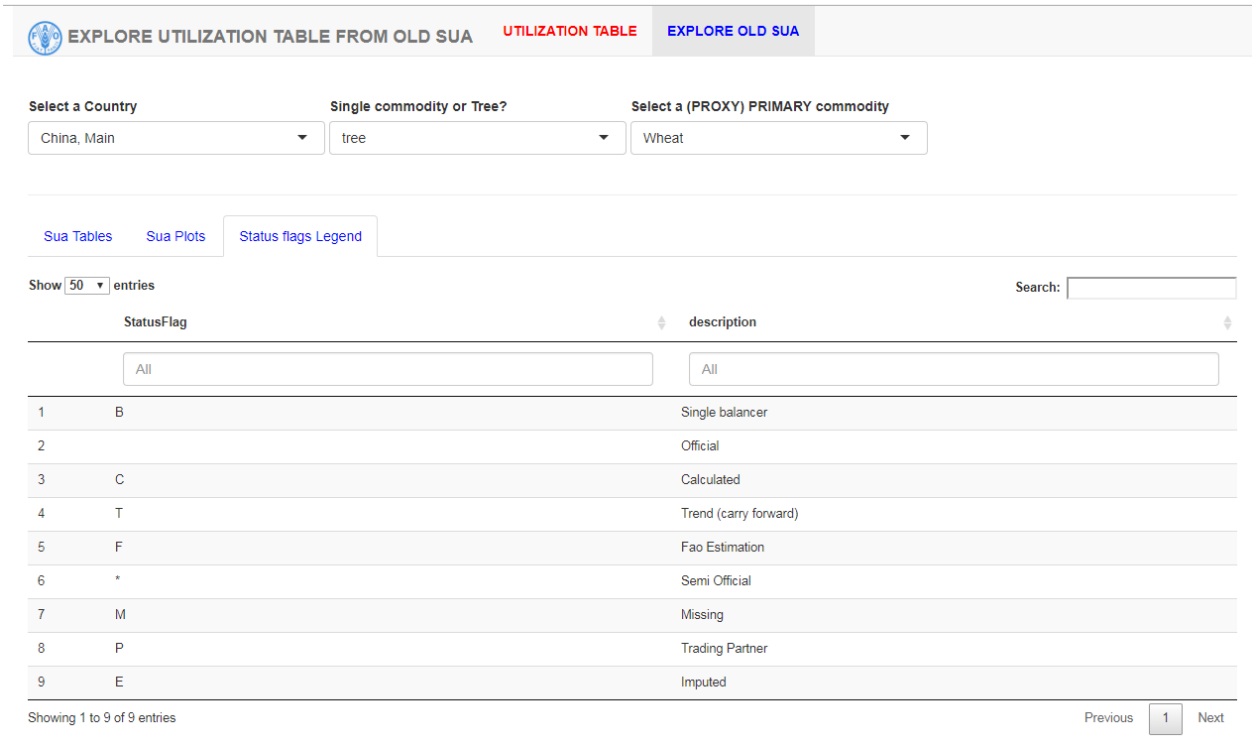


Figure 15: Shiny App - Flags