VAM Data Bridges for Price Data

Table of Contents

I. Welcome to the VAM Data Bridges for Price Data

The VAM Data Bridges is an online application that allows to upload data to the centralized VAM database. It is designed to facilitate the timely upload of data; to work under weak internet connection; and to flexibly adapt to various data templates.

A dedicated TEAMS Space is available to discuss issues and questions related to the use of the VAM Data Bridges application and seek support from platform administrators or other colleagues. Training materials and a list of focal points are all available in the file section of the TEAMS group.

HQ focal points contacts are:

Angela Di Perna - angela.diperna@wfp.org

Valerio Giuffrida - valerio.giuffrida@wfp.org

II. Registration

In order to register for the VAM Data Bridges, contact the HQ administrators via email, specifying your role and responsibilities related to the data upload.

Your account will be granted rights based on the role specified in your registration request. Hierarchy of roles has two levels. A **geographical domain**, matching with your duty station (HQ – RB – CO) and a **responsibility role** (administrator, supervisor, contributor, visitor). Please see the next section for more details on users' rights.

All users registered to the VAM Reporting Application will be automatically registered to the VAM Data Bridges.

III. User roles

The user roles are defined along two main characteristics, the geographic domain and the responsibility role. Each combination of the two defines the user ability to interact with the platform.

A. Responsibility roles

Rights are assigned to registered users based on their responsibility for the data upload and database management process. Responsibility roles are described in the table below. Each responsibility role will be subject to a specific geographic domain.

Responsibility Role	Intended for…	Is allowed to…
Visitor	Users who need access to price data stored in the database.	• View and download all past reports, mapping schemas and lists (markets, commodities, categories, price types, units of measure, currencies, series and ALPS settings).
Contributor	Users who upload price data.	• View and download all past reports, mapping schemas and lists (markets, commodities, categories, price types, units of measure, currencies, series and ALPS settings). • Create mapping schemas. • Submit reports, i.e. upload price data.
Supervisor	Users who review and approve price data uploaded through the platform.	• View and download all past reports, mapping schemas and lists (markets, commodities, categories, price types, units of measure, currencies, series and ALPS settings). • Create mapping schemas. • Submit reports, i.e. upload price data. • Approve or reject reports.
Administrator	Users, usually from the Regional Bureaux, who are responsible for coordinating the activity of price upload.	• View and download all past reports, mapping schemas and lists (markets, commodities, categories, price types, units of measure, currencies, series and ALPS settings). • Create mapping schemas. • Submit reports, i.e. upload price data. • Approve or reject reports. • Modify the attributes of the lists and add new entries. • Add new users and assign visitor, contributor or supervisor rights. • Verify outliers through the Admin Dashboard.
System Admin	Users in HQ who are responsible for global database management.	• View and download all past reports, mapping schemas and lists (markets, commodities, categories, price types, units of measure, currencies, series and ALPS settings). • Create templates. • Upload price data. • Approve or reject reports. • Modify the attributes of the lists and add new entries. • Add new users and assign visitor, contributor or supervisor rights. • Verify outliers through the Admin Dashboard. • Add new users and assign Administrator rights. • Can modify HQ, Region or CO locations. • Edit ALPS settings.

B. Geographic visibility rights

Users can visualize and perform actions defined by the responsibility role under the specific geographic visibility rights assigned to them. Geographic visibility rights are assigned based on three possible geographic domains:

Global – Region (RB) – Country (CO)

The CO geographic domain allows to operate on a single country, while the RB geographic domain allows to operate on all countries in a region.

IV. Log-in – Log-out

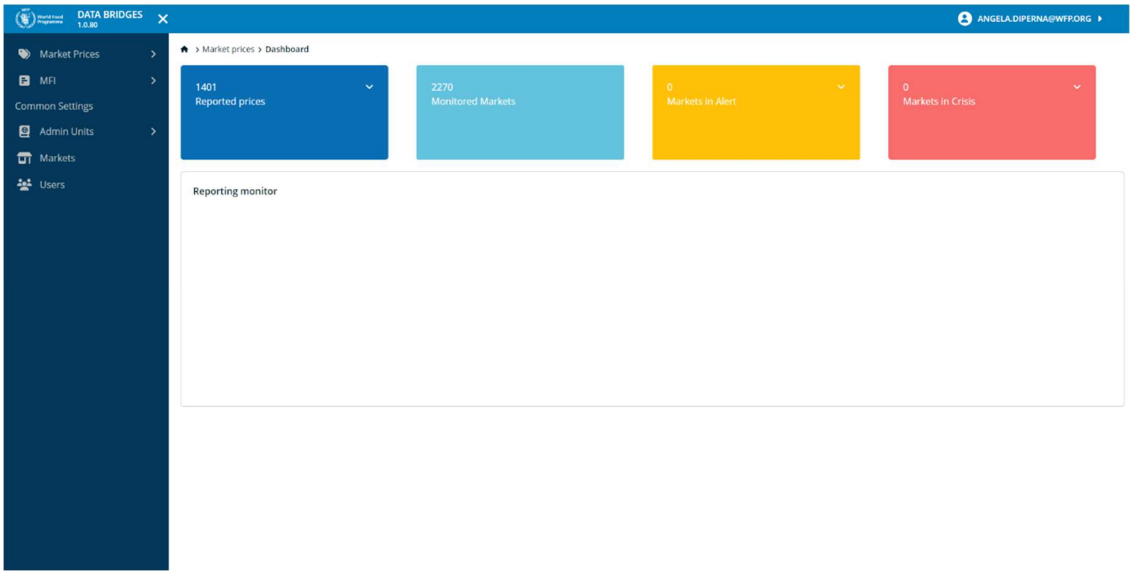
Currently the VAM Data Bridge is available at the URL: databridges.vam.wfp.org.

Global credentials of your WFP account allow to log in.

You can log out by clicking on your username in the right upper corner of the home page, and then click on log-out.

V. Overview of the VAM Data Bridges

A. Homepage

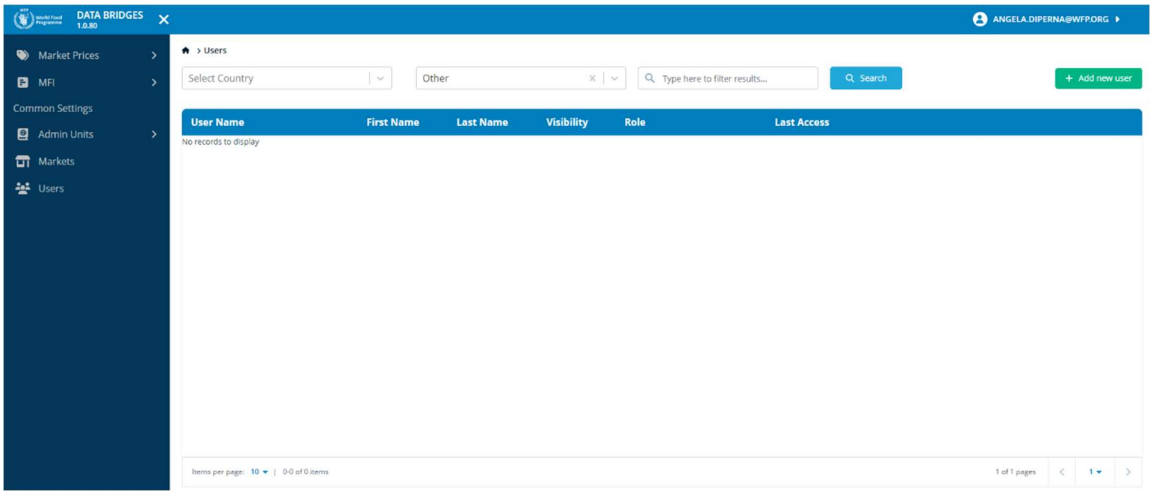


The image above shows the VAM Data Bridges homepage. The dashboard and map show an overview of the price uploads. The pane on the left displays settings and features available in the app, accessible based on your responsibility role. While navigating the platform, it is always possible to return to the homepage by clicking on the WFP logo in the left upper corner of the screen.

B. Settings

1. Users

The Users section is only available to administrators.



The Users section shows a list of all registered users. Filters and a search function are available at the top of the page. It is possible to filter users based on country and/or region, or to search for specific users based on their username, first name or last name.

Note: The **search function** is case sensitive and only works on exact text matches.

Please make sure to search users based on full name or surname, capitalizing the first letter.

The User section allows to register new users and to edit access rights of existing users. It also allows to close accounts of users who will not use the application in the future.

To create a new account, click on **"+ Add New User"** in the right upper part of the screen. A pop-up window will appear, to specify user's details:

- User-Name: insert the email address
- E-mail: insert the email address
- First Name: insert the user's first name
- Last Name: insert the user's last name

The pop-up window will also require details on access rights:

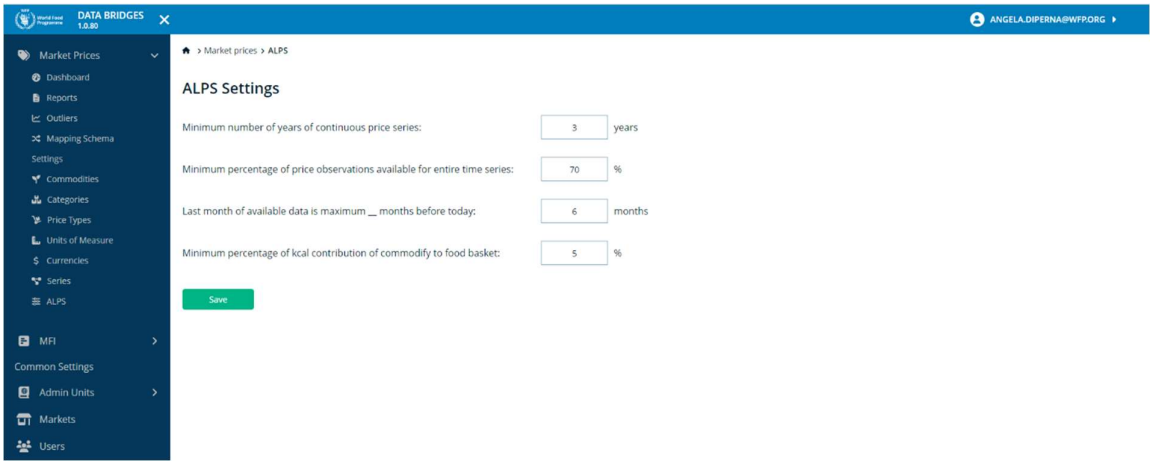
- Role: assign a responsibility role. Administrators can only be created by the system administrator. Roles are assigned by Module: Prices, MFI, Household, Gorp, AIMS.
- Visibility: assign geographic visibility rights (CO, RB or HQ).
- Country/Region: select the relevant country for CO visibility rights, and region for RB visibility rights.

The new user is created by clicking on **SAVE.** If do you not want to create a new user, click on cancel to return to the User tab.

To edit access rights of an existing user, search the user with the filters, then click on **Edit.** Change the rights by editing the fields Role, Visibility, Country/Region as needed, then click on **SAVE.**

2. ALPS

The section ALPS allows to easily modify settings for ALPS calculation.

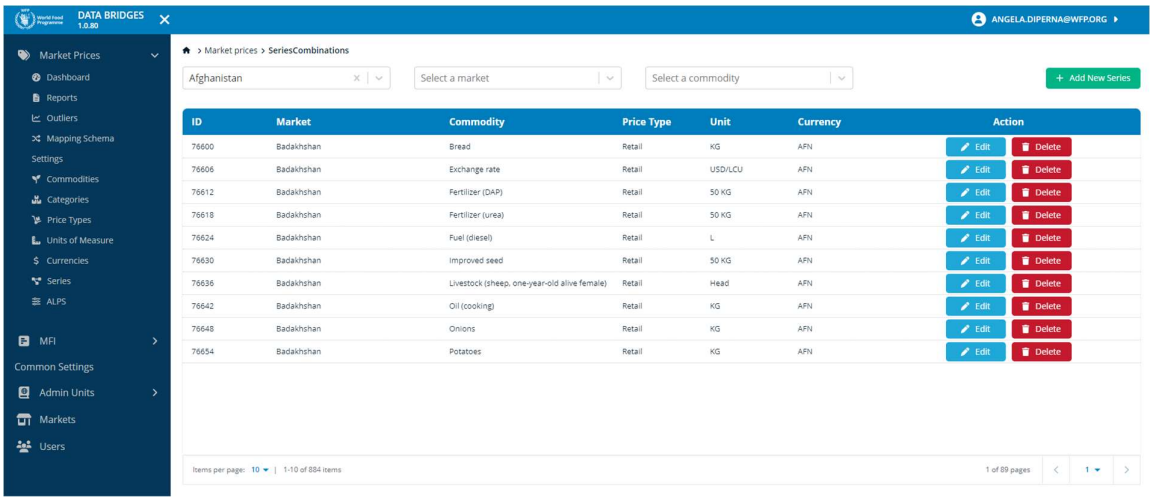


ALPS settings can only be modified by system administrators.

3. Series

Only prices for predefined combinations of markets, commodities, units of measurement and price types can be uploaded to the VAM database. Each market is in fact associated with a list of commodities, which is linked to specific units of measurement and specific price types (retail/wholesale). Such combinations of markets, commodities, units of measurement, and price types are defined as Series.

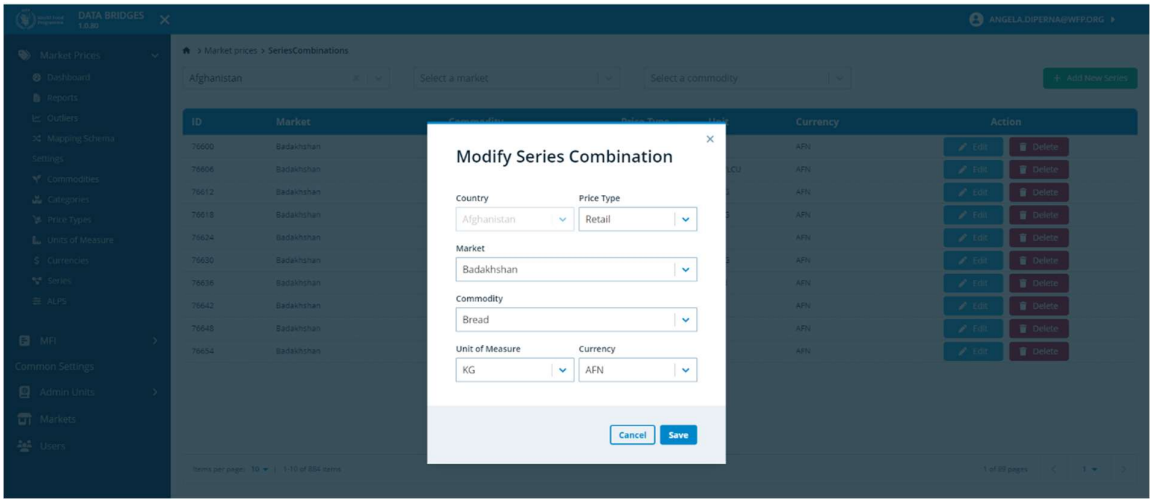
By clicking on Series, you can visualize all possible price series which can currently be uploaded for a specific country.



Filters at the top of the page allow to search for series for a specific commodity or market, or to search by country if your user rights are set at RB or HQ level.

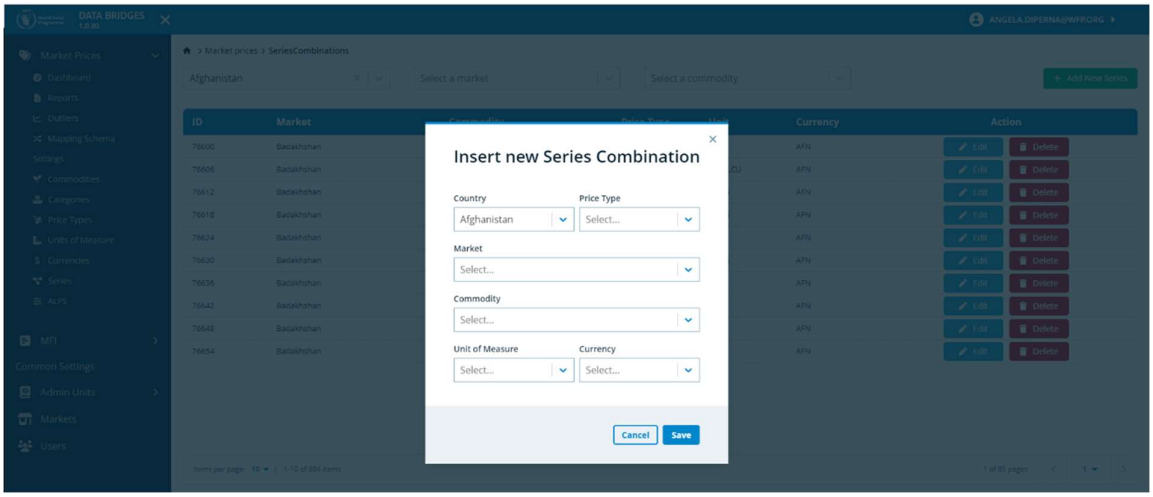
The Series tab allows administrators to edit existing series or add new series.

To edit a series, use filters to identify the series and then click on **Edit.**



A set of dropdown menus allows to modify the series components.

To add a new series, click on **"+ Add New Series"** in the upper right part of the screen. A similar popup window guides the creation of new series. This is useful to expand the range of price data periodically uploaded to the database. It is possible to add new series one by one, or to add the same combination of commodities, units of measure and price types for all markets in the country.



4. Series' components

A price series consists of different components including commodity name, unit of measure or currency. Specific tabs allow to manage the series components.

For each series component, a list of possible choices is stored in the VAM price database. Whenever a new item is added the list of choices for a series component, new series must be created to allow contributors to upload related data. For example, to upload to the database the price of a new commodity, the first step is to add the new commodity to the database from the Commodities tab. The second step is to create new series containing the new commodity in the VAM Data Bridges Series tab.

At the same time, if an existing item is modified, for example the name of a market is changed, all related series will be updated automatically.

When adding a new item to the database, please **check the spelling and the presence of extra spaces or unwanted characters in the name field**. The app performs exact matches on text, and misspelling may result in delays of the data upload.

(1) Currencies

Currencies shows the list of currencies stored in the database. From this tab, administrators can edit existing currency details (ISO3 code and name), delete currencies or add new currencies.

(2) Units of measure

The Units of Measure tab lists the units of measure stored in the VAM database. Administrators can use this tab to edit, delete and add units of measure in the database.

(3) Price types

Price types available in the database are listed under the Price Types section, where administrators can edit, add and delete price types.

(4) Categories

The list of commodities categories is shown by clicking on the Categories tab. The list of categories cannot be modified.

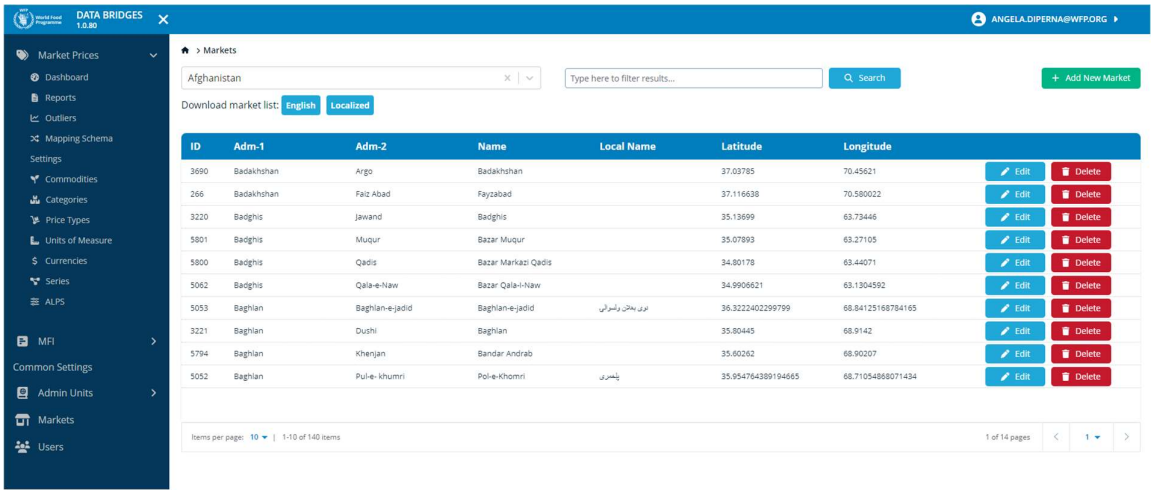
(5) Commodities

The Commodities tab shows the list of commodities in the database, as well as their commodity category. Administrators can edit existing commodities, modifying commodities' names or their categorization. Furthermore, administrators can delete existing commodities or add new ones by clicking on the button **"+ Add New Commodity"** in the upper right part of the screen.

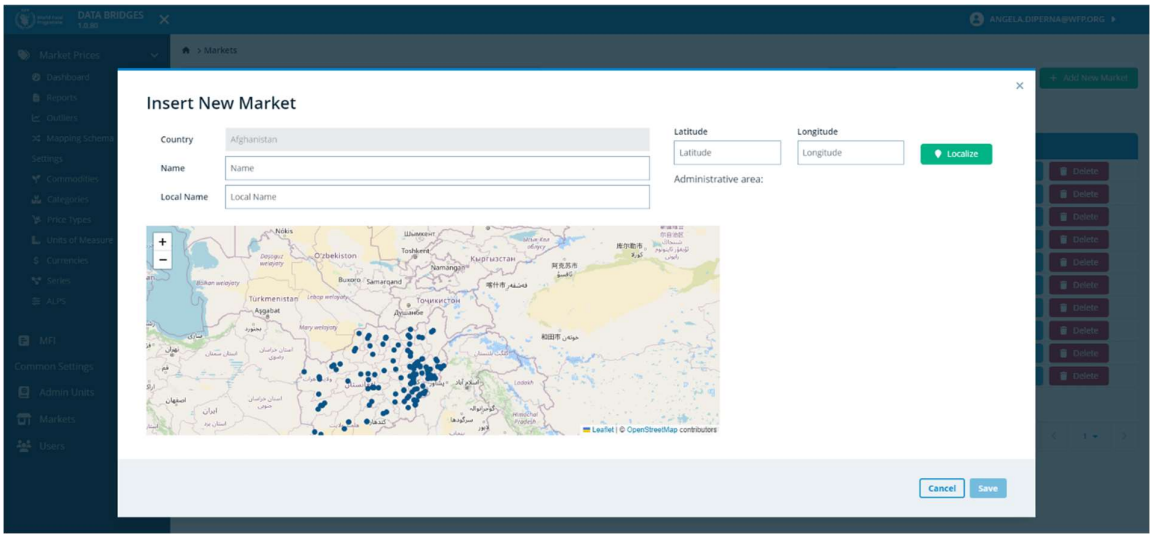
(6) Markets

The Markets tab presents the list of all markets in the database by country. Filters help searching specific markets based on country and market name. For users with geographic visibility rights at RB or HQ level, the list of markets only shows after selecting a country from the country filter.

All markets in the database are associated with geo coordinates and, based on that, with administrative units. Administrators can manage the market list. All users can download the market list in excel, choosing between a list including market names in English, and a list with local language market names, by clicking on the respective button ('English' or 'Localized').



To add a new market, use the filter to select the country for which the new market needs to be added. It is a good practice to always check the list of existing market: when adding a new market, it is important to ensure it does not already exist in the database by checking for alternative spelling of the same market name, and for coordinates. Clicking on **"+ Add New Markets"** will prompt a pop-up window.



Insert the market name and the geo coordinates, then click on the green "locate" button. Administrative units are assigned to the market. To finalize the process, click on **SAVE**.

The **Delete** and **Edit** buttons allow respectively to eliminate a market or to edit its details (market name and geo coordinates). Administrative units are always assigned automatically based on the specified coordinates.

5. Mapping schema

The Mapping Schema section stores the templates created by users for the upload of data.

Price data files come in various formats depending on the structure of the data collection tool employed to gather them. To upload these correctly to the database, the VAM Data Bridges needs to

be instructed how to properly read them. This is done through a so-called mapping schema. The mapping schema, thus, substitutes the Excel template in the VAM Reporting Application.

The creation of a mapping schema for the price data upload is described in section VI-A.

C. Reports

The Reports section stores all price upload procedures – or reports – started on the platform. Reports are visible in this section based on users' geographic domains.

The reports list shows relevant information on single price uploads such as: date when the report is started, status of the report, owner of the report and name of the approver.

In this section, contributors can start new uploads of prices, or continue working on a price upload previously initiated. Supervisors can view, check and approve or reject price uploads.

Further details on how to report price data are found in section VI-A.

VI. How to upload price data – for Excel files

A. Prepare the mapping schema

As described in the paragraph 5 above, the mapping schema is a pre-requisite for the upload of price data to the database through the VAM Data Bridges. Through the creation of a mapping schema, the user prepares a template for a specific stream of data. As such, one mapping schema has to be defined for each price data collection tool. The same mapping schema will serve all periodic data uploads of a data stream, as long as the price data files maintain the same *order of columns and column titles*.

There is no limit to the number of mapping schemas that can be created and saved for each country.

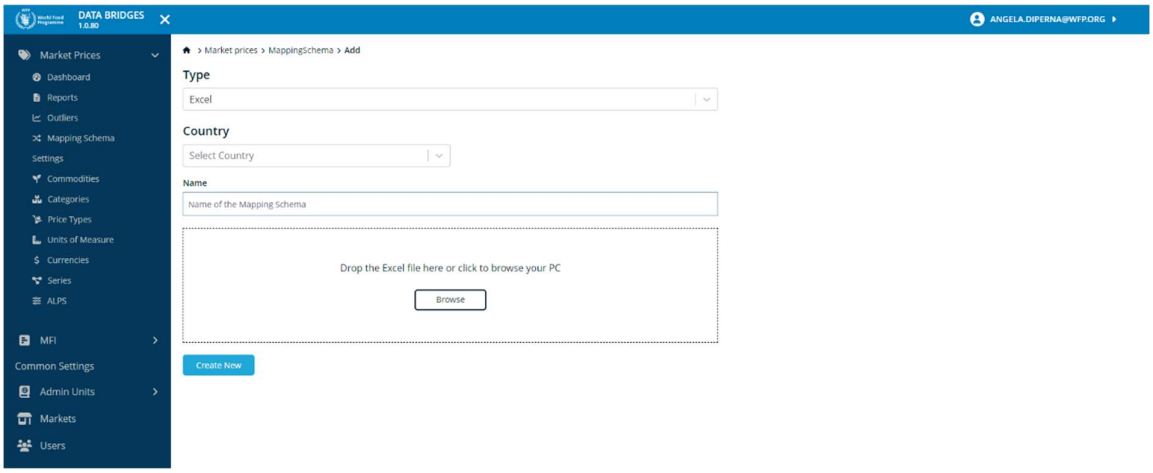
An autosave function supports the mapping schema creation phase: the mapping schema is saved automatically after each modification.

a) Create a new mapping schema – Set-up

After logging in to the platform, open the mapping schema tab and click on **"+ Add New Mapping Schema"** on the right upper section of the screen. The app will prompt the selection of the mapping schema settings:

- Type: Select Excel[1].
- Country: Select the country.
- Name: Assign a name to the mapping schema. The name should be informative and identify the data stream that will rely on this mapping schema for the upload to the database.

[1] Please see section VI of this guide and contact HQ focal points if you have a price data collection supported by ONA or KOBO and would like to link it directly to the VAM Data Bridges without going through Excel.



Then, click on **Create New**. Click on browse to open the file explorer.

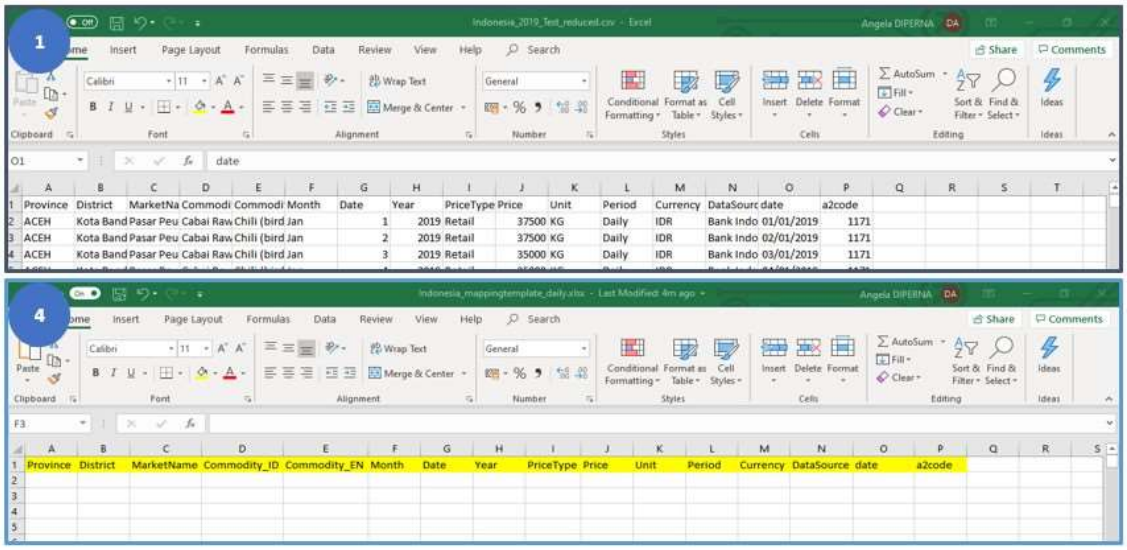
You are required to select a sample Excel file with price data. The file should match the following requirements:

File Requirements:

- Size **<5 mb;**
- Only one sheet with price data, or have **price data in the first sheet;**
- Spelling of all fields matches the spelling of items in the database;
- **Prices are values** and not formulas;
- **Date fields are formatted** according to one of the options below:
  - Day, month, year in three separate columns. For months, numbers (1 – 12) or English wording is accepted (for example January, Jan);
  - Week, year in two separate columns;
  - Full date: dd/mm/yyyy, mm/dd/yyyy or yyyy/mm/dd;
  - Weekly date; ww/yyyy;

It is recommended to create a file for template creation following the instructions below:

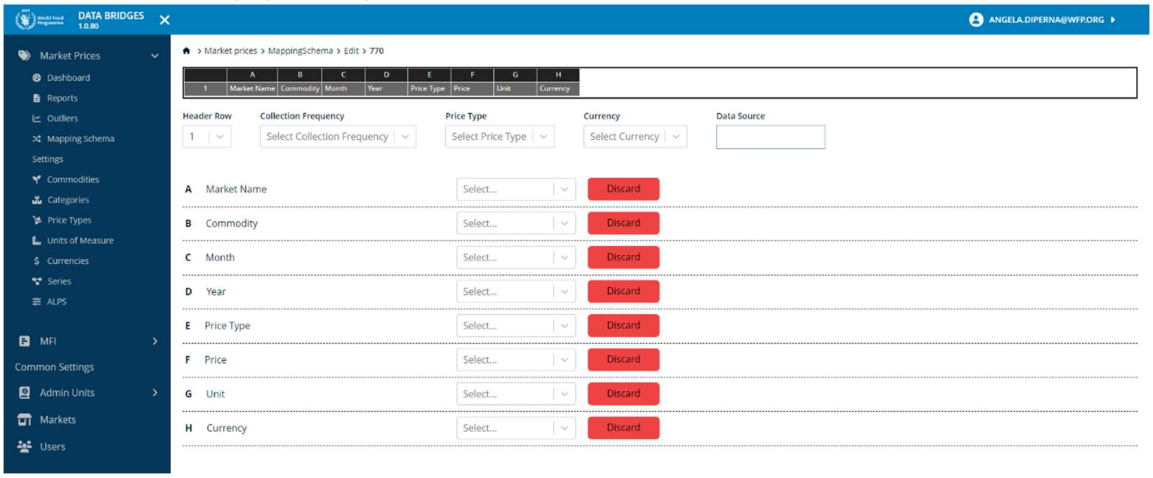
1. Create a copy of a file with price data;
2. Open the file and identify the row with the headers;
3. Delete all records, leaving only the header row filled in;
4. Save the file as country_mapping_template_collectionfrequency.xlsx;



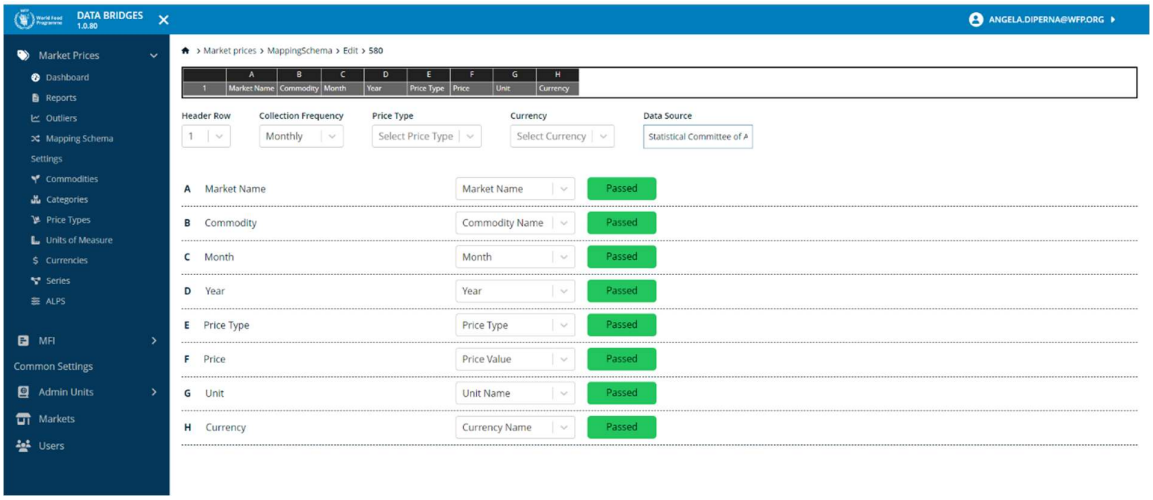
The creation of a mapping schema will be smoother if done based on a file containing only the header row as explained above. Nonetheless, for the creation of a mapping schema, the app will also accept files containing price data. If you use a file containing price data for the creation of a mapping schema, the file used will not be uploaded to the database. It will only be used to build the template.

The VAM Data Bridges will load the file. The Header Row drop-down menu allows to specify which row contains the column titles. As in the example below, in most cases the header row is the first one, but in more complex files this might not be the case. Select the appropriate row containing the column headers.

Collection frequency allows to specify the periodicity of data. For example, *Monthly* must be specified for the usual monthly upload of price data to the database.



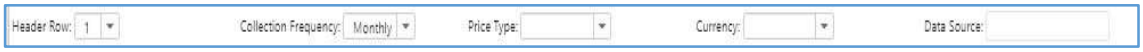
After selecting the header row and specifying the data collection frequency, the app will load the list of columns in the lower part of the screen. Dropdown menus ("Select a mapping") close to the headers will allow to map each column to a series component.



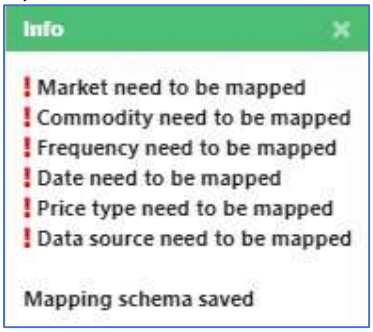
Each column of the file will be mapped as follows:

- Mapped and **validated** to one of the predefined fields or series components;
- **Discarded**: if the column is not relevant and its content should not be saved to the database;

If your data file does not have specific columns indicating the price type, currency and data source, you can specify these series components globally for the whole data stream (for all uploads using this mapping schema).



Mandatory fields to map are: *Market Name, Commodity, Frequency, Date, Price, Price Type, Data Source and Currency*. Mandatory fields for a valid mapping schema are indicated in the right upper corner as you proceed with the template creation.



b) Create a new mapping schema – Layout

The mapping of the Excel files adapts to various data structures and layouts.

Commodity: Commodity prices may show a *long* vs a *wide* layout:

	Market	Commodity	Price	Price Type	Year	Month	Unit	Currency	Data Sour
i	Khorog	Beans (haricot)	1500	Retail	2020	2	KG	TJS	WFP
	Bokhtar city	Beans (haricot)	11	Retail	2020	2	KG	TJS	WFP
	Khujand	Beans (haricot)	12	Retail	2020	2	KG	TJS	WFP
itories	Dushanbe	Beans (haricot)	6.38	Retail	2020	2	KG	TJS	WFP
itories	Gharm	Beans (haricot)	11.65	Retail	2020	2	KG	TJS	WFP
i	Khorog	Bread	3	Retail	2020	2	150 G	TJS	WFP
	Bokhtar city	Bread	1	Retail	2020	2	150 G	TJS	WFP
	Khujand	Bread	1.7	Retail	2020	2	150 G	TJS	WFP
itories	Dushanbe	Bread	1.29	Retail	2020	2	150 G	TJS	WFP
itories	Gharm	Bread	1.25	Retail	2020	2	150 G	TJS	WFP
i	Khorog	Cabbage	2.9	Retail	2020	2	KG	TJS	WFP
	Bokhtar city	Cabbage	3	Retail	2020	2	KG	TJS	WFP
	Khujand	Cabbage	3.5	Retail	2020	2	KG	TJS	WFP

today	market_name	maize_grain_price	maize_meal_price	sorghum_price_usd
Date of Interview	Name of Market	Retail Price of *Maize Grain*	Retail Price of *Maize Meal*	Retail Price of *Sorghum*
03/03/2020	Musanhi Business Center	5	6	4
05/03/2020	Chireya	5	5	5.6
05/03/2020	Chitekete	6	18	7
05/03/2020	Chireya 1	5	3	4
05/03/2020	Chireya	5	4	4
04/03/2020	Chitekete	7	4	7
05/03/2020	Chitekete	10	4	6.3
05/03/2020	Chitekete	4.7	5	7.1
03/03/2020	Mushumbi	6	4	4
03/03/2020	Mushumbi	6.4	5	4
05/03/2020	Chitekete	6	5	4
04/03/2020	Chitsungo	5	3	4.1
05/03/2020	Nembudziya	5	4	4

If your data have a long format, with price values for all commodities stored in one column, you can map the commodity name column as “Commodity” and the price column as “Price Value”.

If your data is in wide format, with several columns containing price values for one commodity each, you can map each column as “Price of a specific commodity with a specific unit of measurement”. This allows to specify a different commodity and unit of measure for each price column separately. In this case, you do not need to specify an additional column for commodity name or unit of measurement, but it will be necessary to map as many price value columns as the number of commodities in your data.

Date: Correctly mapping the date fields is a crucial step to ensure the correct and smooth upload of data.

The date in a price data Excel file can be specified in *one column format* or *multiple column format*:

today	market_name
Date of Interview	Name of Market
02/03/2020	brunaperg
02/03/2020	Mutoko centre
03/03/2020	MATIBI
03/03/2020	Matibi
03/03/2020	Musanhi Business Center
06/03/2020	Nyikavanhu
06/03/2020	Nyikavanhu
05/03/2020	Masoka
03/03/2020	Matibi
05/03/2020	Chireya
03/03/2020	MATIBI
05/03/2020	Chitekete
04/03/2020	Gwebo Rinengejee
05/03/2020	Chengwena
05/03/2020	Chireya

Year	Month	Day
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15
2020	2	15

To map the *one column format,* make sure that the date is formatted as:

- Full date: dd/mm/yyyy, mm/dd/yyyy or yyyy/mm/dd
- Weekly date: ww/yyyy

Note that records that have the same minimum series components (market, commodity, unit of measure, price type) will be aggregated at the level specified as data collection frequency, and the price value will correspond to the average price of all aggregated records.

To map *multiple column format*, make sure that the Excel file contains a year and month column, and a week or day column if needed. The month column must be formatted as:

- Month number (1; 2 … 11; 12)
- Month full name in English (for example, January; September)
- Month short name in English, composed of the first three letters (for example, Jan; Sep; Nov)

The date must be mapped just once, using only one of the two possibilities explained above, even if the data file contains both a one column date and date details over multiple columns.

Unit of Measure: The mapping of the unit of measurement derives from the mapping of commodities. If the commodities' names are stored in one column, units of measure should also be stored in one separate column, mapped to "Unit of Measure". If data are in wide format, the unit of measure can be specified for each price column, by mapping the price column as the "Price value of a specific commodity with a specific unit of measure". Alternatively, if units of measure for specific commodities are stored in a separate column, it is possible to map units of measure columns as "Unit of measure of a specific commodity".

Note that each commodity must be associated to one specific and relevant unit of measure, as per the predefined series.

Metadata: The metadata field is a versatile field that allows to store to the database any column in the Excel file that does not correspond to one of the predefined fields. For example, you can use the metadata field to store trader names. To save the additional fields as metadata, map columns to the metadata field, then assign a name (no space or special characters are allowed).
Discard: Discard the columns you do not want to store in the database. Click on **Restore Discarded Columns** to restore columns accidentally discarded and that need mapping.

c) Create a new mapping schema – Validation

Validate the mapped columns. The validation confirms that each mapped column contains the expected kind of data (for example the app will check that market names correspond to existing market names in the database, and that the price column contains a numeric value). If you have uploaded a blank file only containing header rows (as recommended), the validation is automatically passed.

d) Edit or delete an existing mapping schema

To edit an existing mapping schema, click on the **Edit** button corresponding to the mapping schema you wish to modify or delete. Edit the mapping schema following the guidelines for new mapping schemas above.

To delete an existing mapping schema, click on the **Delete** button corresponding to the mapping schema you wish to delete. Only delete a mapping schema if erroneously created or if outdated.

Reports uploaded using a mapping schema that has been deleted remain unaffected. When a mapping schema is deleted, the users are not able to upload any new reports using that mapping schema.

e) Mapping schema status

A mapping schema can be:

Completed: if all minimum fields required to identify a series are mapped.

Invalid: if one or more of the minimum fields required to upload data to the database are not mapped. To complete an invalid mapping schema, click on "Edit", then map all required fields.

In progress: if a new mapping schema has been set up, but the columns mapping process has not started.

B. Upload price data

After building a mapping schema for your data, data can be uploaded to the database in few steps.

a) Start a new data upload

To start the data upload process, open the Report section of the platform. The report page shows a list of all reports started on the VAM Data Bridges and their status.

Click on "**+ Add New Report**" in the right upper part of the screen to create a new report and upload data to the database. A pop-up window will allow to select:

- Country: the country for which the user has geographic visibility rights is pre-selected. Regional Bureau users and HQ users will be able to select the country for the price data upload, among the ones in their geographic domain;
- Mapping Schema: select the relevant mapping schema built for the upload of price data from a dropdown menu of all valid mapping schemas for the country;
- Notes: add any notes to the report/price upload.

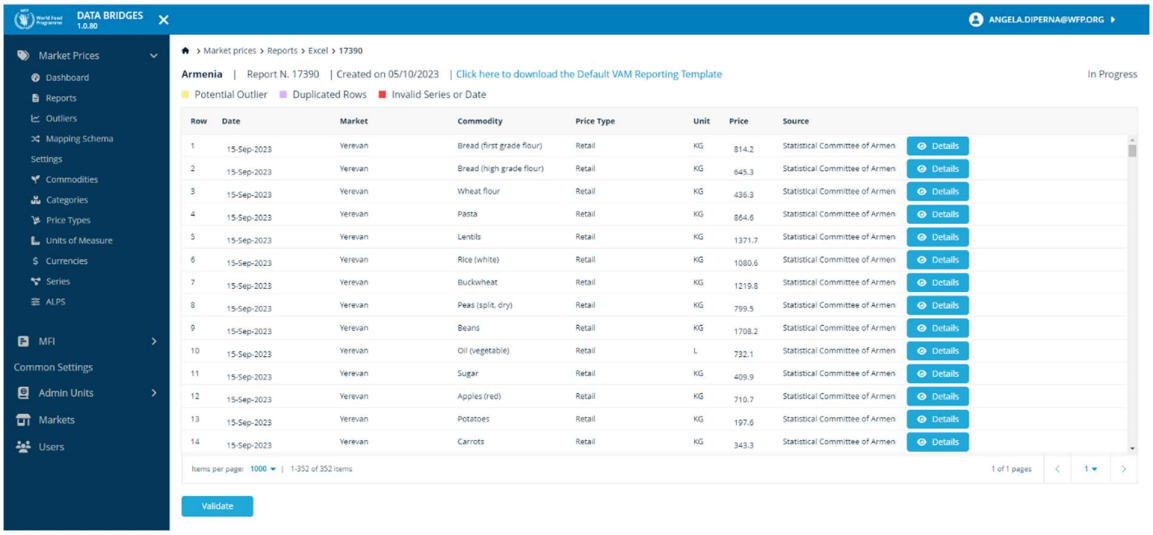
Click on **START**.

The new report is created. Click on Browse to search for the file you would like to upload. Make sure the file for the upload satisfies the requirements below:

File Requirements:

- Size **<5 mb;**
- Only one sheet with price data, or have **price data in the first sheet;**
- Spelling of all records matches the spelling of items in the DB;
- **Prices are values** and not formulas;
- **Date fields are formatted** according to one of the options below:
  - Day, month, year in three separate columns. For months, numbers (1 – 12) or English wording is accepted (for example, January, Jan)
  - Week, year in two separate columns
  - Full date: dd/mm/yyyy, mm/dd/yyyy or yyyy/mm/dd
  - Weekly date: ww/yyyy

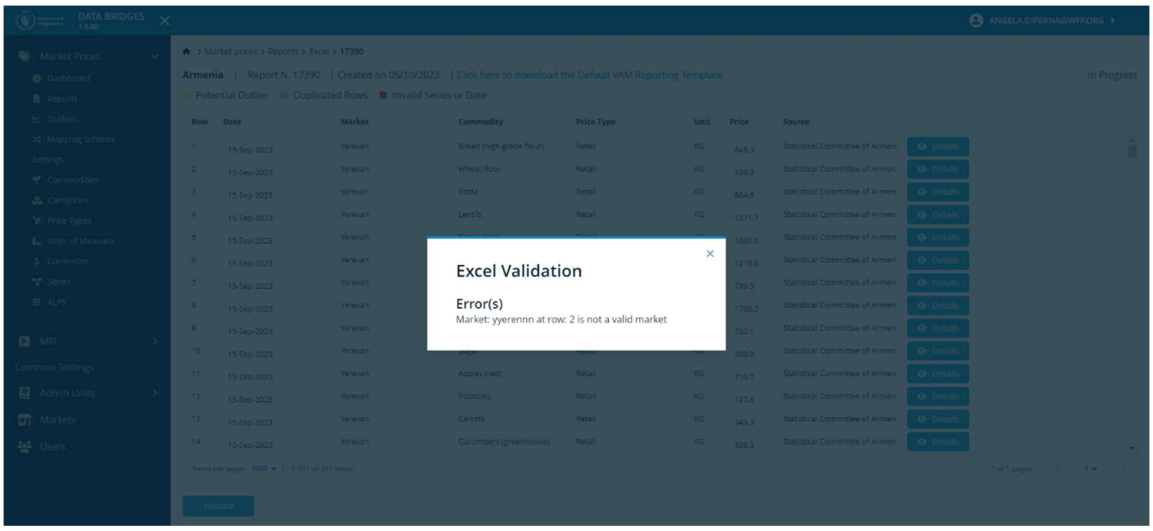
The file will be uploaded to the VAM Data Bridges, according to the mapping schema. Report number, date of creation and mapping schema used will appear in the upper section of the page for reference.



Inspect the report to check that the upload was completed as expected.

The upload will fail in case the uploaded file does not match the mapping schema. This happens in particular when the order of columns or column headers in the file have changed with respect to the mapping schema.

If the file contains items not existing in the database (for example, market names with a different spelling, or commodities not yet added to the database), these records will be dropped from the upload. Records in the file need to be fixed, or missing items need to be added to the database, to ensure all data can be uploaded.



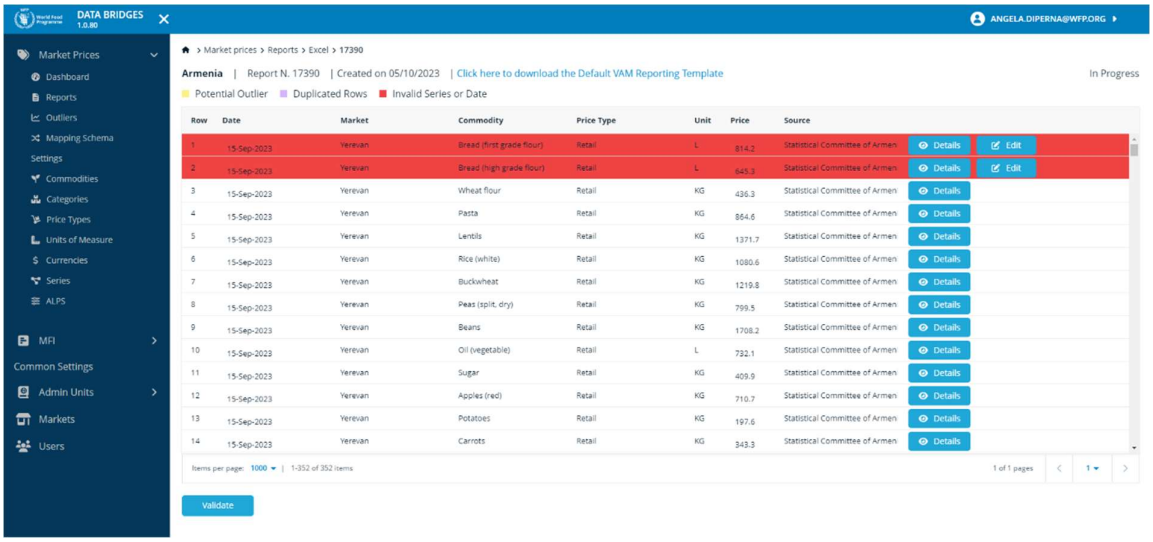
b) Data validation

Click on **Validate Data.** The data validation process will start and might take a few minutes.

The data validation entails two levels of data quality checks. The Validation Report shows a comprehensive list of all problematic entries. Firstly, the app will check that the data match the predefined series for upload. Any error at this step is flagged in red. Secondly, the app will check for

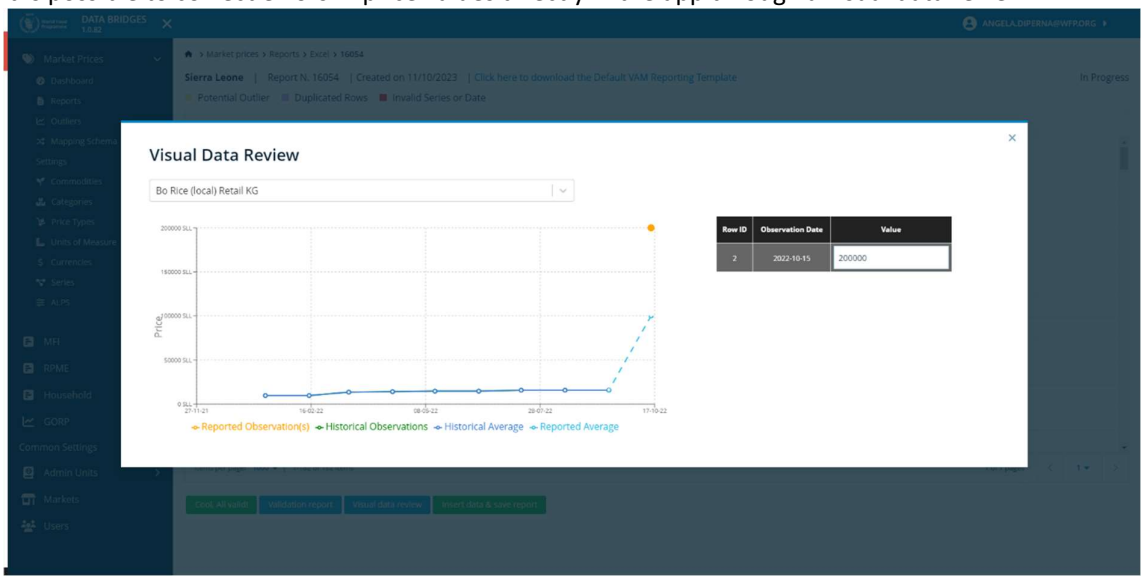
possible errors in price values. The app automatically flags in orange prices that seem out of range compared to past values.

Example 1: The data validation will check for erroneous entries: records with the unit of measurement for the retail price of wheat as L instead of Kg.

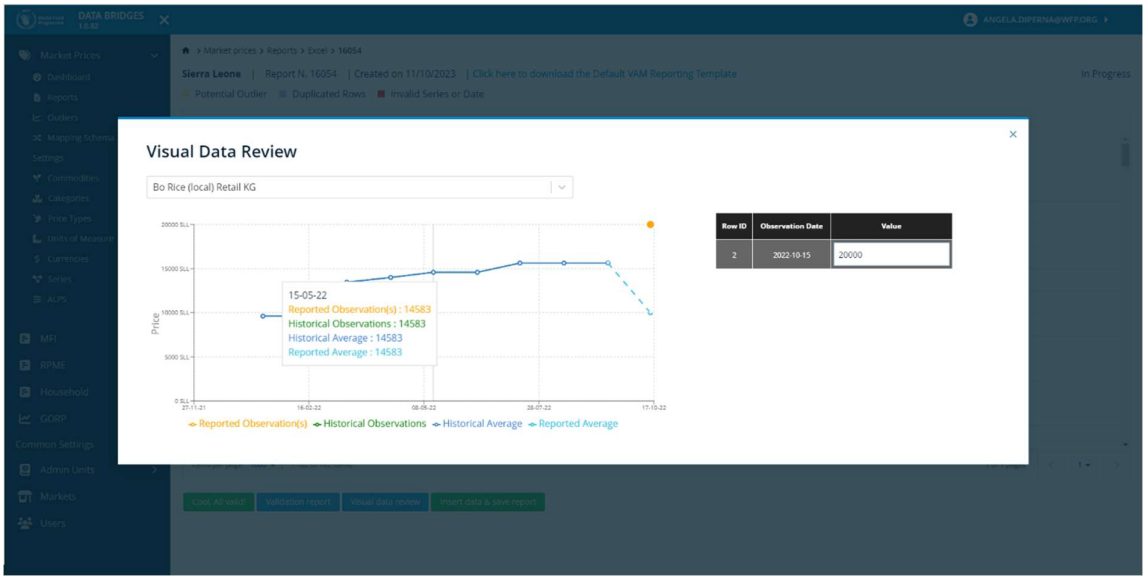


c) Visual data review

It is possible to correct errors in price values directly in the app through a visual data review.



Clicking on Visual Data Review allows to select the records highlighted in orange (from a dropdown menu in the left upper part of the window) and to visualize a graph with past data points for the selected series. This allows to compare historical records against the most recent value. An erroneous price value can be corrected in the table next to the graph.



After correcting all prices that need modification, click on close.

Click on **"Insert and Save the Report"** to complete the price upload and submit the report for supervisor approval.

d) Report status

A report can be:

Pending: if the report has been submitted, but approval or rejection by supervisor is still pending.

Approved: if the report has been correctly submitted and subsequently approved by the supervisor.

Rejected: if the report has been correctly submitted and subsequently rejected by the supervisor. Data from rejected reports will not be visible on Dataviz.

VII. How to upload price data – for ONA/KOBO data collection

It is possible to connect the data collection platforms ONA or KOBO directly to the database thanks to the VAM Data Bridges, ensuring smooth data upload while still having control over the quality of data.

The process of upload of data for ONA/KOBO follows a similar process to the excel data upload. The first step is to define an ONA/KOBO mapping schema based on an extract of the data. When starting a new ONA/KOBO report, the VAM Data Bridges will pull data directly from the ONA/KOBO platform. The data validation and approval step will follow the same procedure of a simple upload from an excel file outlined above.

Please contact the HQ focal point for support in setting up the connection of Data Bridges to ONA or KOBO.

VIII. How to approve/reject price data

Supervisors are responsible for data quality. After a report is submitted, the supervisor is in charge of the final quality check by approving or rejecting the report. In the Report tab, it is possible view and download reports. After inspecting the report, checking data quality and correctness of information, a supervisor can:

Approve: click on Approve to approve the report. Data from the approved report will be stored in the database and visualized on Dataviz. A report cannot be modified via the Data Bridges after receiving approval from the supervisor.

Reject: click on Reject if data quality is not satisfactory or if the report contains errors. Data from rejected reports will not be visible on Dataviz. A new price upload will be required for data from the same period for rejected reports.