



# Fiji – Activity data collection for estimating greenhouse gas emissions from livestock.

*Proposed extension to the Agriculture Production Survey*

# USER MANUAL

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### 1. The purpose of the questionnaire

Fiji pioneered the movement in fighting climate change by being the first country in the world to ratify the Paris Agreement. Under the Paris Agreement and its Enhanced Transparency Framework (the ETF), Fiji has a national obligation to prepare and submit the national greenhouse gas (GHG) inventory and adhere to the data and information quality and transparency principles. The core of the inventory is the activity data for each economic sector of the country identified in the ETF – the energy, industrial processes, and product use (IPPU), agriculture, waste and land use, land-use change, and forestry (LULUCF). This survey directly contributes to the collection of the row activity data to enable GHG inventory for the agriculture sector.

The current Agriculture Production Survey (APS) already provides valuable information in this regard; however, it was not designed with the specific requirements for the information and data needed for the GHG inventory. **This questionnaire** aims to fill this gap and provide the opportunity for Fiji to collect these



data within the existing APS with some extensions and additional sections. It is anticipated that the questions from this survey will be seamlessly included in the future version of the APS.

## 2. Structure of the questionnaire

The survey questions are presented in the form of an Excel document that is intended to be converted to web forms for insertion in the existing Agricultural Production Survey (APS).

The survey file includes 11 functional tabs with the questions, a title page, a table of content, and a tab with the information box on the definitions of land uses that are provided in the APS.

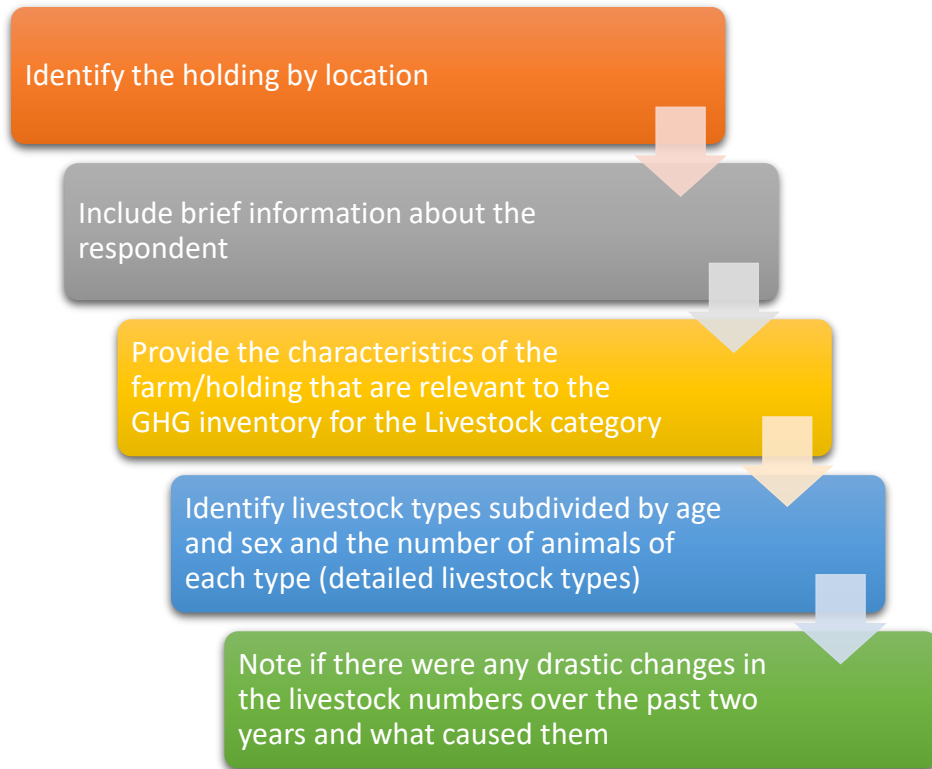
The table of contents includes automated links to each section/tab of the file. In each tab, there is a link in the top left corner that leads back to the table of contents for easier navigation.

The survey includes several tabs that are based on the existing information in the APS. They are included to maintain the internal logic of the survey. Two tabs provide extensions to the existing APS questions to enable row activity data collection for the Agricultural GHG inventory as required under the Paris Agreement and in compliance with the 2006 IPCC Methodological Guidelines for National Greenhouse Gas inventories. Finally, the survey includes new sections (E1 – 3) to incorporate the required information and data for the manure Management category, which is a part of the mandatory reporting under the UNFCCC and the Paris Agreement. Table 1 below summarizes the contents of the survey file.

Table 1. Summary of the updated Survey contents

<i>Survey components</i>	<i>Indication of the new/extended/existing sections</i>
<a href="#">Section A: General Information (location)</a>	Selected questions from the existing section
<a href="#">Section B: Respondent's details</a>	Existing section
<a href="#">Section D: Agricultural Holding Land Area Information (see Land use definition tab for clarification)</a>	Existing section
<a href="#">Section E: Economic Dimension of the Holding</a>	Existing section
<a href="#">Section E: Animal counts</a>	Existing section
<a href="#">Section E: Extension to the existing question 4.3 - Changes in Livestock numbers</a>	Extension of the existing section
<a href="#">Section E - Extension to question the existing question 4.3 - Livestock characteristics</a>	Extension of the existing section
<a href="#">New Section E1 - Livestock feeding</a>	New section
<a href="#">New Section E2 - Livestock feeding classification and grazing</a>	New section
<a href="#">New Section E3 - Manure management</a>	New section
<a href="#">Info box - Land use definitions</a>	Information item (included in the APS)

The survey logic follows the following steps:



### 3. Technical background – how the questionnaire’s results will contribute to the GHG inventory.

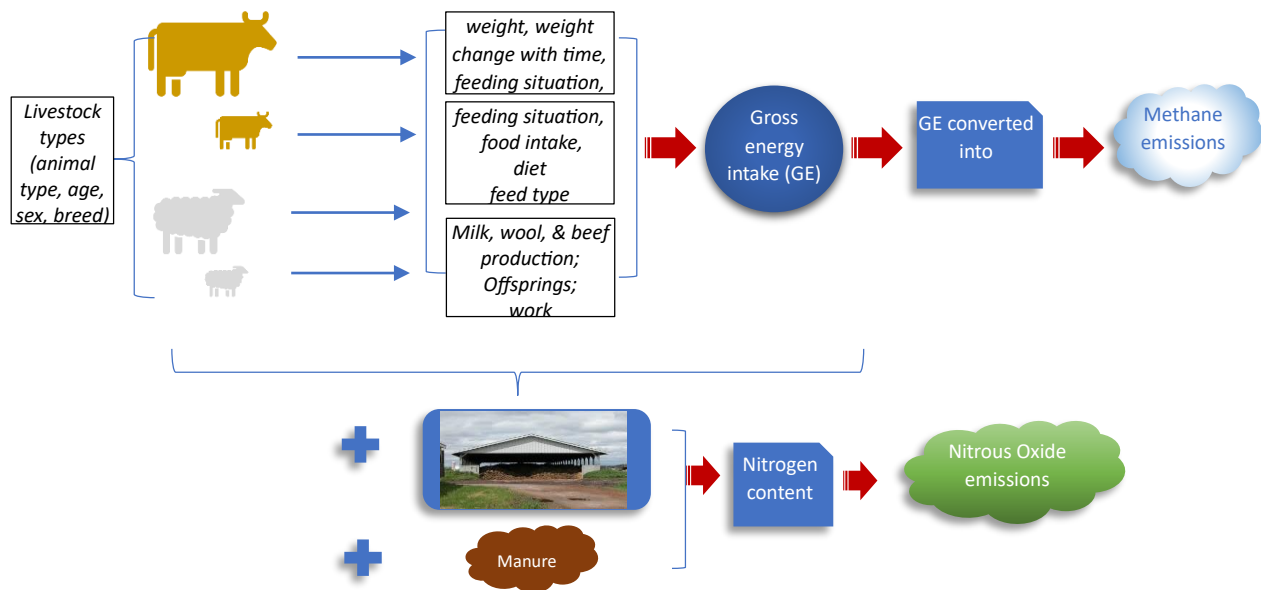
The key components used for the GHG inventory emissions estimations are reflected in the questionnaire. The data requirements for emissions calculations are provided by the 2006 IPCC Guidelines. Based on the Guidelines, the list of required data and information was created for this questionnaire. The list was checked against the inventory calculation software (the IPCC software) that Fiji uses for its inventory.

The disaggregation of the animal types is needed because all calculations for livestock emissions are based on typical animal characteristics for each disaggregated type of animal (both physical and production – e.g., mass of the animal and amount of wool or milk produced). Then the results of calculations for an animal of each type are multiplied by the number of animals of that specific type. That is why the inclusion of a detailed split of all livestock into specific groups and an accurate recording of the characteristics of each of those groups is fundamental for GHG inventory production.

In the questionnaire, particular attention is paid to splitting animals into mature and growing, male and female, and those who gave birth to one, two, or three offspring. It is also important to learn what those



animals eat, how much feed they consume, and in which conditions. This is because those fine details define how much energy an animal needs to maintain its life, grow, and perform functions people grow it for. In turn, the live energy of animals would define how much chemicals and GHGs they produce and emit. The picture below shows how the data collected through the questionnaire led to accurate emissions calculations and fulfilling Fiji’s national obligation under the Paris Agreement.





## 4. Instructions for the questionnaire

- Each section can be reached through the relevant link in the table of contents (the tab name is also the **table of contents**)
- Also, in each tab of the questionnaire, the top left cell contains a link back to the table of contents. Use it for easy navigation

### Section A: General Information

Please, note: you can type only in green-shaded cells

- Click on a yellow field to display selection options. Select the relevant Division, Province, District, and Locality
- Type in the address of the holding/farm
- For the Extension Officer: select the appropriate enumerator code name from the drop-down menu

### Section B- Respondents Details

- Please, note: you can type only in green-shaded cells
- Hints provided in brown
- Gray-shaded cells are not for data entries.
- Use “x” to select an appropriate option (you can select more than one option)
- Type in the response that is not a selection.

### Section D: Agricultural Holding Land Area Information (see Land use definition tab for clarification)

- Please enter the values of the area for each item in green cells
- Please select the units of measurement for each value in the yellow cells (they contain drop-down menus)

### Section E: Economic Dimension of the Holding

- Please enter the values for each item in green cells to insert the numbers of different types of animals
- Please select the options from the drop-down menus by clicking the yellow cells (they contain yes/no menus)
- Gray-shaded cells are not for data entries.
- Use the included table: weights of livestock heads per live weight as a reference

### Section E- Livestock counts

- Please enter the values in green cells to insert the numbers of different types of animals
- Please select the options from the drop-down menus by clicking the yellow cells
- Gray-shaded cells are not for data entries.
- Note that all cells of each column describe one animal type at a high level



- Where animal types are not entered, it is because the list of breeds is not exhaustive, your farm may have something different. If so, enter the breeds you have on the farm

## Section E- Extension to question 4.3- Changes in Livestock numbers

- Please select the options from the drop-down menus by clicking the yellow cells to identify the types of animals in your holding affected by changes (if any)
- Please enter the values of the area for each item in green cells to insert the numbers of different types of animals that are affected by the changes (use 0 or leave the cell if no animals are affected)
- Gray-shaded cells are not for data entries.

## Section E- Extension to question 4.3- Livestock characteristics

- Please enter the values of the area for each item in green cells to insert animal characteristics for the types of animals listed on the left.
- Gray-shaded cells are not for data entries.

## New Section E1- Livestock feeding situation

1. Please note: if you do not know the answers to some questions, please enter "unknown" (this will help us to identify the areas where additional research is needed)

2. If the feeding situation lies between the definitions, the feeding situation should be described in detail.

3. Please click on yellow cells to view the selection options

- Please select the options from the drop-down menus by clicking the yellow cells (to identify the types of feeding situations for each type of animal listed on the left.
- Please enter the values for each feeding situation in green cells
- Gray-shaded cells are not for data entries.
- The table on the right is for your reference – it contains the description of different feeding situations.

## New Section E2- Livestock feeding classification and grazing

1. Please note: if you do not know the answers to some questions, please enter "unknown" (this will help us to identify the areas where additional research is needed)

2. If the feeding situation lies between the definitions, the feeding situation should be described in detail.

3. Please click on yellow cells to view the selection options

- Please insert the numbers for each feeding class for each animal type in green cells.

## New Section E3- Manure management

1. Please note: if you do not know the answers to some questions, please enter "unknown" (this will help us to identify the areas where additional research is needed)

2. If the feeding situation lies between the definitions, the feeding situation should be described in detail

3. Please click on yellow cells to view the selection options





- Please insert the numbers for each feeding class for each animal type in green cells.
- Please refer to the table on the right and the pictures under the tables for descriptions and examples of different manure management systems.