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| enumeratORS’ manual  FAFH Diary & Food Atlas A. Borlizzi, T. Raikoti, M. Sharp & N. Troubat **SDD, SPC**  **December 2022**  [extandreab@spc.int](mailto:extandreab@spc.int),  [michaels@spc.int](mailto:michaels@spc.int) |



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Image by suniuc01 from Pixabay

## Introduction: an overview of the experiment

### **Summary of the experiment**

Food Away From Home (FAFH) is defined as “food and beverage that is both acquired and consumed away from the dwelling”, such as at restaurants, bars, street food vendors, work and school canteens, and feasting events.

FAFH is openly recognized as an increasingly significant source of dietary energy among Pacific Islanders; current FAFH data collection and processing methodologies, however, are potentially introducing bias in the estimation of calories sourced from FAFH, which has adverse implications on the measurement of poverty (SDG 1.1 and 1.2) and undernourishment (SDG 2.1) indicators. The present experiment aims to reduce such methodological gap and to propose innovative methods to best capture FAFH.

The expected outcome of the project is to improve FAFH data collection and the estimation of calories obtained from it, hence increasing the accuracy of the national estimates of poverty and food insecurity.

The Innovative Experiment will be implemented via the inclusion of an additional survey module on FAFH (Module 4) in one satellite sample of the nationally representative household survey of Samoa. It also involves the build-up of a repository (food atlas) of portions of main meals available for consumption away from home.

#### The Research Question

To date, the Dietary Energy Consumption Away From Home (DEC\_AFH) has been estimated by applying the average cost of one calorie consumed in the house to the amount of money spent to consume food away from home. This approach assumes that the composition and the price of a food basket consumed in and outside the house are very similar. To estimate the dietary energy from foods prepared and consumed away from home based on their expenditure, the FAO[[1]](#footnote-1) Statistics Division has been using the median cost of one calorie consumed in the house by geographic location (i.e. region and urban/rural area) and income quintile, while the World Bank is using a flat cost with an adjustment factor to account for marketing margins and costs of running a food business.

In the absence of a benchmark, the calorie cost approach has never been tested and it is not known by how much such estimate deviates from the “true” amount of dietary energy consumed outside the house. Accordingly, the present experiment aims to:

* Test the WB/FAO approach based on the average cost of one calorie consumed in the house to estimate DEC\_AFH;
* Propose alternative methods to collect food away from home in a more comprehensive and cost-effective way.

The survey experiment has been designed for countries that will conduct a Household Income and Expenditure Survey (HIES) according to the WB[[2]](#footnote-2)/FAO guidelines, which hence includes a 7-day recall module to collect information on in-house consumption.

#### ASSUMPTIONS TO BE TESTED

To infer the DEC\_AFH using the cost of one calory estimated from the in-house 7-day recall module, one major assumption is needed: that the cost of one calorie consumed in the house is the same as the cost of one calorie consumed away from home. This assumption is very strong, and has been proved untrue because of the additional costs sustained by food vendors to run a business. Therefore, to test this assumption, the median cost of one calorie will be estimated from the in-house module and compared to the cost of one calorie consumed away from home.

Should discrepancies be observed, a factor adjusting for the difference between the cost of one calorie consumed in the house and one calorie consumed away from home will be estimated. The median cost of one calorie AFH will then be estimated by income quintile and for the entire population, to test both the FAO approach - which uses the median cost by income group and geographic location – and the WB approach – which uses a flat cost with an adjustment factor.

#### MODULES INVOLVED IN THE EXPERIMENT

The following is a list of survey modules collecting the information needed for the experiment:

* **Socio-economic characteristics of the household members**

This module collects demographic and socio-economic characteristics of the individuals, such as age, sex, education level, income category, economic sector, geographic location, etc. It allows to estimate the differences in the calorie cost by population groups.

* **In-house food consumption – 7-day recall**

This module aims to estimate the average amount of dietary energy consumed in the house and to derive the cost of one calorie. In this module, the person responsible to prepare the meals will be asked to report on the quantities of each food consumed in the household by all household members over the last 7 days, and the corresponding cost.

* Individual **7-day diary** on **Food Away From Home**

This module collects accurate information on each meal consumed away from home by each member of the household over the last 7 days, using a diary, to derive the corresponding amount of dietary energy, by meal event, to be used as the benchmark. Questions are asked to each household member about the exact type of food and beverages they consumed, with the support of images displayed in the

* **Samoan Atlas of Food Portion Quantification (food atlas**), which helps identify the portion; in case a food is not included in the repository, the respondent is requested to describe the food consumed, its main ingredients and the size of the portion.

Each household receiving the FAFH diary will be visited every second day: the first time to receive the survey modules and instructions on how to fill them; the other times to supervise the filled modules and pick them up at the end.

Text

The Individual FAFH Module

Figure 1: Cover of the Individual FAFH Diary

The purpose of this manual is to provide useful information for enumerators about how to fill the FAFH diary and how to use the food atlas. The other modules of the HIES are out of its scope.

## The FAFH Diary

### **Cover**

The cover of the FAFH diary (Figure 1) is designed to collect the individual’s name and ID, as per the household roster. In fact, the diary is individual, and each member of the household should be provided with a copy of the diary, independently of their age. Children younger than 12 will receive the diary as well, but their parents will supervise and/or take care of filling the information.

Geographical characteristics of the households like the region, district and village names, are also to be reported in the cover, similarly to the cover of the main survey questionnaire. After that, the interviewer should report the date of the four visits to the household (Figure 2).

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Figure 2: Dates of the four visits

In fact, each household will be visited 4 times: the first time (say: on Monday), the enumerator hands the module out to the household members and explains them how to fill it; the second and third time (say: on Wednesday and Friday) the enumerator reviews the information reported by the household members in the module during the past two days, and help them overcoming issues that might have occurred (to be noted down by respondents in the “NOTES” section at page 3 of the module, following the “INSTRUCTIONS”). The fourth and last time, besides reviewing the information, the enumerator recollects the diary.

### **Instructions and Notes pages**

To ensure a good outcome of the survey and the collection of good quality data, it is important that the instructions of the module be clearly explained by the enumerators to the household members during the visit in day 1. In particular, the following parts of the instructions should be most emphasized:

**What to report**

For seven days, household members will have to fill the diary with the information related to ALL the foods and beverages they consumed outside of their house and that were NOT prepared at home (for example, at a restaurant, at school, at work, etc.).

* + Accordingly, food prepared at home and consumed outside of the dwelling is not be reported in the diary (for example, food taken from home to eat at work or at school).
  + Analogously, food prepared outside of the house but consumed at home should also not be reported in the diary (for example, take-away pizza or Chinese food brought home to eat).

**When to report**

The diary should be filled every day, without waiting for the next visit by the enumerator (unless some explanations are needed on how to report a specific item: in that case that record will be registered with the help of the enumerator). If no food or beverages were consumed away from home in a day, then the respondent should reply “No” to question 1 on that day. “Day 1” on the diary is the day of the first visit of the enumerator.

**Which type of meal**

Food and beverages to be reported are those consumed as single serve (such as

in restaurants, bars, school and work canteens, on street stands, etc.) AND those consumed as part of a buffet (such as To’onai, barbeques, potlucks, or during a workshop at the work place).

**How to fill the diary**

Respondents will be asked first to give the name of all the foods and beverages they consumed during the day; each item should be reported on a new **COLUMN**. In case of a combo such as fish and chips, it can reported in just one **COLUMN,** but the quantities reported should refer to combo in total.

**The atlas**

To help respondents fill the diary, they will be handed over a food atlas containing a set of pictures describing: the units of measurement most commonly used at home (spoons, cups, mugs, etc.), the foods most frequently consumed away from home in Samoa and the size of the portion consumed. In case they cannot remember the name of the food or beverage they consumed, they will use the atlas to identify the picture that best describes it; should it not be included in the atlas, then they will be asked to provide additional information on the composition of the meal by listing all the items included in the plate.

**How to report the size of the portion**

Two options are offered to the respondents: the first one is to report the quantity consumed by using a household measurement (for example: three spoons of rice); in alternative, they can browse the atlas to find the picture describing the quantity of the food consumed.

**How to report the cost of the food**

The food or beverage consumed can be either purchased (in a restaurant, street stand, supermarket etc.) or received for free (at a friend’s place, at church, in exchange of work). In the first case, the amount of money spent for each item should be reported; if food consumption did not involve any money exchange, respondents will have to estimate (guess) the cost they would have paid for that food or beverage if they purchased it. In case of food or beverages from a buffet, what should be reported is the **total** amount they would have paid to buy all the food consumed at the buffet; this total amount goes on the **first column** and a **horizontal line** should be drawn by the respondent to the last food consumed in that occasion, to avoid recording the same amount more than once.

**Special assistance**

The diary will be given to each member of the household; children, the elderly or people who cannot complete the diary by themselves may request the assistance from another member of the household to fill the diary on their behalf.

**The *Notes* page**

In the *Notes* page, respondents my take notes either during the first enumerator’s visit, to fix some *tricky* aspects of the instructions, or during the two-day interval period elapsing between two consecutive visits, to highlight some particular situation that requires the enumerator’s attention.

### **How to fill the diary**

### **(page 2, 4, 5 of the diary)**

During the first visit to the household (on day 1) it will be important to read with the household members the example described at page 2 and depicted at pages 4-5 of the diary, where a mock “Day 3” is displayed. Such example includes an array of possibilities, hence explaining to the respondent, in practical terms, how to fill the diary and use the atlas, even in case they do not recall the name of the food consumed, or cannot find the food picture in the atlas, or the exact size of the portion.

In the printed example, respondent “Tupae” consumed 6 items on Sunday 27/11, corresponding to day 3 of the 7-day survey period: 4 items were consumed during lunch (items 2-5), 1 for dinner (food 1) and 1 for snack (item 6) (Figure 3).

Graphical user interface, application

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Figure 3: Example - How to fill the questionnaire

Tupae recalls the names of 4 out of 6 consumed food items; for one of them (Food 2) he found the corresponding picture in the atlas and hence reported the code “FI10”, corresponding to “Oka” (see section “The Samoan Atlas of Food Portion Quantification”).

For food 5, instead, he could not find any picture in the atlas. He therefore provided a description of the food ingredients and methods of cooking in questions 5 and 6 (Figure 4).

Graphical user interface, text, application, email

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Figure 4: How to describe food if picture is not available in the atlas

Questions 7 to 10 investigate the size of the portion of the food or beverage consumed. In Tupae’s example, the portions of food 1, 2 and 4 are identified via the food pictures included in the atlas, while:

* For food items 3 and 6, the pictures of a unit of measurement was selected in the atlas and the corresponding code indicated in the diary (M5-1 – “Spoon” – and M1-2 – “Glass”).
* For food 5, a non-standard unit of measurement – “coconut shell” - was reported by Tupae directly in the diary.

Questions 11 to 13, finally, investigate: the place where food was procured; whether or not it was purchased, and the paid (or estimated) amount of money for that food or beverage.

As to the place, only the code should be reported, according to the coding system indicated in the text of Q11. The actual (for purchases) or estimated value of food and beverages (Q13) is to be indicated in Tala. Estimated value is to be provided in cases food is received for free or in-kind.

In case of food and beverages consumed at buffets, it is important to remind respondents that only 1 monetary value should be indicated for all the food items consumed (in the example embedded in the printed diary, however, the value of 10 Tala for food items 2 to 5 received for free at church during a buffet is repeated 4 times, while it should only appear once for food 2; then a horizontal line should be drawn by the respondent over the boxes of Q13 corresponding to food 3, 4 and 5).

### **Diary and Overflow sheets**

Pages 6 to 19 of the diary are the diary to be filled each day by respondents – starting from the same day of the enumerator’s first visit – following the example discussed above.

The respondents will start with indicating the date of the week (Monday, Tuesday, etc.) and the date on top of the page (Figure 5).

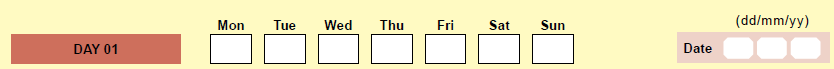


Figure 5: Indicating the day of the week and the date

The first information (day of the week) is important to catch patterns in FAFH consumption: in what days it is more frequent to eat away from home (week days or weekends?), or whether lunch AFH is more common in weekdays while dinners in weekends, etc.

It is important to notice that, if on a given day (say: day 3) no food or beverages were consumed away from home by the individual respondent, then the answer to Q1 should e “No” and the page of that day should be left blank.

If, on the other hand, more than 6 food or beverages were consumed in a given day (say: Day 5), then the “Overflow sheets” placed at the end of the diary (after “Day 7”) should be used by the respondent to report the food items beyond number 6. In that case, respondent should indicate “Day 5” on the top of the sheet, then the week day (say: “Friday”) and the date (Figure 6). There are in total 5 overflow sheets in the diary.

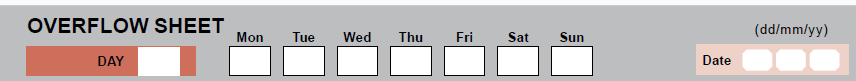


Figure 6: Overflow sheet

Finally, should the respondent have troubles in providing the correct answer to a question for a given food item, (s)he can note it down in the “Notes” Section located at page 3 of the diary, after the instructions. The enumerator will then review these issues along with the respondent and help them fill the gaps in the diary on days 3, 5 and 7.

## The Samoan Manual of Food Portion Quantification (“Food atlas”)

### **Overview**

The Samoan Atlas of Food Portion Quantification, referred to as the “Food Atlas”, is a book to be delivered to each household (1 per household) to help individual respondents identify the food consumed and the relative quantity. It includes a collection of professional pictures of food most commonly consumed in Samoa, and of the most common units of measurement available at home such as spoons, cups, bowls and mugs.

It includes two main sections: Household Measurements and Food.

Application

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Figure 7: The Samoan Manual of Food Portion Quantification, or the "Food Atlas"

### **Household Measurements**

This section includes pictures of the most commonly used kitchen tools to measure quantities of food and beverages, such as glasses, mugs and bowls. Each type of tool is identified by a letter and a number (e.g.: M1 for “Glass, type 1”, M4 for “Mugs”, etc.); a second number is then used to identify the specific version of the tool (e.g.: M1-1, M4-2, etc.). Such 3-digit code is the one to be reported in the diary when answering question 8 “*Which picture from the food atlas best describes the MEASUREMENT UNIT in which you want to report the quantity consumed*?” (Figure 8).

A picture containing text, cup, coffee, breakfast

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Figure 8: Example of a picture of a unit of measurement and its 3-digit code

NB: currently not all the pictures of units of measurements have been included in the atlas; the final version of the atlas, to be printed before the start of the main survey fieldwork, will include the missing pictures.

### **Food Groups**

The food items included in the atlas are grouped in 10 groups:

* Fish, shellfish and their products (Code: FI)
* Chicken, pork, beef and their products (Code: CH)
* Eggs and their products (Code: EG)
* Biscuits, pancakes, bread (Code: BI)
* Pasta, noodles (Code: PA)
* Fruits, vegetables, roots, tubers, and their products (Code: FR)
* Snacks and sandwiches (Code: SN)
* Sweets and pastries (Code: SW)
* Soups (Code: SO)
* Composite dishes, combos and pizzas (Code: CO)

To simplify the research of food types by respondents when filling the diary, food items are ordered in alphabetical order within each group, according to the Samoan name of food.

In most cases, the same food item is depicted several times (up to 6) to allow respondent selecting the size of the portion corresponding to the one consumed (Figure 9).

A picture containing food, plate, deviled egg, egg

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Figure 9: Different portion sizes of the same food

Similarly to household measurements, each food is therefore identified by a 4-digit code: 3 digits to identify the item (in this example: PA1 is the code for “Lasagna”) while the last digit identifies the size (in this example: from 1 to 4). This code is to be reported in the diary when responding to questions Q4 - *Which picture from the food atlas best describes the food you consumed today?* - and Q7 - *Which picture from the food atlas best describes the PORTION of the food you consumed?*.

In other cases, however, different types of the same food items are depicted (see Figure 10 below for “Fish types”). In this case, the pictures will be used to identify food rather than portions.

A picture containing food, plate, dish, different

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Figure 10: Fish types

1. Food and Agriculture Organization of the United Nations [↑](#footnote-ref-1)
2. World Bank [↑](#footnote-ref-2)