

## 2020 HIES REGIONAL SAMPLING AND PLANNING WORKSHOP

February 24<sup>th</sup> to March 3<sup>rd</sup>, 2020 – Nadi – Fiji

Novotel Nadi Hotel, Nadi, Fiji

### Objectives

The objectives of this course are to: (1) review the principals of sampling with regard to the design of a household survey; (2) to identify and compile the necessary information from previous datasets to construct a sampling worksheet; and (3) to use the worksheet to develop a sample design for each country's 2020/2021 Household Income & Expenditure Survey (HIES), Labour Force Survey (LFS) or Multi Indicators Cluster Survey (MICS).

### Requirements

Participants should have a basic understanding of sampling theory and be familiar with sample design. In addition, participants must bring the following items to the workshop: (1) a laptop computer loaded with Microsoft Excel and preferably either Stata or SPSS; (2) the microdata or the report from the most recent household survey (HIES, LFS or MICS); and (3) a list of the current administrative (example: region) units for their country, including the most recent household population estimate for urban and rural areas within each region.

### Course Instructors

Unless otherwise noted, the sessions will be facilitated by Tracey Savage from Stats NZ, Hans Pettersson from UNICEF and Bertrand Buffiere from SPC-SDD. Winston Faingaanuku and Olivier Menaouer from SPC-SDD will attend week 1 as facilitators. Mr Michael Sharp from SPC-SDD will attend week 2 as facilitator.

## AGENDA WEEK 1 – SURVEY SAMPLING

### Monday, February 24, 2020

8.30-9.30 Registration and per diem disbursement (*Sandra SPC*)

#### **Opening**

9:30-9:45 OPENING PRAYER, INTRODUCTION AND OPENING REMARKS (Participants: *Tracey from Stats NZ; Hans from UNICEF; Sandra, Bertrand, Olivier & Winston from SPC*)

9:45 – 10:00 WORKSHOP GROUP PHOTO

10:00 – 10:30 *Coffee Break*

#### **Session I**

10:30-11:30 SAMPLING FOR PROPORTIONS AND AVERAGES - SIMULATIONS (*Tracey – Stats NZ – power point presentation*)

Basic concepts of sampling for a proportion presented as a simulation of an electoral poll in a small island and estimating averages as a simulation of an income survey in a small island. Session presents intuitive explanations of the relationship between expected precision of a given sample size and the population size and distribution of the characteristic of interest.

#### **Session II**

11:30-12:00 SAMPLING FOR PROPORTIONS AND AVERAGES - FORMALIZATION (*Tracey – Stats NZ – power point presentation*)

Formalization of the intuition presented in the simulations. The concepts of population, sample, sample frame, estimation, standard deviation, standard error, and confidence intervals will be covered.

12:00-1:00 *Lunch*

1:00 – 2:30 **Session II** continued

2:30 - 3:00 GROUP EXERCISE #1: Consulting for Mr. Green (*Bertrand - SPC*)

3:00 - 3:30 *Coffee Break*

### **Session III**

3:30-4:30

STRATIFICATION - SIMULATION AND FORMALIZATION (*Hans – UNICEF – power point presentation*)

The session uses a simulation of an electoral poll in an archipelago to illustrate the two main reasons for stratification: [a] improving the precision of the overall estimate and [b] obtaining separate estimates for different groups of the population. These objectives are generally contradictory in practice and balance is needed. Key concepts are: analytic domains and strata, allocating the sample among strata, proportional, equal, optimal, and practical allocations.

4:30-5:30

GROUP EXERCISE #2: Stratification for a small island survey (*Bertrand – SPC – power point presentation*)

5:30-6:00

Welcome cocktail

### **Tuesday, February 25, 2020**

8:00-8:30

RECAP & QUESTIONS

### **Session IV**

8:30-9:15

NON-RESPONSE & OTHER IMPLEMENTATION CHALLENGES (*Hans – UNICEF - power point presentation*)

During implementation, some households may also refuse to respond to the survey; or there are certain circumstances in which certain areas cannot be visited due to inaccessibility or insecurity. This session addresses the protocols for the replacement of clusters and households and discusses the importance of high quality household counts.

Discussion about:

- sampling frame and update of household listing.
- Sampling units (households vs dwellings) and case of extended families, several household sharing dwellings....

### **Session V**

9:15-10:00

MULTI-STAGE SAMPLING, CLUSTERING AND DESIGN EFFECT - SIMULATION AND FORMALIZATION (*Tracey Stats NZ & Hans UNICEF power point presentation*)

This session describes the rationale and motivation for two-stage sampling using a simulation of an electoral poll with respondents clustered into city blocks. Comparison with a simple random sample: the price to pay is a larger error. Intra-cluster correlation and cluster effects. Relationship between cluster effect, cluster size and intra-cluster correlation.

The combined effect of stratification, clustering and weighing – design effect and rate of homogeneity. Alternative interpretations of DEFF (and DEFT) and why they cannot be ignored. Implications for the

documentation of the design and implementation of the sample. Introduction to using the sample design template.

- 10:00-10:30 *Coffee Break*
- 10:30-12:00 **Session V** continued
- 12:00 -1:00 *Lunch*
- 1:00 - 2:00 **Session V** continued
- 2:00 - 3:00 GROUP EXERCISE #3: Exercise with the sample design template (*Bertrand – SPC power point presentation*)
- 3:00 - 3:30 *Coffee Break*
- 3:30 - 5:30 GROUP EXERCISE #3: Exercise with the sample design template (CONTINUED)

### **Wednesday, February 26, 2020**

- 8:00-8:30 RECAP & QUESTIONS
- 8:30-9:30 GROUP EXERCISE #4: Sample design for hypothetical country using template (*Bertrand – SPC- power point presentation*)

#### **Session VI**

- 9:30-10:00 COUNTRY TEAM ACTIVITY – SAMPLING WORKSHEET DEVELOPMENT #1  
Participants will work in country teams to develop the sampling worksheet for each country with the facilitators available to assist. At the end of this session, each country will have a functioning worksheet on which to work the next day.

- 10:00-10:30 *Coffee Break*
- 10:30-12:00 **Session VI** - continued
- 12:00 -1:00 *Lunch*
- 1:00 - 3:00 **Session VI** continued
- 3:00 - 3:30 *Coffee Break*
- 3:30 - 5:30 **Session VI** continued

## **Thursday, February 27, 2020**

8:00-8:30 RECAP & QUESTIONS

### **Session VII**

8:30 – 9:30 INTRODUCTION TO WEIGHT CALCULATIONS (*Tracey – Stats NZ- power point presentation*)

The sessions introduces basic concepts in weighting for complex sample surveys. Issues to be addressed include basic weight calculation, raking, trimming, and post stratification.

### **Session VIII**

9:30 – 10:00 DOCUMENTATION (*Olivier SPC- power point presentation*)

Presentation of the SPC data library and introduction to the survey documentation process

10:00-10:30 *Coffee Break*

### **Session IX**

10:30-12:00 PRESENTATIONS AND DISCUSSIONS OF SAMPLING DESIGNS

Each team will present their design to the group and receive feedbacks from the facilitators. Each team will have 20 minutes per survey for presentations and discussions

12:00 – 1:00 *Lunch*

1:00 - 3:00 Session IX - (continued)

3:00 - 3:30 *Coffee Break*

3:30 - 5:00 Session IX - (continued)

## **Friday, February 28, 2020**

8:00 - 8:30 RECAP & QUESTIONS

### **Session X**

8:30 – 10:00 NON SAMPLING ERRORS (*Hans – UNICEF – power point presentation*)

This session shows the importance of good monitoring of the quality of the field collection from a survey manager perspective. It is important to know how the non-sampling error can sometimes affect the quality of the survey.

### **Session XI**

10:00 – 10:30 PRESENTATION OF SAMPLING SELECTION (*Bertrand SPC – power point presentation*)

10:00-10:30 *Coffee Break*

10:30 – 11:00 Session XI (continued)

11:00 – 12:00 PRACTICAL CASE – SAMPLING SELECTION

All team run sample selection following the sample they designed previously.

12:00 - 1:00 *Lunch*

- 1:00 - 3:00 PRACTICAL CASE - SAMPLING REPORT WRITING  
Each team starts to write the documentation of the sample design following the recommendations/template provided by Olivier
- 3:00 - 3:30 *Coffee Break*
- Session XII**
- 3:30 – 4:30 FEEDBACK AND COMMENTS ON THE SAMPLING GUIDELINE (*Tracey Stats NZ*)  
Participants have the opportunity to go through the document and provide feedback.
- 4:30 – 5:00 FINAL THANKS – WEEK 1 WRAP UP AND CERTIFICATES

## AGENDA WEEK 2 – SURVEY PLANNING

### Monday, March 2, 2020

#### Session XIII

8.00-10.00 PREPARATION OF FIELD PLAN – PRACTICAL CONSIDERATIONS (*Bertrand SPC – power point presentation*)

This session deals with the logistics required in order to achieve the field work: number of staff required, allocation of workload for each team and detailed calendar of the field collection

10:00 – 10:30 *Coffee Break*

10:30 – 12:00 PRACTICAL CASE - PREPARATION OF FIELD PLAN

Each country is working by group on their own field plan

12:00 - 1:00 *Lunch*

#### Session XIV

1:00 – 3:00 DESIGN THE SURVEY BUDGET (*Bertrand SPC – power point presentation*)

Presentation of the budget template (spreadsheet) that specifies all the main division of expenditure incurred at each step of the survey.

3:00 - 3:30 *Coffee Break*

3:30 – 5:00 PRACTICAL CASE - SURVEY BUDGET

Each country is working on the survey budget spreadsheet

### Tuesday, March 3, 2020

#### Session XV

8.00-10.00 SURVEY QUESTIONNAIRE (HIES ORIENTED) (*Michael SPC – power point presentation*)

Presentation of the outcomes of the last HIES experiment conducted in RMI and recommendations that have implication on HIES questionnaire design.

10:00 – 10:30 *Coffee Break*

#### Session XVI

10:30 – 12:00 STANDARD QUESTIONNAIRE (*Winston SPC – power point presentation*)

Standard MICS, HIES and LFS questionnaire are shared with the group and participants start to review and update the questionnaires to the context of their own country

12:00 - 1:00 *Lunch*

- 1:00 – 3:00    OPEN SESSION  
Opportunity to work in groups on specific aspects of the survey that needs more attention
- 3:00 - 3:30    *Coffee Break*
- 3:30 – 5:00    OPEN SESSION  
Opportunity to work in groups on specific aspects of the survey that needs more attention