2019 MAY PSMB MEETING

DOCUMENT Nº 4:

PROJECT TITLE: OPTIMISING HOUSEHOLD INCOME AND EXPENDITURE SURVEYS (HIES) IN THE PACIFIC REGION

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OVERVIEW

Household income and expenditure surveys (HIES) are conducted in all Pacific Island countries and territories (PICTs) with multiple objectives, including: i) updating national gross domestic product (GDP) estimates; ii) rebasing the consumer price index (CPI) to measure cost of living; iii) conducting poverty and nutrition analysis; iv) provide sociodemographic and economic data to form policy across multiple sectors; and v) to populate indicators, including contributing data to report against almost one-fifth of the indicators under the Pacific Sustainable Development Goals (SDG).

The regionally standardized HIES data collection method and associated instruments were developed under the guidance of a technical working group in 2011, however with technological advancement, changing consumption patterns and, in response to the increasing demand for high quality disaggregated data, the regionally standardized HIES methodology is no longer fit-for-purpose and needs revision. As such, a HIES experiment is being conducted in the Republic of the Marshall Islands (RMI) from June 2018 to April 2019 to test optimized methods to collect socioeconomic data. The results of the HIES experiment will guide recommendation for developing a new regionally standardized HIES data collection methodology in the Pacific region under the 2030 Sustainable Development Agenda.

THE EXPERIMENT

There are three main components to the experiment. The first component is testing the use of new technology in the form of using tablets to collect data through computer assisted personal interview (CAPI) and the potential use of new data backup protocols in small island states where internet connectivity is limited. The second is to test the inclusion of complementary survey modules to increase the production of complementary data through HIES so as to avoid the need for stand-alone surveys. The third component is to test new methodologies to collect consumption data through HIES. More detail on each component is provided below.

New technology

The RMI HIES experiment is testing the use of CAPI to collect HIES data. Given the complexity of the HIES questionnaire and the significant period of time that field teams spend in areas where internet connectivity and electrification is limited, it is necessary to test whether CAPI is an appropriate means for the capture of HIES data.

The experiment is testing the use of a satellite phone for data backup in remote island locations where there is no internet.

Complementary survey modules

In order to meet demand for more dynamic data and to eliminate the need to conduct stand-alone surveys, the below new survey modules are being tested for inclusion in the core HIES questionnaire.

   i. *Food away from home*: recall and diary-based modules are being tested to encourage more comprehensive reporting of food acquired and consumed away from the dwelling.
   ii. *Partakers*: recall and diary-based modules are being tested to capture partakers in meals in order to improve consumption estimates.
   iii. *Labour module*: newly designed module in accordance with the resolution concerning the International Classification of Status in Employment (ICSE-18).
   iv. *Food Insecurity Experience Scale (FIES)*: to measure experiences of moderate-to-severe food insecurity and to report against SDG indicator 2.1.2.
   v. *Shocks*: household exposure to shocks through adverse environmental, economic and social change.
   vi. *Disability*: addition of the Washington Group six questions to identify vulnerable populations.
   vii. *Improved modules*: enhanced health and fisheries modules and improved means to capture information to better estimate household consumption of fixed assets.

Diary versus recall

There are five experimental arms, which are used to determine the efficacy of collecting consumption data through diary and 7-day recall means. The experimental arms are described below.

i. *Recall CAPI*: household members are asked to recall if they acquired and consumed food and non-food items in the last seven days; they are asked the number of partakers in each meal in the last seven days; and they are asked if the household members acquired food away from home in the last seven days. These answers are all provided by the respondent and entered into the tables by the enumerators.

ii. *Bounded recall CAPI*: this is the same as Recall CAPI, however the enumerator visits the household seven days before conducting the recall interview to ask the household to try to remember what was acquired/consumed over the seven day period leading up to the interview.

iii. *Diary CAPI – high monitored*: household members are asked to keep a 14-day diary of all food and non-food items that the household acquired each day; they are also asked to record if they acquired and consumed food away from home; the enumerator will visit the household every second day to enter the diary data into the tablet and to ensure that the household is completing the diary comprehensively.

iv. *Diary PAPI – high monitored*: this is the same as *Diary CAPI – high monitored*, except the diary data is not entered into the tablet during the visit to the household; it is entered into a data entry system by the national statistical agency after each round; the enumerator will still visit the household every second day to ensure that the diary is being completed.

v. *Diary PAPI – low monitored*: this is the same as Diary PAPI – high monitored, however the enumerator will only visit the household to drop the diary off on day one, then pick up the first week diary on day seven and to drop the second week diary, then pick up the second week diary on day 14; this is a poorly managed diary without regular monitoring of the household to ensure the diary is being completed.

The results of the RMI HIES experiment are expected to guide the development of an updated regionally standardised HIES, generally answering the following questions:

i. Is CAPI an appropriate data capture means for HIES?
ii. Do the new survey modules produce the data required by the user?
iii. Does diary or recall produce more comprehensive consumption data and which implementation protocol will result in the production of high quality consumption data?

Field work for the RMI HIES Experiment finished in November and the results will be analysed and reported on until April 2019. It is at this time when conclusions will be made as to the optimal methodology for conducting HIES in the Pacific region. In drawing of the conclusion, all data applications (e.g., for national accounts, CPI, poverty, nutrition and food security) will be taken into consideration to ensure that the new HIES methodology continues to meet its multi-user needs.

RMI was selected as the location to conduct the HIES project as RMI is scheduled to conduct an official national HIES in 2019, so the HIES project will serve to build capacity of Economic Policy, Planning and Statistics Office (EPPSO) in conducting complex statistical collections in advance of the 2019 HIES. From a regional perspective, the geographical context of RMI will allow the testing of methods and technologies in remote island locations, which is key to determining field protocols in low-and-no connectivity environments, as well as a densely populated urban areas, such as in Ebeye.

OBJECTIVE AND OUTPUTS

The overall goal of HIES experiment is "To conduct a household income and expenditure survey experiment, under the normal conditions of conducting a national survey and in accordance to the field procedures, to produce data to determine the most efficient and effective HIES methodology and field implementation protocols that will generate high quality data to serve the HIES objective in RMI and the Pacific region".

The HIES project aims to address the following problems:

i. Uncertainty as to whether the current HIES method (Diary PAPI) in the Pacific is producing the most reliable data to serve HIES purposes;
ii. The feasibility of adopting new technology, through the use of tablets to collect data, to improve data quality and efficiency (data processing and quality, and reduced cost of collection) and defining appropriate data backup protocols and options for charging tablets in remote locations; and
iii. The opportunity to add new modules (e.g., labour market, food away from home, food insecurity experience scale, shocks, health and fisheries) to ensure that national, regional and global demands for data are fulfilled through HIES in order to eliminate the need to conduct stand-alone surveys to collect these data.

The key outputs for the HIES project are:

i. Raw database containing all data collected;
ii. Final clean database for analysis;
iii. Complementary data, including budget and field worker forms;
iv. Should it be collected, qualitative data from households and field teams on the challenges of implementing different HIES methodologies and field implementation protocols;
v. Analytical outputs that make recommendation for the HIES method and field implementation protocols to be implemented in the Pacific region; and
vi. Strengthened capacity of EPPSO and field staff in conducting HIES in preparation for the 2019 HIES.

ACKNOWLEDGEMENTS

ANNEXES

HIES PROJECT PLAN AND TIMELINE

Project timeline

Table 1: High level project plan (January 2018 to April 2019)

			2018												2019			
	Agency(ies)	Deliverable	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Phase 1: Planning and administration																		
Prepare, consult and finalise project document and budget	SPC, EPPSO, WB	Project plan and budget					■	■	■									
SPC-EPPSO MoU	SPC, EPPSO, WB	Executed MOU						■	■									
WB-EPPSO TORs	WB, EPPSO	Execited technical and financial proposal					■	■										
Government approval for plan and budget allocation	EPPSO	Budgetory approval from Gov-RMI					■	■										
Phase 2: Procurement																		
Procurement of goods and services	SPC	Goods delivered						■										
Recruitment and selection of Supervisors and Enumerators	EPPSO	Employment contracts executed						■										
Training organisation	EPPSO	Venue booked and goods/services ordered						■										
Flights	EPPSO	Service booked						■										
Local transportation	EPPSO	Service booked						■	■	■	■	■						
Phase 3: Pre enumeration																		
Questionnaire design	SPC	Questionnaire finalised	■	■	■	■	■	■										
Develop data capture systems (CAPI and PAPI)	SPC	Data capture systems finalised				■	■	■										
Prepare questionnaire manual	SPC	Questionnaire manual							■									
Prepare field work manual	SPC	Field work manual							■									
Prepare data entry/back up manual	SPC	Data entry / back up manual							■									
Listing/training preparation and technology set up	SPC, EPPSO	Technology set up							■									
Phase 4: Enumerators training																		
Majuro	SPC, EPPSO	Training completed							■	■								
Refresher training	SPC, EPPSO	Training completed									■							
Phase 5: Field operations																		
Majuro team	EPPSO	Data collected according to plan								■	■	■						
Kwajalein team	EPPSO	Data collected according to plan								■	■	■						
Outer Island team	EPPSO	Data collected according to plan								■	■	■						
Phase 6: Post listing																		
Data capture, cleaning/processing	SPC	Clean data set											■					
Data analysis	WB, UoW, SPC	Conclusions and recommendations for HIES method									■		■	■	■	■	■	■
Publication	UoW, SPC, WB	Scientific literature											■	■	■	■	■	■
Recommendation to PSMB	WB,SPC	PSMB publication													■			
Phase 7: Project management																		
Financial acquittal	EPPSO, WB	Financial report											■					
Payment of field staff	EPPSO	Complete field operations						■	■	■	■							
Payment of transportation	EPPSO	Complete field operations							■	■	■	■						
Monitoring and evaluation	EPPSO, SPC, WB	Project implemented according to budget and timeline						■	■	■	■	■	■	■	■	■	■	■

HIES project methodology

Three teams of survey staff will be deployed in the field in different locations, each team is made of:

- 1 Supervisor
- 5 Interviewers/enumerators

The fieldwork lasts for four rounds and each round is a 3-week period during which the team will stay in the same enumeration area to complete the desired number of interviews with households.

Within each team, each interviewer will use a different method/questionnaire as presented in the following table:

Table 2: Method used for each Survey Arm and number of visits to each household

	Collection	Questionnaires	Food / non food items	number of visits in each selected hh
Arm 1	CAPI	Standard modules	7 days recall	1
Arm 2	CAPI	Standard modules	2 weeks diary	7
Arm 3	PAPI	Standard modules	2 weeks diary	7
Arm 4	PAPI	Standard modules	2 weeks diary	3
Arm 5	CAPI	Standard modules	7 days recall (inc pre visit)	2

After each round, the interviewers will change and use another Survey Arm. At the end of the fieldwork, each interviewer will have used four different arms (out of the five) as shown in the below table.

Table 3: Enumerator arm rotation schedule

	Interviewer ID	Round 1	Round 2	Round 3	Round 4
		11-Jul to 31-Jul	6-Aug to 26-Aug	27-Aug to 16-Sep	17-Sep to 7-Oct
Team 1: Ebeye	11	Arm 1	Arm 2	Arm 3	Arm 4
	12	Arm 2	Arm 3	Arm 4	Arm 5
	13	Arm 3	Arm 4	Arm 5	Arm 1
	14	Arm 4	Arm 5	Arm 1	Arm 2
	15	Arm 5	Arm 1	Arm 2	Arm 3
		16-Jul to 3-Aug	7-Aug to 28-Aug	29-Aug to 16-Sep	19-Sep to 9-Oct
Team 2: Majuro	21	Arm 1	Arm 2	Arm 3	Arm 4
	22	Arm 2	Arm 3	Arm 4	Arm 5
	23	Arm 3	Arm 4	Arm 5	Arm 1
	24	Arm 4	Arm 5	Arm 1	Arm 2
	25	Arm 5	Arm 1	Arm 2	Arm 3
		16-Jul to 3-Aug	8-Aug to 27-Aug	29-Aug to 17-Sep	21-Sep to 10-Oct
Team 3: Outer islands	31	Arm 1	Arm 2	Arm 3	Arm 4
	32	Arm 2	Arm 3	Arm 4	Arm 5
	33	Arm 3	Arm 4	Arm 5	Arm 1
	34	Arm 4	Arm 5	Arm 1	Arm 2
	35	Arm 5	Arm 1	Arm 2	Arm 3

The below table shows the visit schedule for each Survey Arm. For each Survey Arm, there are a different number of households to interview. This was designed in order to allow for the work schedule required to successfully conduct each Survey Arm. The number of households per Survey Arm are:

- Arm 1: 18 households per team per round
- Arm 2: 6 households per team per round
- Arm 3: 6 households per team per round

- Arm 4: 18 households per team per round
- Arm 5: 18 households per team per round

Table 4: Visit schedule for each Survey Arm

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19
Arm 1	HH listing	Visit 1	Visit 1	Visit 1	Visit 1		Rest	Visit 1	Visit 1	Visit 1	Visit 1	Visit 1		Rest					
		HH1	HH3	HH5	HH7			HH9	HH11	HH13	HH15	HH17							
		HH2	HH4	HH6	HH8			HH10	HH12	HH14	HH16	HH18							
Arm 2	HH listing	Visit 1	Visit 1	Visit 2	Visit 2	Visit 3	Rest	Visit 3	Visit 4	Visit 4	Visit 5	Visit 5	Visit 6	Rest	Visit 6	Visit 7	Visit 7		
		HH19	HH22	HH19	HH22	HH19		HH22	HH19	HH22	HH19	HH22	HH19		HH22	HH19	HH22		
		HH20	HH23	HH20	HH23	HH20		HH23	HH20	HH23	HH20	HH23	HH20		HH23	HH20	HH23		
		HH21	HH24	HH21	HH24	HH21		HH24	HH21	HH24	HH21	HH24	HH21		HH24	HH21	HH24		
Arm 3	HH listing	Visit 1	Visit 1	Visit 2	Visit 2	Visit 3	Rest	Visit 3	Visit 4	Visit 4	Visit 5	Visit 5	Visit 6	Rest	Visit 6	Visit 7	Visit 7		
		HH25	HH28	HH25	HH28	HH25		HH28	HH25	HH28	HH25	HH28	HH25		HH28	HH25	HH28		
		HH26	HH29	HH26	HH29	HH26		HH29	HH26	HH29	HH26	HH29	HH26		HH29	HH26	HH29		
		HH27	HH30	HH27	HH30	HH27		HH30	HH27	HH30	HH27	HH30	HH27		HH30	HH27	HH30		
Arm 4	HH listing	Visit 1	Visit 1	Visit 1	Visit 1		Rest	Visit 2	Visit 2	Visit 2	Visit 2	Visit 2	Visit 2	Rest	Visit 2	Visit 3	Visit 3	Visit 3	Visit 3
		HH31	HH36	HH41	HH45			HH31	HH34	HH37	HH40	HH43	HH45		HH47	HH31	HH36	HH41	HH45
		HH32	HH37	HH42	HH46			HH32	HH35	HH38	HH41	HH44	HH46		HH48	HH32	HH37	HH42	HH46
		HH33	HH38	HH43	HH47			HH33	HH36	HH39	HH42					HH33	HH38	HH43	HH47
		HH34	HH39	HH44	HH48											HH34	HH39	HH44	HH48
		HH35	HH40													HH35	HH40		
Arm 5	HH listing	Visit 1	Visit 1	Visit 1	Visit 1	Visit 1	Rest	Visit 1	Visit 1	Visit 1	Visit 1			Rest					
		HH49	HH51	HH53	HH55	HH57		HH59	HH61	HH63	HH65								
		HH50	HH52	HH54	HH56	HH58		HH60	HH62	HH64	HH66								
								Visit 2	Visit 2	Visit 2	Visit 2	Visit 2			Visit 2	Visit 2	Visit 2	Visit 2	
								HH49	HH51	HH53	HH55	HH57			HH59	HH61	HH63	HH65	
								HH50	HH52	HH54	HH56	HH58			HH60	HH62	HH64	HH66	

Description of HIES project Survey Arms

Below is a description of the project arms. These are the different methods to collecting food acquisition/consumption information, which is one of the main aims of the HIES project.

The HIES can be broken down into two main components. The first component collects information on:

i. Demographic information about the household members (age, sex, education, health, physical challenges, communication, alcohol and tobacco use, employment (including income) and participation in fishing (including income and expenditure) and handicraft activities (including income and expenditure));

ii. Household information (dwelling characteristics, asset ownership and expenditure, household expenditure (construction/renovations, vehicles, travel, services and taxes, money given to other households, general household expenditure), money contributed to ceremonies, income from remittances, household food insecurity experiences, household shocks, livestock and agriculture participation and income/expenditure)

The first component is the same for all arms of the questionnaire. This is the core HIES module that collects general demographic information, general household information, and some information on individual and household income and expenditure.

The second component collects information on household acquisition of food through cash purchases, home production or gifts, and also non-durable items, such as soap, matches and other regular daily purchases. This component is not standard for all arms as we are testing different methods to best collect this information. The methods are:

i. *Recall CAPI*: household members are asked to recall if they acquired and consumed food and non-food items in the last 7 days; they are asked the number of partakers in each meal in the last 7 days; and they are asked if the household members acquired food away from home in the

last 7 days. These answers are all provided by the respondent and entered into the tables by the enumerators.

ii. *Diary CAPI – high monitored*: household members are asked to keep a 14-day diary of all food and non-food items that the household acquired each day; they are also asked to record if they acquired and consumed food away from home; the enumerator will visit the household every second day to enter the diary data into the tablet and to ensure that the household is completing the diary perfectly.

iii. *Diary PAPI – high monitored*: this is the same as Diary CAPI, except the diary data is not entered into the tablet during the visit to the household; it is entered into a data entry system by EPPSO after each round; the enumerator will still visit the household every second day to ensure that the diary is being completed.

iv. *Diary PAPI – low monitored*: this is the same as Diary PAPI enumerator, however the enumerator will only visit the household to drop the diary off on day 1, then pick up the first week diary on day 7 and drop the second week diary, then pick up the second week diary on day 14. This is a poorly managed diary without regular follow up with the household to ensure the diary is being completed.

v. *Bounded recall CAPI*: this is the same as Recall CAPI, however the enumerator will visit the household 7 days before conducting the Recall interview to ask the household to try to remember what was acquired/consumed over the next seven day period leading up to the interview.

A summary of these arms is provided below.

Arm 1: HIES module + recall CAPI
- The entire questionnaire in 1 or 2 visits, all on CAPI (no diary)
- 18 households per interviewer per round

Arm 2: HIES module + diary CAPI – high monitored
- Diary is dropped to the household during visit 1 and picked up in visit 7, and diary checks every other day
- Diary data is entered into the tablets (CAPI) during the visits
- The interviewer has 7 visits to complete all recall sections on CAPI
- 6 households per interviewer per round

Arm 3: HIES module + diary PAPI – high monitored
- Same as Arm 2 but diary is administered on paper questionnaire
- Paper questionnaire is entered into a data entry system by EPPSO after each round

Arm 4: HIES module + diary PAPI – low monitored
- Diary dropped to the household during in visit 1 and picked during visit 3 (i.e., no diary checks)
- Administered on paper
- Only 1 intermediate visit to complete all recall section on CAPI
- No diary monitoring
- 18 households per interviewer per round

Arm 5: HIES module + bounded recall CAPI
- 1 pre visit (visit 1) to inform the household members that they will be interviewed the next week about what they consumed over the coming 7 day period.
- All sections filled in visit 2 (7 days after visit 1) on CAPI (same as Arm 1, but with an early visit)
- 18 households per interviewer per round.

Table 5: Number of interview per round by arm and total staff required

		Households					Staff				
		Round1	Round2	Round3	Round4	Total	# inter-viewers	# super-visors	# re-serve	Data entry	Total
Team1	Arm1	18	18	18	18	72					
	Arm2	6	6	6	6	24					
	Arm3	6	6	6	6	24	5	1	1		7
	Arm4	18	18	18	18	72					
	Arm5	18	18	18	18	72					
Team2	Arm1	18	18	18	18	72					
	Arm2	6	6	6	6	24					
	Arm3	6	6	6	6	24	5	1	1		7
	Arm4	18	18	18	18	72					
	Arm5	18	18	18	18	72					
Team3	Arm1	18	18	18	18	72					
	Arm2	6	6	6	6	24					
	Arm3	6	6	6	6	24	5	1	1		7
	Arm4	18	18	18	18	72					
	Arm5	18	18	18	18	72					
Data entry										2	2
Total		198	198	198	198	792	15	3	3	2	23

In terms of data entry of the paper diaries (Arms 3 and 4), EPPSO will be responsible for this and each round should be entered as soon as it's completed. Questionnaire from Kwajalein and the Outer Islands will be shipped to Majuro after each round for data entry.