

Statistics for Development Division (SDD)

5th Regional Conference of Heads of Planning and Statistics (HOPS)

(Noumea, New Caledonia, 14-16 November 2017)

SPC/HOPS 2017/Session 4 – Information Paper 4

Original: English

SESSION 4: SDD'S CONTRIBUTION TO STATISTICAL COLLECTIONS IN TYPSS PHASE II AND FUTURE PLANS FOR TYPSS PHASE III

(Document presented by Secretariat)

EXECUTIVE SUMMARY

1. Statistical collections are an integral component of Phase II of the Ten Year Pacific Statistics Strategy (TYPSS) and the Statistics for Development Division (SDD) of the Pacific Community (SPC) has played a key role in achieving TYPSS objectives relating to statistical collections. This Information Paper documents the major achievements of SDD's Collection team over TYPSS Phase II, challenges and the way forward under TYPSS Phase III.
2. During TYPSS Phase II, SDD's Collection Team comprised of eight full time employees. Despite the Collection Team's name, the activities of the Collection Team contributed towards all phases of a statistical collection, from project planning through to data use, dissemination and drawing of policy implications.
3. The TYPSS Phase II objectives that the Collections Team contributed towards achieving include:
 - a. *Objective 1:* Pacific island countries and territories (PICTs) have the technical capacity (either in-house capacity or through timely accessible technical support), to manage and implement all core statistical collections, including key administrative databases, as required by national development plans, including national strategies for the development of statistics.
 - b. *Objective 2:* PICTs are producing the agreed core set of statistics across key sectors including but not restricted to economics, population, CRVS, education and health, as required by their national plans and agreed-upon regional and international reporting frameworks, with timely analysis and dissemination of results to national users.
 - c. *Objective 4:* National level statistic stakeholders are advised on an ongoing basis about emerging statistical tools and systems, processes for effective data analysis, communication and quality assurance and Pacific interaction and proposed responses to international statistical standards.
4. SDD's Collection Team's main achievements in terms of supporting TYPSS Phase II Objective 1 (technical support and building capacity in conducting statistical collections) are outlined below. The

achievements are separated by: i) technical assistance to support PICTs conducting statistical collections; and ii) other statistical development initiatives.

SDD'S COLLECTION TEAM TECHNICAL ASSISTANCE SUPPORT TO STATISTICAL COLLECTIONS

5. SDD provides technical assistance to support SPC's member countries to conduct national core statistical collections. The primary output from this activity is the preparation of a clean data set and a corresponding report. Whilst these outputs may seem to be limited given the associated investment required, the ultimate outcome is evidenced based decision making that results in the improvement of Pacific people's lives. Statistical collection data are used by policy makers and planners in multiple fields, including for SDG monitoring, social and economic planning and disaster risk management. These are the significant outputs that result from statistical collections.
6. SDD provides the following technical assistance to PICTs conducting statistical collections:
 - a. **Planning:** stakeholder engagement, collection planning and budgeting, and sample design.
 - b. **Cartography and household listing:** delineation of enumeration areas, household listing training (incl. use of GPS or tablets), delineation of EAs and production of field maps.
 - c. **Data capture:** questionnaire design, user engagement, selection of data capture technology and design of the data capture system.
 - d. **Field team training:** development of field schedule and questionnaire manuals, delivery of training on questionnaire completion, interview approaches, data verification checks and data entry and transfer.
 - e. **Field work management:** interim data quality assessment and field worker refresher training, monitoring of coverage during operations, financial monitoring support and achievement of collection project milestones.
 - f. **Data editing:** data concatenation and aggregation, recoding and encoding, quality assurance and tabulation.
 - g. **Analysis and reporting:** construction of aggregates and preparation of collection report;
 - h. **Collection documentation and preparation of the final data set:** collection documentation in the Pacific Data Catalogue, anonymization and preparation of final data set for dissemination.
 - i. **Data dissemination, use and capacity transfer:** preparation of thematic value added data dissemination products, technical notes and peer reviewed literature, geospatial dissemination (PopGIS), indicator population (National Minimum Development Indicators and Sustainable Development Goals) and capacity building of national statistics office in data use, interpretation and dissemination.

Population and housing census (PHC)

7. During TYPSS Phase II, SDD's collection team provided technical assistance to the following PHC: Fiji (2017); Kiribati (2015); Niue (2017); Palau, incl. post enumeration survey (2015); Tokelau (2016); Tonga (2016); Tuvalu (2017); Vanuatu (2016); and Samoa (2016).

Household income and expenditure survey (HIES)

8. During TYPSS Phase II, SDD provided technical assistance to the following HIES: Cook Islands (2016); Federated States of Micronesia (2014); French Polynesia (2016); Niue (2016); Palau (2014); Tokelau (2015); Tonga (2016); Tuvalu (2015). In addition to supporting implementation of the surveys in TYPSS Phase II, data processing and cleaning, and survey reporting, occurred for: Nauru (2012) and Solomon Islands (2013).

Demographic and health surveys (DHS), multiple indicator cluster surveys (MICS) and Disability surveys (DIS)

9. During TYPSS Phase II, SDD supported implementation of, and provided technical assistance, to the following DHS: Solomon Islands (2015) and Kiribati (2017). SDD is currently providing support to Tonga upcoming 2018 Disability survey as part of partnership framework with UNICEF.

Agricultural census/survey

10. During TYPSS Phase II and in collaboration with the Food and Agriculture Organisation of the United Nations (FAO) and the Land Resources Division (LRD) of SPC, SDD has provided technical assistance to the following agricultural collections: Tonga agricultural survey (2015); FSM agricultural census (2016); Solomon Islands agricultural survey (2017); Fiji Agriculture Quarterly Production Survey (2017); and Cooks Islands Agriculture Market Information System (2015).

SDD'S COLLECTION TEAM SUPPORT TO OTHER STATISTICAL DEVELOPMENT INITIATIVES

11. As mentioned, the Collection Team provides technical assistance to all components of a statistical collection, from planning through to data use and dissemination. In addition to this function, the Collection Team has contributed to an array of statistical development initiatives contributing to TYPSS Phase II objectives. These are described below.

Sustainable development goals (SDG)

12. SDD hosted the Pacific Headline Indicator workshop to negotiate and progress a Pacific region set of indicators from the global list, which were integrated into the 2030 Roadmap. SDD is a member of Pacific SDG Taskforce and Secretariat of Data Technical Working Group and is playing an ongoing role in the coordination of measurement and reporting of priority indicators.

Adoption of new technologies, methods and classifications

13. SDD, in collaboration with the World Bank and with support from the Statistical Institute for Asia the Pacific (SIAP) and funding sourced through the Global Strategy to Improve Agricultural and Rural Statistics (GS), had built its technical capacity in computer assisted personal interview technology (CAPI) – using tables for data collection – and in the use of Stata econometric software to provide more transparent data processing and analysis with increased opportunity for sharing of data processing and analysis methods with technical partners. These technologies have been adopted in numerous PICTs.
14. To facilitate poverty and nutrition analysis using HIES data, SDD in collaboration with FAO and the University of Wollongong, has developed a comprehensive list of food commodities that are common to the Pacific Islands and classified these in accordance to the United Nations Statistics Division Classification of Individual Consumption According to Purpose (COICOP). The use of the Pacific Consumption and Nutrition Database will increase the efficiency and accuracy of data capture and alleviate the significant burden of encoding commodity lists when preparing data sets for poverty and nutrition studies.
15. SDD, in collaboration with the International Labour Organisation (ILO), is trialling a new labour force module that accords to the review of the International Classification of Status in Employment (ICSE-93) for adoption as a resolution of the 20th International Conference of Labour Statisticians (ICLS). The trial will feedback information to ILO for future revision of labour force surveys and modules.
16. SDD hosted the Pacific Island countries 2020 round of census planning meeting in July 2015. A major output was the adoption of a common core set of census questions, including core and supplementary thematic modules, and development of a regionally standardised PHC questionnaire.

Regional statistical capacity building

17. SDD facilitated, or delivered, the following statistical capacity building initiatives:
 - a. *Data use and dissemination*: SDD facilitated multiple trainings that built the capacity of NSOs and line ministries in the use, interpretation and dissemination of statistical products;
 - b. *National data archive and microdata catalogue*: SDD, in collaboration with the Partnership in Statistics for Development in the 21st Century's (PARIS21), held a sub-regional training that enhanced capacity of NSOs to document and disseminate their data using the International Household Survey Network Metadata Editor and the National Data Archive catalogue.
 - c. *South-south*: SDD facilitated numerous south-south initiatives.
 - d. *Disability statistics*: in partnership with UNICEF and the Washington Group, SDD facilitated training of NSOs and line ministries in the compilation and use of disability statistics.
 - e. *Use of administrative data*: SDD contributed to regional workshops in analysis and reporting vital statistics and education statistics, including assessment of data completeness and coverage.
 - f. *QGIS (mapping software)*: SDD conducted two QGIS workshops and various in-country training to assist with geospatial data collection and dissemination activities.
 - g. *CAPI / Stata*: SDD, in collaboration with the World Bank and SIAP with funding support from GS, held a regional workshop that built capacity of NSOs and line natural resources ministries in: i) the use of Survey Solutions software to support the implementation of CAPI collections; and ii) the use of Stata econometric software for data processing and analysis.

Population projections

18. Mortality and fertility direct and indirect estimates have been derived from census and vitals collections, and assumptions from this fed into the 2016 revision of PICT population projections. Data dissemination products produced include the 2016 Population Poster, and the Population Projections by PICT spreadsheet. Country population estimates have been used for indicators that required population denominators, such as education participation and birth and death rates, as well as for monitoring growth rates.

Pacific Strategic Plan for Agricultural and Fisheries Statistics

19. SDD, in partnership with FAO, has developed P-SPAFS, which is a which is a ten-year plan that aims to guide the development of agricultural and fisheries statistics in the Pacific Small Island Developing States (SIDS) and to address unprecedented data demand for monitoring of SDGs. The plan will increase the quality of evidence-based policymaking through collaborative efforts of national governments and the donor community.

CHALLENGES: PAST, PRESENT AND FUTURE

20. This component focuses solely on statistical collections and the main challenges – past, present and future – surrounding meeting TYPSS Phase II objectives and perceived future challenges in statistical collections in the Pacific Region.
21. During TYPSS Phase II, the main challenges in achieving TYPSS objective 1, 2 and 4 are summarised below:
 - a. Under resourced NSOs and high staff turnover resulting in loss of institutional memory and capacity;

- b. Lag between statistical collections (often 10 years or more) resulting in limited ability of NSO to specialise and retain capacity in specific collections;
 - c. Rapid technological and methodological evolution and continuous changes in international standards and classifications requiring continual adaptation of system, methods and instruments;
 - d. Acknowledging the significant advances in the quality and availability of administrative data, there's still a lot of work to be done before it can replace core collections;
 - e. Data dissemination and use is hampered by an inefficient memorandum of understanding process that is burdensome to the NSO and data user;
 - f. Some collections not adopting regionally standardised or international best practice and classifications resulting in implementation of inefficient and non-comparable collections;
 - g. Optimised and integrated collection schedules are often not adhered to resulting in an inability to plan and coordinate partners in the provision of technical assistance; and
 - h. Lack of statistical collection plans that engage partners and delineate technical assistance provision.
22. These challenges provide significant justification for SDD to maintain capacity in statistical collections.
23. The current and future challenges in statistical collections are summarised below:
- a. Unprecedented demand for disaggregated statistics under the 2030 Sustainable Development Agenda, which are heavily dependent on census and survey;
 - b. SDD's reduced investment in Statistical Collections resulting in capacity gaps and overloading of already strained resources;
 - c. Multiple statistical collections planned (40+ in the next 5-years that are known of);
 - d. Call for regionally standardised and approved methods (by the proposed Methods Board); and
 - e. Continued technological and methodological advances, exemplified by the review of ISCE, current revision of COICOP and the planned HIES experiment requiring strong technical capacity supporting regional statistical collections.

WAY FORWARD

24. As a result of recent reviews of SDD, the Collections Team (now to be called the Census and Survey Technical Support) team will be made up of four full time employees, consisting of: a) one Collection Methods & Processes Advisor; two Data Processing & Systems Advisors; and one Economic Statistics & Microdata Specialist. Subject to securing funding, a Collection Methods & Processes Officer role will be established to specifically partner with UNICEF in disability related survey and data analytical work.
25. With funding support through the World Bank Trust Fund for Statistical Capacity Building project, a short-term Data Curator role will be established for a period of 18 to 24 months. This role will have very specific functions that will promote data liberalisation and associated policy development, and data acquisition, anonymization, documentation and metadata publication, which is a new function within SDD and one that will be highly complementary to increased data dissemination and curation.
26. In 2018, CSTC will have reduced human resources resulting in a greater need for prioritisation and partner engagement. There will be a refocus towards coordination of statistical collections and improving systems, processes and methods. CSTC will continue to provide technical support – as CSTC's core function – for PICTs conducting PHC and HIES. It will also continue to support Disability

Survey, Demographic and Health Survey (DHS), Disability Survey, Agriculture Census and Labour Force Survey via partnership and on a cost-recovery basis.

27. Despite this reduced human resource capacity and the challenges presented above, and in addition to continued provision of technical assistance to SPC's member countries in statistical collections, there are a number of exciting projects and statistical developments planned in the next 3-years. These are summarised below.

Partnerships in statistical collections

28. SDD has formal arrangements or plans to partner with international organisations in the conducting and development of statistical collections in the coming years, including:
 - a. *ILO*: SDD has entered into an memorandum of understanding (MOU) with ILO with the objective to: i) improve analysis of existing labour force (LF) data; ii) improve collection of LF data; strengthen capacity of PICs to conduct LF surveys; and iii) increase compilation, documentation and sharing of LF data.
 - b. *UNICEF*: SDD is progressing an agreement with UNICEF that will: i) support analysis of disability statistics; ii) improve collection of disability-related data; iii) support PICs to undertake MICS; and iv) populate disability-related indicators.
 - c. *World Bank*: see below.
 - d. *FAO*: as mentioned above, P-SPAFS has been developed and will form a framework to guide collaboration between FAO and SPC in building regional statistical capacity pertaining to agriculture, fisheries, food security and nutrition.
 - e. *UNFPA*: current discussions are underway in regards to partnering in the delivery of technical assistance in PHC and DHS.
 - f. *Academia*: SDD works closely with multiple academic institutions in the use of data for research and to draw policy implications for the benefit of the Pacific.

Improving Data Dissemination and Use in Pacific Islands Countries

29. The World Bank, through the Trust Fund for Statistical Capacity Building, is funding and overseeing a SDD implemented project that will lead to improved documentation and preservation of data sets, increased data use and dissemination through harmonisation and more significant data production through improved sample design and methods. The project has three components:
 - a. Establishment of the Pacific Community Data Archive;
 - b. Standardization of survey and census datasets (ex-post harmonization); and
 - c. Development of an optimized sampling strategy.

Household income and expenditure survey methodological experiment

30. SDD, in collaboration with the World Bank, FAO and ILO, will conduct a HIES experiment in the Marshall Islands, which will test the following:
 - a. The implication of moving from paper-based to tablet-based collections on HIES data users, including those for poverty, national accounts and consumer price index;
 - b. The implication of moving from collecting food acquisition data via a diary to using a recall-based collection method;
 - c. New modules, including a food away from home, labour force, non-farm enterprise, shocks, disability, use value of assets and non-standard units of measurement.

31. The results of the experiment will guide the future recommended regional HIES methodology and will give consideration to identifying methods that produce high quality data at a minimum cost.

Pathways project

32. Pathways is a HIES data use project being implemented by SPC in collaboration with WorldFish the University of Wollongong and FAO, administered by the Australian Centre for International Agricultural Research and with funding support from the Australian Government. The project aims to, among other fisheries management related areas, used HIES data to estimate per capita apparent consumption estimated of fish and seafood, prevalence of undernourishment and macro-and-micro nutrient availability estimates. The outcome of this research is to derive policies in support of improved food security in the region.
33. NSOs are gratefully acknowledged for giving permission to use HIES data for this work.

RECOMMENDATION

34. Heads of Statistics and Planning are recommended to note the activities conducted by the Collections Team during TYPSS Phase II, the challenges and the way forward.
35. Heads of Statistics and Planning are invited to acknowledge the significant financial support provided by donors, particularly the Department of Foreign Affairs and Trade.

PURPOSE

36. The purpose of this paper is to document SDD's Collection Team's main activities in TYPSS Phase II, the challenges faces and the way forward for TYPSS Phase III.
37. This Information Paper seeks HOPS to note the activities in TYPSS Phase II, the challenges faced and the plans for TYPSS Phase III, and to acknowledge the financial support provided by our development partners and, in particular, the Department of Foreign Affairs and Trade (DFAT).

SDD'S HUMAN RESOURCE CAPACITY IN STATISTICAL COLLECTIONS

38. During TYPSS Phase II, SDD's Collections Team comprised of eight full time employees, including: a) one Team Leader; b) one Census and Survey Officer; c) two Data Processing Specialists / Programmers; d) one Demographer / Social Statistician; e) one Economic Advisor; f) one Statistical Advisor; and g) one Geographic Information Systems Specialist. A number of university attachments worked with the Collections Team throughout TYPSS Phase 2, including five undergraduate students from the University of New Caledonia (UNC), a Geography Masters student from Paris Diderot University (Paris 7), a Demography Masters student from the University of the South Pacific (USP) and a Public Health Masters Student from the University of New South Wales (UNSW).
39. Under SDD's new structure and in response to the recommendation made during the Performance Improvement Framework process, the Collections Team will now be called the Census and Survey Technical Support (CSTS) team and will be made up of four full time employees, consisting of: a) one Collection Methods & Processes Advisor; two Data Processing & Systems Advisors; and one Economic Statistics & Microdata Specialist. Subject to securing funding, a Collection Methods & Processes Officer role will be established to specifically partner with UNICEF in disability related survey and data analytical work.
40. With funding support through the World Bank Trust Fund for Statistical Capacity Building project (see below), a short-term Data Curator role will be established for a period of 18 to 24 months. This role will have very specific functions that will promote data liberalisation and associated policy development, and data acquisition, anonymization, documentation and metadata publication, which is a new function within SDD and one that will be highly complementary to increased data dissemination and curation.
41. In 2018, CSTC will have reduced human resources resulting in a greater need for prioritisation and partner engagement. There will be a refocus towards coordination of statistical collections and improving systems, processes and methods. CSTC will continue to provide technical support – as CSTC's core function – for PICTs conducting Population and Housing Census (PHC) and Household Income and Expenditure Survey (HIES). It will also continue to support Disability Survey, Demographic and Health Survey (DHS), Disability Survey, Agriculture Census and Labour Force Survey via partnership and on a cost-recovery basis.

KEY ACHIEVEMENTS IN TYPSS PHASE 2 (2014 – 2017)

42. In this section, we summarise the Collections Team's main activities that have been undertaken in TYPSS Phase II. This section is broken up into two sections: i) Technical assistance and support to statistical collections; and ii) Other statistical development activities.

Technical assistance and support to statistical collections

A. Population and housing census (PHC)

Table 1: Censuses conducted in TYPSS Phase II

	ISO	Most recent	2014	2015	2016	2017
American Samoa	ASM	2010				
Cook Islands	COK	2016				
Fiji	FJI	2007				IP
FSM	FSM	2010				
Guam	GUM	2010				
Kiribati	KIR	2015				
RMI	MHL	2011				
CNMI	MNP	2010				
New Caledonia	NCL	2014				
Niue	NIU	2016				IP
Nauru	NRU	2012				
Pitcairn	PCN	2015				
Palau	PLW	2015				
PNG	PNG	2011				
French Polynesia	PYF	2012				IP
Solomon islands	SLB	2009				
Tokelau	TOK	2016				
Tonga	TON	2016				
Tuvalu	TUV	2012				IP
Vanuatu	VUT	2016				
Wallis & Futuna	WLF	2013				
Samoa	WSM	2016				

IP = in progress

43. SDD provides the following technical assistance and support in census implementation:
- Census cartography using GIS technology, delineation of Enumeration Areas, household listing, mapping of EAs, production of field maps and data dissemination through PopGIS.
 - Providing advice on data capture methodology - CAPI or PAPI – based on country needs, capacity and infrastructure.
 - Designing of questionnaire and the data entry application for both CAPI/PAPI, using the Pacific Standardized Census Model Questionnaire.
 - Provide training to field staff, design of training manuals and materials.
 - Data processing – data editing, recoding, data quality assurance and tabulation.
 - Data analysis and report writing.
 - Data documentation and archiving.

44. In TYPSS Phase II, SDD supported implementation of, and provided technical assistance, to the following censuses: Fiji (2017); Kiribati (2015); Niue (2017); Palau (incl. post enumeration survey) (2015); Tokelau (2016); Tonga (2016); Tuvalu (2017); Vanuatu (2016); and Samoa (2016).
45. SDD provides technical assistance to SPC member countries who conduct censuses and the primary output from this activity is the preparation of a clean data set and a corresponding report. Whilst these outputs may seem to be limited given the associated investment required to conduct a census, the ultimate outcome is evidenced based decision making that results in the improvement of Pacific people's lives. Census data is used by policy makers and planners in multiple fields, including SDG monitoring, social and economic planning and disaster risk management. These are the significant outputs that result from successfully conducting a census.

B. Household income and expenditure survey (HIES)

Table 2: HIES conducted in TYPSS Phase II

	ISO	Most recent	2014	2015	2016	2017
American Samoa	ASM	2015				
Cook Islands	COK	2005			IP	
Fiji	FJI	2013				
FSM	FSM	2014				
Guam	GUM					
Kiribati	KIR	2006				
RMI	MHL	2002				
CNMI	MNP	2005				
New Caledonia	NCL	2008				
Niue	NIU	2016			IP	
Nauru	NRU	2012				
Pitcairn	PCN					
Palau	PLW	2014				
PNG	PNG	2008				
French Polynesia	PYF	2000				
Solomon islands	SLB	2013				
Tokelau	TOK	2015				
Tonga	TON	2016				
Tuvalu	TUV	2010			IP	
Vanuatu	VUT	2010				
Wallis & Futuna	WLF	2005				
Samoa	WSM	2013				

IP = in progress

46. SDD, with support from the NSO, provides the following technical assistance to support HIES implementation:
 - a. Survey planning, sample design and field plan, budgeting, resource mobilization and procurement.
 - b. Providing well tested standardised survey instruments, which adhere to international best practice (questionnaire, classifications, manuals, data capture system and data processing).
 - c. Survey cartography, household listing (incl. the use of GPS) and mapping field schedules.
 - d. Questionnaire testing and implementation of the data capture system, training of field workers, interim data reviews and refresher training and survey/project management.
 - e. Data processing and cleaning.
 - f. Survey documentation and reporting, and data analysis, archiving and dissemination.

47. In TYPSS Phase II, SDD supported implementation of, and provided technical assistance to, the following HIESs: Cook Islands (2016); Federated States of Micronesia (2014); French Polynesia (2016); Niue (2016); Palau (2014); Tokelau (2015); Tonga (2016); Tuvalu (2015). In addition to supporting implementation of the surveys in TYPSS Phase II, data processing and cleaning, and survey reporting, occurred for: Nauru (2012) and Solomon Islands (2013).
48. SDD provides technical assistance to SPC member countries who conduct HIES and the primary output from this activity is the preparation of a clean data set and a corresponding survey report. Whilst these outputs may seem to be limited given the associated investment required to conduct a HIES, there are many specific users of HIES for which the survey is tailored to serve, including:
 - a. National accountants who use HIES data to update the household component of gross domestic product (GDP) in the system of national accounts;
 - b. Economic statisticians who use HIES data to rebase the consumer price index (CPI); and
 - c. Poverty analysts who use HIES data to derive the national poverty line and to estimate prevalence of poverty.

The ultimate outcome of HIES is evidenced based decision making that results in the improvement of Pacific people's lives. In addition to the above, HIES data is used by policy makers and planners in multiple fields, including SDG monitoring, nutrition and food security analysis, and social and economic planning. These are the significant outputs that result from successfully conducting a HIES.

C. Demographic and health surveys (DHS), multiple indicator cluster surveys (MICS) and Disability surveys (DIS)

Table 3: DHS, MICS and Disability surveys conducted in TYPSS Phase II

	ISO	Most recent	2014	2015	2016	2017
American Samoa	ASM					
Cook Islands	COK					
Fiji	FJI					
FSM	FSM					
Guam	GUM					
Kiribati	KIR	2009				DHS-IP
RMI	MHL	2007				NUS
CNMI	MNP					
New Caledonia	NCL					
Niue	NIU					
Nauru	NRU	2007				
Pitcairn	PCN					
Palau	PLW					DIS-IP
PNG	PNG	2006			DHS-IP	
French Polynesia	PYF					
Solomon islands	SLB	2015		DHS		
Tokelau	TOK					
Tonga	TON	2012				
Tuvalu	TUV	2007				
Vanuatu	VUT	2013				
Wallis & Futuna	WLF	2014	DHS			
Samoa	WSM					

IP: in progress

NUS: nutrition survey

49. SDD provides the following technical assistance and support to DHS/MICS/DIS:
 - a. Survey planning, sample design and field plan, budgeting, resource mobilization and procurement.
 - b. Questionnaire design, developing of training manuals and other well tested standardised survey instruments, which adhere to international best practice.
 - c. Survey cartography, household listing and production of field maps.
 - d. Questionnaire testing and implementation of the data capture system and training of field workers.
 - e. Support data processing and cleaning in collaboration with MACRO (if DHS).
 - f. Survey documentation and reporting, and data analysis, archiving and dissemination.
50. In TYPSS Phase II, SDD supported implementation of, and provided technical assistance, to the following DHSs: Solomon Islands (2015) and Kiribati (2017). SDD is also providing support to Tonga upcoming 2018 Disability survey in the following areas as part of partnership framework with UNICEF:
 - a. Survey planning, budgeting, resource mobilisation and field operational plans;
 - b. Questionnaire development and training of fieldworkers;
 - c. Data processing, editing, cleaning, analysis and dissemination; and
 - d. Survey documentation.
51. As part of capacity building for NSO staff and other users in the analysis and interpretation of DHS data, SDD with the support from Solomon Islands NSO conducted a DHS Report Analysis Workshop and a Dissemination workshop in 2016 following the completion of their DHS.
52. An efficient and complementary activity has been the integration of the Washington Group (WG) Short Set of Disability Questions in DHS and Census, which has added opportunity for longitudinal analysis. The Short Set is also proposed to be integrated into the regionally standardised HIES questionnaire. In 2015, Kiribati and Palau adopted the module in their census and collected information related to disability. The Disability Analysis workshop was jointly conducted by UNICEF and SDD in these two countries after the completion of their census.
53. SDD provides technical assistance to SPC member countries who conduct DHS, MICS and disability surveys and the primary output from this activity is the preparation of a clean data set and corresponding report. Whilst these outputs may seem to be limited given the associated investment required to conduct such a survey, the ultimate outcome is evidenced based decision making that results in the improvement of Pacific people's lives. These data are used by policy makers and planners in multiple fields, including SDG monitoring and social and economic planning. These are the significant outputs that result from successfully conducting such a survey.

D. Agricultural census/survey

54. In collaboration with the Food and Agriculture Organisation of the United Nations (FAO) and the Land Resources Division (LRD) of SPC, SDD has provided technical assistance to the following agricultural collections:
 - a. Tonga agricultural survey (2015): questionnaire design; design of the data capture system in CSPro and training of data entry operations; data editing and tabulation.
 - b. FSM agricultural census (2016): questionnaire design; design of the data capture system in CSPro and training of data entry operations.

- c. Solomon Islands agricultural survey (2017): sample design, selection, budget and field operation plan; development of the data entry system and training of Supervisors; data editing and cleaning (in progress), and assigning sampling weights; and tabulation report (in progress).
- d. Fiji Agriculture Quarterly Production Survey (2017): questionnaire design in Survey Solutions (CAPI); training of field officers in the use of tablets for data collection; and trial of collection in a province. This was a MFAT funded south-south collaboration.
- e. Cooks Islands Agriculture Market Information System (2015): training in the design and implementation of a computer assisted personal interview (CAPI) data capture system (CSPRO) to increase efficiency between data collection and dissemination.

Other statistical development activities

E. Sustainable Development Goals

- F. The Pacific Headline Indicator workshop was held in Noumea in 2017 and brought together Pacific Statistics Standing Committee (PSSC) members, technical agencies, donors and sector specialists to negotiate and progress a Pacific region set of indicators from the global list. This set of indicators was subsequently discussed at the Pacific SDG Taskforce and integrated into the 2030 Roadmap.
- G. Member of Pacific SDG Taskforce and Secretariat of Data Technical Working Group: SDD is playing an ongoing role in the co-ordination of measurement and reporting of priority indicators.

H. New technology: Computer assisted personal interview and Stata

- 55. During TYPSS Phase II, SDD has provided technical assistance to implement CAPI collections. Tonga and Vanuatu have implemented CAPI census and Fiji and Tuvalu are currently implementing CAPI agricultural survey and census respectively. The HIES experiment will help to determine the benefit of moving to CAPI and the implication (mode effect) on poverty analysis of moving from a paper-based (PAPI) collection to a CAPI-based collection. SDD has technical capacity in CSPRO CAPI applications, however we've primarily been using Survey Solutions software, which was developed by the World Bank who are gratefully recognised for their integral role in building SDD's capacity with funding support from the Global Strategy for Improving Agricultural and Rural Statistics (GS) and the Statistical Institute for Asia and the Pacific (SIAP).
- 56. SDD has established itself as a technical assistance provider in the implementation of CAPI collections so that PICTs can take advantage of the benefits. These are summarised as: improved data quality achieved through in-built validation and consistency checks and through real-time data transfer and supervisor verification; improved field management through software live status feedbacks; cost neutral with PAPI with opportunity to achieve economies of scale through spreading the investment in tablets over multiple collections; integrated GIS and audio-visual functionality; elimination of the need for paper to electronic data entry eliminating cost and potential for error during this process; faster data processing and preparation of the data set.
- 57. To complement the CAPI initiative and in response to formal and informal feedback on the need for SDD to be more transparent in its data processing and aggregation methodologies, SDD is using Stata econometric software to process, analyse and tabulate census and survey data. Capacity was built with assistance from the World Bank. Whilst SDD has maintained its capacity in the use of CSPRO to capture, process, analyse and tabulate data, there are many benefits of using Stata. These are: more commonly used software increasing transparency in data processing; opportunity to share methods with NSO and technical partners to share methods and obtain technical support (capacity building and sharing of best practice); use of a powerful data processing system that reduces potential for error.

I. Capacity building and data use

Data use and dissemination training and production of data dissemination products

58. Delivered in:
 - a. Palau (2016): use of census and HIES data;
 - b. FSM: use of HIES data (2016) and dissemination of HIES data (2017);
 - c. Solomon Islands (2016): use and dissemination of DHS data; and
 - d. Solomon Islands (2017): use and dissemination of HIES data.
59. Funding for the Palau, FSM and Solomon Islands (HIES) training was provided through ACIAR project FIS/2015/031 and ACIAR and the Australian Government are gratefully acknowledged.
60. Through the above trainings and as part of the Collection Team's core function, numerous data dissemination products have been developed. These include:
 - a. Nauru 2012 HIES: agriculture, fisheries, ICT and health fact sheets.
 - b. Solomon Islands 2013 HIES: household income and expenditure patterns fact sheet and 15 sectoral-specific posters.
 - c. FSM 2013/14 HIES: 9 fact sheets and 13 sectoral-specific posters.
 - d. Palau 2014 HIES: Palau world health day poster.
 - e. Tonga 2015/16 HIES main figure poster (for the World Statistics Day).
 - f. Solomon Islands 2015 DHS: 12 fact sheets and 12 posters.

Microdata Documentation and Dissemination training

61. Through the Partnership in Statistics for Development in the 21st Century (PARIS21), a 5-day workshop on Microdata Documentation and Dissemination was conducted in July 2016. The workshop was designed to assist NSOs in the region to fully document and disseminate their census, survey and administrative data using the International Household Survey Network's (IHSN) Metadata Editor and the National Data Archive catalogue (NADA). The workshop was aligned with TYPSS Phase 2 and funded under a grant from the Australian Government.
62. The main objectives of the regional workshop were:
 - a. To strengthen Pacific countries' capacity in microdata documentation through the use of the IHSN Metadata Editor to document censuses, surveys and administrative data using the Data Documentation Initiative (DDI) and Dublin Core (DCMI) standards.
 - b. Manage and maintain a regional microdata catalogue using the current SPC NADA platform.
 - c. Catalogue surveys using data processing software, such as CPro and Survey Solutions.
 - d. Manage maintenance issues with limited resources and introduction to managing citations.
63. Seven countries participated in the workshop – Tonga, Tuvalu, Solomon, Vanuatu, Northern Marianas, Cooks and Palau. Geoffrey Greenwell, the Technical Programme Coordinator from PARIS21 conducted the training with assistance from SDD.
64. The training was beneficial as countries are able to document their census and survey data during the training and upload to NADA.

Computer assisted personal interview and econometric software use course

65. A Sub-Regional Training Course on Computer Assisted Personal Interviewing (CAPI) for surveys/censuses and use of Stata for survey data analysis was conducted by the Statistical Institute for Asia and the Pacific (SIAP) in collaboration with SDD and the World Bank. This was held in March/April 2017.

66. The workshop was conducted through the Global Strategy to Improve Agricultural and Rural Statistics (GSARS) and aimed to significantly increase the availability and quality of agricultural and rural statistics, produced by a sustainable agricultural statistical system with appropriate institutional, human and financial capacity.
67. The Asia-Pacific Regional Action Plan for the Global Strategy (RAP) recognized the need for adopting efficient and cost effective technologies in the collection and compilation of agricultural and rural statistics whose timeliness is critical in policy making.
68. This workshop was divided into two segments involving data collection using CAPI and data analysis using Stata based on the data collected from using Survey Solutions software. This structure exposed participants to link data collection using CAPI and analysis with Stata as sequential activities in the statistical production process.
69. The training course responded to the need of producing timely statistics as it aims to build the capacity of statistical agencies through the adoption of new technologies for data collection and production of global minimum core data items.
70. From SDD's point of view, this was a good opportunity to introduce countries and participants to CAPI technology and Stata software to fully compliment their data processing capacity. Most countries mainly use CSPro for their processing and this broadens their knowledge and skills to use other software to compliment what they are currently using.
71. Experts from the World Bank conducted the training with support from SDD and SIAP.
72. Countries who have been involved in using CAPI or are intending to use the technology were invited to nominate two participants each. Vanuatu Statistics Office paid for an extra two staff to attend.
73. Knowledge and skills gained from the workshop significantly developed and improved capacity in countries where they have used the CAPI technology for other surveys and also introduced the software to other line ministries and organisations.
74. Countries invited were Cooks, Fiji, Kiribati, Samoa, Tonga, Tuvalu and Vanuatu.

Civil registration and vital statistics (CRVS)

75. Contribution to regional training workshops in analysis of vital statistics and assessment of data completeness and coverage.

Education management information system (EMIS)

76. Data analysis and report writing trainings have been delivered in education statistics in: sub-regional workshop (2016); and Vanuatu (2017).

QGIS (mapping software) training

77. SDD conducted two QGIS workshops and various in-country training for 20 people to assist with data collection and dissemination activities. SDD also produced a manual with tutorial material titled "QGIS for Censuses, Surveys, and Analysis".

Disability data collection and use

78. In responding to existing gaps in disability statistics across the Pacific as highlighted in the HOPS 2013 Information Paper 9.5 by WHO and UNICEF, SDD had been working closely with other partners (UNICEF, WG, PDF) to support the collection and compiling of disability statistics. The first step that SDD took was toward standardising the collection of disability data. SDD had worked closely with NSOs to support and to ensure the inclusion of the WG Short Set of questions on functioning in the

census questionnaire for those countries conducting their census in the 2020 census round such as Kiribati, Palau, Cook Islands and Tonga. In mid-2016, SDD in collaborations with WG, UNICEF organised a first implementing workshop on disability statistics. The workshop was conducted by WG with participants from NSOs, National Disability organisations, PDF and other stakeholders. In 2017, SDD in partnership with UNICEF conducted the disability analysis workshop in Kiribati and Palau in support to the analysis of disability data collected in the census in both countries.

South-south exchange

79. In 2016 Tonga Department of Statistics (TDOS) conducted a CAPI PHC and, as such, developed capacity in implementation of CAPI collections. Numerous lessons were learnt by TDOS and given Tuvalu's and Fiji's plans to conduct CAPI census and agriculture survey, respectively, a funding opportunity was identified (thanks to the New Zealand Aid Programme) where a CAPI expert from TDOS facilitated conducting of each respective statistical collection. In addition to committing staff time, TDOS kindly donated tablets that were used in their 2016 PHC. SDD hopes to identify additional opportunities to facilitate south-south exchange.

J. Population projections

80. Mortality and fertility direct and indirect estimates have been derived from census and vitals collections, and assumptions from this fed into the 2016 revision of PICT population projections.
81. Data dissemination products produced include the 2016 Population Poster, and the Population Projections by PICT spreadsheet.
82. Country population estimates have been used for indicators that required population denominators, such as education participation and birth and death rates, as well as for monitoring growth rates.

K. Pacific Strategic Plan for Agricultural and Fisheries Statistics (P-SPAFS)

83. SDD, in collaboration with FAO and LRD and with funding support through the European Union-supported Intra ACP Pacific Agriculture Policy Project has developed P-SPAFS, which is a ten-year plan that aims to guide the development of agricultural and fisheries statistics in the Pacific Small Island Developing States (SIDS) and to address unprecedented data demand for monitoring of the Sustainable Development Goals (SDGs). The plan will thereby increase the quality of evidence-based policymaking through collaborative efforts of national governments and the donor community.
84. For further detail, refer to HOPS Working Paper 7.

L. Pacific Consumption and Nutrition Database

85. To facilitate poverty and nutrition analysis using HIES data, SDD, in collaboration with FAO and the University of Wollongong, has developed a comprehensive list of food commodities that are common to the Pacific Islands and classified these in accordance to the United Nations Statistics Division Classification of Individual Consumption According to Purpose (COICOP).
86. The food database is recommended for use in all surveys that collect food acquisition/consumption information, including HIES, as it includes over 850 unique food items, each with a corresponding edible portion and the value derived from consuming 100 gram portion size for 23 macro-and-micro nutrients.
87. The database has classified COICOP Divisions 1 (Food and Non-alcoholic beverages) and 2 (Alcohol, Tobacco and Narcotics) in their raw form and has also developed a component that will support analysis of caloric and nutrient acquisition through consumption of food away from home by including the nutrient values for the consumption of cooked portions of these food items. Additionally, COICOP Group 11.1 consists of a comprehensive list of typical meals found at

restaurants and take-away venues in the Pacific to facilitate estimates of caloric and nutrient acquisition through these increasingly significant food and beverage outlets.

88. The use of the Pacific Consumption and Nutrition Database will increase the efficiency and accuracy of data capture and alleviate the significant burden of encoding commodity lists when preparing data sets for poverty and nutrition studies.

M. 2020 World Round of Population and Housing Censuses (PHC)

89. The Pacific Island countries census planning meeting (International recommendations/standards, contemporary technologies and regional cooperation) was held in July 2015. 27 representatives from Pacific NSOs and technical partner agencies participated. The meeting objectives surrounded:
 - a. improving the quality of census statistics, including comparability and speedy release of data;
 - b. how best to incorporate key data from users; and
 - c. how technology can assist and improve data collection and dissemination.
90. The meeting themes included:
 - a. Planning: review of United Nations Principles and Recommendations for PHC; and quality assurance.
 - b. Content: development of the 2020 Pacific Core set of PHC questions.
 - c. Geography and contemporary technologies: cartography; and data collection.
 - d. Outputs and use: products; thematic use; geospatial data.
 - e. Governance and rules of engagement: partnership in conducting census; memorandum of understanding.
91. A major output was the adoption of a common core set of census questions, including core and supplementary thematic modules, and development of a regionally standardised PHC questionnaire. This questionnaire has been used (in both PAPI and CAPI form) by PICs conducting census since the meeting.

CHALLENGES: PAST, PRESENT AND FUTURE

N. Development and use of administrative data sets

92. Initial investigations into the potential for data linkage were done in 2017, for example matching individual student enrolments with the corresponding census record. The Pacific countries present particular challenges due to name structures and more work needs to be done to be able to use probabilistic matching techniques.
93. Greater use of administrative data was recognised in the TYPSS review.

O. Planning and coordination between countries and development partners

94. Unplanned and last minute statistical collections, often driven by funding rather than following a planned collection cycle, result in an inefficient allocation of resources and potentially undermines data quality and comparability. Conducting unplanned statistical collections creates challenges for technical assistance providers as they require urgent reallocation of resources and it limits opportunity to plan, mobilise resources and coordinate technical assistance activities among partners.
95. To avoid this, there is a need for a statistical collection co-ordinating mechanism that aligns collection activities conducted by PICTs with work plans and funding cycles of technical assistance providers

and donors. There are significant advantages to establishing a well-planned integrated statistical collection cycle, which are described in Working Paper 6.

96. In consideration of the reduced resource allocation of the CSTC in 2018, countries and development partners are encouraged to partnership in the proposed 5-year Regional Plan for Statistical Collections to ensure collections are able to obtain technical assistance from SDD and that resources can be mobilised and planned to support the collection.

P. Following international standards and technical partner engagement

97. Following international recommendations and best practises facilitates obtaining technical support from international partners and data comparability between countries and over time. It also increases the efficiency of implementing collections and cleaning and using data.
98. Best practice recommends that questionnaires are reviewed by the relevant partner. These modules and/or questionnaire include:
- a. International Labour Organisation (ILO) for labour force related collections;
 - b. The World Bank for the collection of food items and their quantities (including food away from home);
 - c. United Nation Educational, Scientific and Cultural Organisation (UNESCO) for education related collections;
 - d. International Telecommunication Union (ITU) for the ICT related collections;
 - e. Food and Agriculture Organisation of the United Nations (FAO) for food security and agricultural collections (incl. food away from home, in partnership with the World Bank); and
 - f. The Washington Group for disability related collections.
99. All census and survey outputs are published in line with the international classification, including:
- a. Classification of Individual Consumption according to Purpose (COICOP), implemented by the United Nations Statistics Division and used in HIES to classify household consumption expenditure on all goods and services.
 - b. International Standard Industrial Classification of all economic activities (ISIC revision 4), implemented by the United Nations Statistics Division.
 - c. International Standard Classification of Occupation (ISCO), implemented by ILO.

Q. Policy linkages

100. How to make the census/survey data usable and efficient at the government level for development plan and policy decision? The information tends to stay in the reports and microdata housed by the NSO with insufficient dissemination. The sequence of collection projects do not allow the collection team to spend much time on dissemination.
101. SDD's future plan is to emphasise data dissemination through:
- a. the production of sectoral fact sheets (education, health, ICT & transport, agriculture, fisheries) published in addition to the survey/census report that target specific relevant audience; and
 - b. data dissemination workshop involving participants from NSO and line ministries, with sectoral focus.

R. Capacity drain and constraints of NSOs

102. Small NSOs, high staff turnover, evolving technology, methods and classifications, and the long period between collections, create challenges in building specialised capacity in statistical collections

in many NSOs in the Pacific region. There are numerous cases where statistical capacity exists within an NSO and this is indicative of achievement of TYPSS Phase II Objective 1, however the Pacific region is made up of 22 PICTs and some have very small populations and small NSOs required to undertake multiple competing tasks.

103. SDD's Business plan proposes that SDD's technical assistance in conducting national statistical collections is tiered whereby larger NSOs (or NSOs that have greater capacity) are provided "hands-off" technical support and where small NSOs (or NSOs that have constrained capacity) are provided more comprehensive technical assistance. Whilst this makes sense, there remains a strong role for SDD to continue to provide best practice methodological support to all NSOs in the region.
104. The ever growing demand on NSOs to produce core data items needs to be recognised and, in the case of small NSOs, the reality is that their capacity is limited. Staff turnover and conducting irregular statistical collections (e.g., PHC, HIES, DHS) inevitably results in capacity drain and inability to develop survey specialisation. In order to achieve the goal of producing timely and reliable statistics, which conform to international best practice, there will be a need for a regional hub, such as SDD, to provide technical assistance in conducting statistical collections to the Pacific region.

S. Data access and dissemination

105. There's increasing demand among line ministries, development partners and donors to access census and survey microdata in order to derive data informed policy implications for the benefit of the Pacific people. This demand is currently being met through execution of cumbersome and inefficient memorandums of understanding between the NSO and data user.
106. Whilst data access is often granted, the current process is inefficient and is a burden on the Government Statistician and the data user. There are also multiple cases where data access is not granted for unknown reasons (i.e., no response to the request). Due to the cumbersome nature of the current process for gaining access to unit-record data sets, anecdotal evidence suggests that data users are discouraged and the data are, therefore, not used to their full extent.
107. SDD stands ready to facilitate the dissemination of anonymised unit-record data upon instruction of the Government Statistician, however we respect and adhere to the current process and recognise that the data are owned by the NSO. SDD is regularly requested to facilitate data access (i.e., as the middle man between the NSO and the user) and the current process strains our resources and, where data access is not provided, it reflects badly on SDD.
108. With the increasing call for data dissemination and use, strategizing to overcome the data access and dissemination challenges presented herein will increase data use, which will be translated into evidence based policy that will benefit the Pacific.

T. Sustainable development goals (SDGs)

109. Populating the indicators under the SDGs call for highly disaggregated data, which are heavily dependent on census and survey data. For example, 95 of the indicators, distributed among 14 of the 17 goals, require high-quality disaggregated population data generated from census; and of the 231 SGD indicators, 71 indicators are household based and mainly informed through survey data.
110. This unprecedented demand for statistics presents challenges and opportunities for statistical collections in the Pacific region. For PICTs to meet their commitment to report against SGS and other core national and regional indicators, there is a need for investment and partnership in conducting statistical collections. The preparation of a 5-Year Regional Plan for Statistical Collections presents an opportunity for coordination of stakeholders and mobilisation of resources to ensure that commitments made under the 2030 Sustainable Development Agenda are met (ref: Working Paper 6).

WAY FORWARD (TYPSS PHASE III)

TECHNICAL ASSISTANCE AND SUPPORT TO STATISTICAL COLLECTIONS

U. Core function is census and HIES technical assistance

111. SDD's Business Plan (2018-2020) states that SDD will maintain its core function in the provision of technical assistance to PICTs conducting PHC and HIES. It will also provide TA to other statistical collections (e.g., DHS, MICS, Disability, LFS and agricultural census), however this will be on a cost recovery basis.

V. Demographic analysis / reporting

112. SDD will continue to assist countries in the analysis and interpretation of census data, including the generation of key demographic and development indicators and other products, such as factsheets on key theme areas from the census.

W. Census: planned upcoming TA

113. SDD and UNFPA are proposing to provide technical assistance to PICTs conducting PHC (and DHS) under partnership arrangements, which take advantage of each respective agency's comparative advantage. This partnership will facilitate resource mobilisation and planning for conducting of census and will ultimately lead to more efficient and coordinated provision of technical assistance, which will result in improved implementation of PHC and production of quality data.
114. The upcoming censuses in TYPSS Phase III (2018 to 2020) include: American Samoa (2020); Northern Mariana Islands (2020); Federated States of Micronesia (2020); Guam (2020); Kiribati (2020); Nauru (2018); Palau (2020); Papua New Guinea (2020); Marshall Islands (2019); Solomon Islands (2019); Wallis and Futuna (2018).
115. Considering that 11 PHCs are scheduled over the next 3-years, there's a need for good coordination and planning amongst NSOs, SDD, UNFPA, other development partners and donors. The successful conducting of these censuses will be dependent on good planning, coordination and partnership and SDD's technical assistance provision will call on PICTs to adopt regionally standardised methods and instruments. We also recommend that PICTs adopt an optimised and integrated core statistical collections schedule, which begins with PHC (to establish a master sampling frame for subsequent surveys) and is followed by priority surveys. This takes advantage of recently updated population estimates and household listings and is deemed have significant advantages, including financial and data quality/integration.

X. HIES: planned upcoming TA

116. SDD will continue to provide TA to PICTs who conduct HIES and this will be in collaboration and with technical oversight from the World Bank. The HIES experiment (see below) will guide future methodological advances, including the adoption of new technology, and questionnaire modules and approaches.
117. The upcoming HIESs in TYPSS Phase III (2018 to 2020) include: Federated States of Micronesia (2018); Kiribati (2018); Marshall Islands (2018); Samoa (2018); Vanuatu (2018); and Wallis and Futuna (2019).
118. SDD's capacity to support these surveys is dependent on the implementing PICT adopting regionally standardised methods and instruments. Until the results of the HIES experiment and associated recommendation are available, we recommend that PICTs adopt the regionally standardised PAPI instruments and methods as this is a tried and tested method that will product comparable results. Furthermore, PICTs can take advantage of instruments that have been specifically designed for the regionally standardised HIES method.

119. PICTs conducting HIES are recommended to adopt regional and international classifications, including the COICOP that is linked to the Pacific Consumption and Nutrition Database.

120. Disability/MICS: planned TA

121. The partnership framework plan between UNICEF and SPC on disability statistics and childhood include the following technical assistance and support:
- a. PICTs in the analysis of disability statistics collected in their census using the disability module from the Washington Group (WG) short set of questions;
 - b. improved collection of disability data through providing further support in the training of census/survey enumerators focusing on the use of the WG short set of questions on functioning, to ensure concepts and guidelines are been followed correctly during enumeration;
 - c. partnership with UNICEF MICS team to support member countries planning to undertake MICS;
 - d. Tonga Disability Survey 2018; and
 - e. develop disability theme in SDD PRISM, POPGIS database and other products for users of disability statistics.

Other statistical development activities

Y. Partnerships

122. SDD has formal arrangements or plans to partner with international organisations in the conducting and development of statistical collections in the coming years, including:
- a. ILO: SDD has entered into an memorandum of understanding (MOU) with ILO with the objective to: i) improve analysis of existing labour force (LF) data; ii) improve collection of LF data; strengthen capacity of PICs to conduct LF surveys; and iii) increase compilation, documentation and sharing of LF data.
 - b. UNICEF: SDD is progressing an agreement with UNICEF that will: i) support analysis of disability statistics; ii) improve collection of disability-related data; iii) support PICs to undertake MICS; and iv) populate disability-related indicators.
 - c. World Bank: see below.
 - d. FAO: as mentioned above, P-SPAFS has been developed and will form a framework to guide collaboration between FAO and SPC in building regional statistical capacity pertaining to agriculture, fisheries, food security and nutrition.
 - e. UNFPA: current discussions are underway in regards to partnering in the delivery of technical assistance in PHC and DHS.
 - f. Academia: SDD works closely with multiple academic institutions in the use of data for research and to draw policy implications for the benefit of the Pacific.

Z. Improving Data Dissemination and Use in Pacific Islands Countries

123. The World Bank, through the Trust Fund for Statistical Capacity Building, is funding and overseeing a SDD implemented project that will lead to improved documentation and preservation of data sets, increased data use and dissemination through harmonisation and more significant data production through improved sample design and methods. The project has three components:
- a. Establishment of the Pacific Community Data Archive;
 - b. Standardization of survey and census datasets (ex-post harmonization); and
 - c. Development of an optimized sampling strategy.

124. The first component will:

- a. *Secure endorsement from PICTS*: national data producers will be informed of the costs, risks and benefits of microdata dissemination, and of the measures that a professionally-managed Data Archive will implement to guarantee that the data are stored and shared in compliance with legal, ethical, and professional standards and rules.
- b. *Strengthen staff skills in data curation*: expertise in statistical disclosure control (microdata anonymization) and in the use of new documentation and cataloguing software will be built.
- c. *Set up the necessary IT infrastructure*: the operation of the Data Archive will require secure file server(s), an effective authentication system, and proper backup solutions, which are available at SPC. Specialized software for the documentation, cataloguing, anonymization and dissemination of microdata will be used.
- d. *Formalize partnerships with other data centres*: these partnership will guarantee that SDD remains informed of new technological developments, and will contribute to increase the visibility of the Pacific Community Data Archive.
- e. *Produce a policy and protocols for the operation of the Pacific Data Archive*: to specify in detail, and make transparent, the terms under which data are acquired, stored, and shared. As part of this task, national statistical legislations will be reviewed to ensure that the Data Archive operates in compliance with national legislations.
- f. *Conduct a comprehensive inventory of datasets available in the region*: this inventory will cover sample surveys, population and agriculture censuses, geospatial datasets, national administrative data, and other relevant data sources. The emerging issues listed in the TYPSS (environment, climate change, migrant labour, youth employment, disability, gender and culture) will be given particular attention when conducting the inventory.
- g. *Acquire datasets*: a data deposit system will be put in place to facilitate the acquisition of additional datasets and ensure full traceability of the acquisition process.
- h. *Prepare data for dissemination*: anonymization, possibly sub-setting observations (for census data), converting data formats and improving metadata.
- i. *Document datasets using a specialized metadata editor*: the data documentation will comply with international metadata standards (DDI 2.5 for microdata, Dublin Core for related resources, and ISO 19115/19139 for geospatial data).
- j. *Publish metadata (for all identified datasets) and microdata (when permitted)*: to maximize the visibility and audience of the Pacific Community Data Archive, metadata with links to the Data Archive will be published in partner's catalogs.
- k. Reach out to users (research community in a broad sense), and promote the use of data.

125. The second component will:

- a. Promote, and seek endorsement and buy-in from HOPS for creation of harmonised and dissemination of data sets.
- b. Host a workshop (or a series of workshops/working groups) to define the variables of interest to be included in the harmonized data sets.
- c. Develop guidelines for data cleaning, dealing with outliers and construction of the harmonized data sets will be published.
- d. Prepare a set of trial datasets, which are tentatively planned to include: labour force; education and agriculture.

126. The third component will:

- a. Collaborate with World Bank sampling experts to run data simulations to identify sampling approaches that will generate more significant data (at various levels of disaggregation) within logistical and financial constraints.
- b. Develop a set of guidelines documenting viable approaches to sample design in small-island states, which will build SPC's members' capacity in sampling and serve as a reference document for agencies implementing surveys in the Pacific.

AA. HIES methodological experiment

127. SDD, in collaboration with the World Bank, FAO and ILO, will conduct a HIES experiment in the Marshall Islands, which will test the following:
 - a. The implication of moving from paper-based (PAPI) to tablet-based (CAPI) collections on HIES data users, including those for poverty, national accounts and consumer price index;
 - b. The implication of moving from collecting food acquisition data via a diary to using a recall-based collection method;
 - c. New modules, including a food away from home, labour force, non-farm enterprise, shocks, disability, use value of assets and non-standard units of measurement.
128. The results of the experiment will guide the future recommended regional HIES methodology and will give consideration to identifying methods that produce high quality data at a minimum cost.
129. All the details regarding the HIES experiment are provided in appendix 1 of this document.

BB. Pathways

130. Pathways is a HIES data use project being implemented by SPC in collaboration with WorldFish the University of Wollongong and FAO, administered by the Australian Centre for International Agricultural Research and with funding support from the Australian Government. The project aims to, among other fisheries management related areas, used HIES data to estimate per capita apparent consumption estimated of fish and seafood, prevalence of undernourishment and to make macro-and-micro nutrient availability estimates. The outcome of this research is to derive policies in support of improved food security in the region.

RECOMMENDATION

131. Heads of Statistics and Planning are recommended to note the activities conducted by the Collections Team during TYPSS Phase II, the challenges and the way forward.
132. Heads of Statistics and Planning are invited to acknowledge the significant financial support provided by donors, particularly the Department of Foreign Affairs and Trade.

APPENDIX 1 – HIES EXPERIMENT

Current HIES methodology

- Tested in 2011 during the Vanuatu Hybrid Survey by the Vanuatu National Statistical Office and SPC and used in 10 countries so far (Solomon Islands 2012/13, Nauru 2013/14, Samoa 2013/14, FSM 2013/14, Palau 2013/14, Tokelau 2015/16, Tonga 2015/16, Tuvalu 2015/16, Niue 2015/16, Cook Islands 2015/16).
- The HIES standard methodology consists of:
 - A standard modular paper questionnaire made up of 4 modules (individual characteristics, household expenditure, individual expenditure and house and individual income) and a 2-week diary (food and non-food purchases, payments for services and donations, food and non-food gifts received and home production consumed, given away or sold).
 - A data entry system that reports error messages and provides data quality checks.
 - A field operation schedule spread over 12-months in order to cover seasonal fluctuations in income and expenditure. Moreover it is interesting to note that spreading the field collection over a longer period presents other benefits such as:
 - smaller collection teams – Having smaller teams means that the project will have a better chance of getting the most qualified staff as possible. This is especially important in smaller countries where periodic projects have to compete with other employers to obtain the best human resources available. In addition, smaller collection teams have a better and quality learning experience because of its intimate size;
 - longer employment periods – The Pacific region has one the highest unemployment and discouraged worker rates in the world (in terms of formal employment). By providing opportunities for yearlong employment, staff tend to have higher morals, the project is more stable in terms of staff retention and the project has a solid knowledge base;
 - progressive improvement in data quality – Together with proper monitoring, a 12 month collection window can improve data quality by identifying collection errors early in the survey and/or enumerator fatigue at later stages of the survey. By allowing more time to vet collected data, the project can introduce measures to improve data quality; and
 - opportunity for changing collection teams – Having the extra time to observe field staff and team dynamics we have the opportunity of replacing underperforming field staff, shifting team members and/or providing extra trainings leading to improved data quality.
 - It is important to note that the 12-month field operation does not add any cost given that it is the sample size and distribution that are the main determinants of the field operation budget.
 - Use of classifications that follow international standards:
 - Classification of Individual Consumption according to Purpose (COICOP) developed by the Statistics Division of the United Nations: classification of all goods and services for final household consumption;
 - Pacific Classification of Income (PACCOI): developed by SPC;
 - International Standard Classification of Occupation (ISCO): developed by ILO; and
 - International Standard Industrial Classification (ISIC): developed by the Statistics Division of the United Nations.
- Outcomes of the HIES:
 - The update of the Consumer Price Index weights based on the new structure of the household consumption;

- The update of the National Account especially using the non-formal household activities (home production);
 - The computation of the SDG poverty estimates (national poverty line) and production of the poverty analysis (depth of poverty....); and
 - Other indicators (included SDGs) that can be computed using the HIES data.
- Looking at the 3 main HIES objectives, Table 1 presents the users of HIES data where the survey was conducted.

● *Table 4: HIES objectives completion 2011/2017*

○	○ CPI rebase	○ GDP estimates	○ Poverty analysis
○ Solomon Is 2012/13	○ X (ABS)	○ X ○ (PFTAC – expected late 2017)	○ X (WB)
○ Nauru 2013/14	○ X (SPC)	○ Work in progress (PFTAC)	○ X (UNDP)
○ Samoa 2013/14	○ X (SPC)	○ X ○ (PFTAC – expected April 2018)	○ X (UNDP)
○ FSM 2013/14	○ X (SPC) publication new series expected start 2018	○ X (consultants)	○ X (WB)
○ Palau 2014	○ X (SPC)- 1 st publication new series expected start 2018	○ X (consultants)	○
○ Tokelau 2015/16	○ X – (SPC)	○ X ○ (PFTAC published 2016)	○
○ Tonga 2015/16	○ X – (SPC) 1 st publication expected middle/end 2018	○ Planning phase	○ Work in progress (WB)
○ Tuvalu 2015/16	○ Work in progress ○ Data not available yet		
○ Niue 2015/16			
○ Cook Islands 2015/16			

The role of the diary in the current HIES methodology

The diary in the standard HIES methodology is a key part of the questionnaire. It consists of a booklet that is dropped to the household by the interviewer and where all the household members will report during a 2 week periods their:

- daily expenditure (food, non-food, services, and donations),
- gifts received (food, non-food), and
- food items home produced (from the garden, fishing activities, livestock....).

The interviewers are tasked to visit the household every other day in order to check if the diary is properly filled out (if it is not completed correctly, the interviewer will fill in the diary by questioning all household members on their expenditure, gifts received and food items home produced since the previous visit). The standard HIES method recommends to provide one diary per household and to place it under the responsibility of the most appropriate person (an adult in charge of finances and household shopping) even if it covers all household members daily transactions.

The diary also collects food acquired and consumed away from home (e.g., takeaway, restaurants, bar).

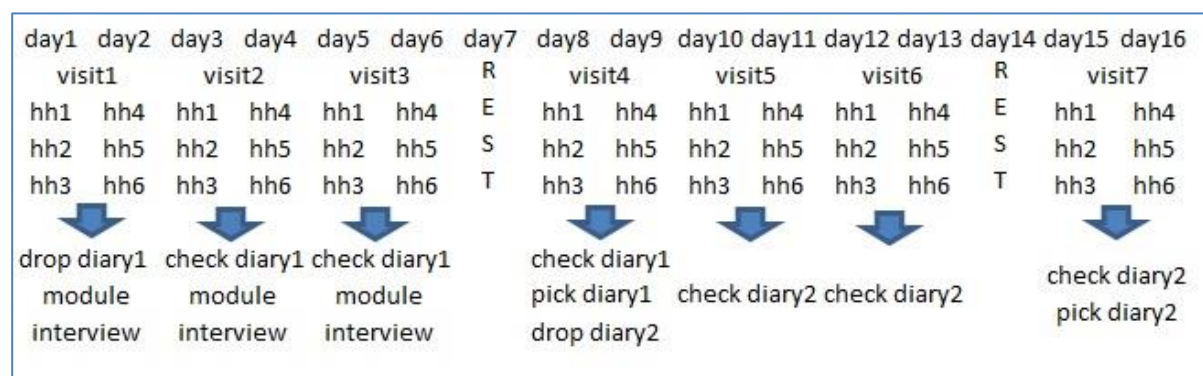


Figure 1: SCHEDULE OF A HIES INTERVIEWER FOR 1 ROUND (16 DAYS – 6 HOUSEHOLDS)

Each interviewer is responsible for 6 households per round (3 weeks) and each households has to be visited every other day during the period (7 visits in total – Figure 1). The first week of the interview is dedicated to module interview (all recall questionnaires) and diary monitoring, and the second week is dedicated to diary monitoring only (if all the module and recall sections are completed). The standard HIES methodology recommends 16 rounds in order to cover 12 months.

*Table 5: number of expenditure transactions and expenditure amounts sourced from the diary and recall (from modules) by COICOP division
(Solomon Islands, Nauru, FSM, Palau, Tonga, Tuvalu HIES)*

	Transactions			Amount		
	Recall	Diary	Total	Recall	Diary	Total
1. Food And Non-Alcoholic Beverages	0%	100%	100%	0%	100%	100%
2. Alcohol, Tobacco And Narcotics	20%	80%	100%	54%	46%	100%
3. Clothing And Footwear	99%	1%	100%	96%	4%	100%
4. Housing, Water, Electricity, Gas...	92%	8%	100%	94%	6%	100%
5. Furnishings, Hh Equipment...	39%	61%	100%	52%	48%	100%
6. Health	91%	9%	100%	91%	9%	100%
7. Transport	42%	58%	100%	88%	12%	100%
8. Communication	99%	1%	100%	96%	4%	100%
9. Recreation And Culture	84%	16%	100%	76%	24%	100%
10. Education	100%	0%	100%	100%	0%	100%
11. Restaurants And Hotels	5%	95%	100%	14%	86%	100%
12. Miscellaneous Goods And Services	35%	65%	100%	51%	49%	100%
Non-Consumption Hh Expenditure	92%	8%	100%	84%	16%	100%
Total	25%	75%	100%	46%	54%	100%

75 percent of expenditure transactions were sourced from the diary, which represents 54% of the total expenditure. The diary is a key questionnaire regarding the food (division 1), alcohol and tobacco (division 2), furnishing and household equipment (division 5), transport (division 7), restaurants and take away food (division 11) and miscellaneous goods and services (division 12).

Diary challenges

Underreporting of alcohol, tobacco and narcotics

- Under reporting of items, such as cigarettes, kava, betel nut and alcohol
 - COICOP division 2 items (alcohol, tobacco and narcotics) are usually largely under reported in the diary.
 - In the 2012 Vanuatu multi indicator survey (hybrid) had a specific 1 week recall questionnaire that asked expenditure on a selected list of items from COICOP division 2 (Table 3).

Table 6: comparison of aggregates sourced from recall and diary (thousands of Vatu)

VAT '000	1 week recall	Diary	Difference
Beer	244	192	-21%
Cigarettes	540	498	-8%

- Table 3 illustrates the difference between the questionnaires used for expenditure aggregates computation. The diary is significantly lower and the 1 week recall appears to provide better estimates.

- Solomon Islands, Tokelau, Tonga, Niue, Cook Islands and Tuvalu adopted the 1-week recall for collection of goods within COICOP division 1 to address the perceived underreporting of these goods in the diary.

Table 7: comparison of significance of COICOP division 2 items (alcohol, tobacco and narcotics) according to the method of collection (recall or diary)

Source	Country	% COICOP division 2	% Alcohol	% Tobacco	% narcotics (kava or betel nuts)
1 week recall	Solomon Is	13.2%	4.5%	7.1%	1.5%
	Tokelau	15.1%	5.1%	10.0%	0.0%
	Tonga	8.5%	2.2%	4.6%	1.7%
	Tuvalu	9.1%	3.8%	5.0%	0.3%
Diary	Nauru	3.8%	0.5%	3.3%	0.2%
	FSM	4.7%	1.0%	2.2%	1.7%
	Palau	6.2%	1.2%	3.8%	1.2%
	Samoa	2.6%	1.6%	0.7%	0.3%

In % of the total cash consumption expenditure

- In Solomon Islands, Tokelau, Tonga and Tuvalu most of the COICOP division 2 items were sourced from the 1 week recall, and on the other side the same items in Nauru, FSM, Palau and Samoa were sourced from the diary. Table 4 shows that the proportion of total cash consumption expenditure on alcohol, tobacco and narcotics is significantly higher in the countries where the 1 week recall was used.

Table 8: Comparison of cash expenditure aggregates using recall or diary

		Solomon Is (SBD)	Tokelau (NZD)	Tonga (TOP)	Tuvalu (AUD)
Alcohol	Recall	169,736,280	339,980	7,939,160	640,710
	Diary	61,185,570	209,030	2,244,940	158,770
	Diff (%)	-64%	-39%	-72%	-75%
Beer	Recall	160,267,180	245,480	3,609,860	341,890
	Diary	56,284,180	164,590	1,154,590	93,460
	Diff (%)	-65%	-33%	-68%	-73%
Tobacco	Recall	265,488,310	492,370	16,682,900	844,990
	Diary	188,778,140	511,740	9,543,900	428,310
	Diff (%)	-29%	4%	-43%	-49%

- Table 5 illustrates the gap between the consumption aggregates by data source. With exception of Tokelau where tobacco expenditure is higher in the diary, recall shows higher amounts.
- The percentage of households who declared to consume alcohol decreases as well according to the source of information:
 - In Tuvalu, 4.4% of households declared alcohol acquisition in the diary, however 12% declared acquisition in the 7-day recall on alcohol;
 - Similar trend in Tonga where the diary shows that 6% of household acquire while the recall shows 13%; and
 - The difference in tobacco is not as significant as alcohol items: in Tuvalu 5.3% of the households reported tobacco items in the recall, while 4.6% was reporting in the diary (in Tonga 5% of households acquire tobacco from the recall and 4% from the diary).

Underreporting of other items

- Under reporting of other type of items
 - Other items, such as cell phone top up, are largely under reported in the diary. This type of item is purchased individually on a regular basis and often not reported in the household diary.
 - Table 6 presents the national aggregates on cell phone top up expenditure.

Table 9: Annual expenditure on cell phone top up (national aggregate) – 2012 Vanuatu hybrid survey – thousands of Vatu

VAT '000	1 week recall	Diary	Difference
Cell phone top up	1,364	430	-69%

- The aggregated expenditure on cell phone top up amounts to more than VAT1,360,000 (extrapolated from the 1 week recall) and VAT 430,000 from the diary (almost 70% difference).
- Following the Vanuatu experiment, the communication expenditure module was included in the standard questionnaire. Table 7 highlights the gap in consumption aggregates according to the source.

Table 10: Annual expenditure on cell phone top up (national aggregates) according to the source

	Country	Currency	Source		Diff (%)
			1 week recall	Diary	
Cell phone top up	Solomon Is	SBD	181,950,940	95,721,260	-47%
	Tonga	TOP	18,023,650	12,024,280	-33%
	Tuvalu	AUD	449,290	241,110	-46%
	Nauru	AUD	1,444,670	796,930	-45%
	FSM	USD	3,244,490	1,983,350	-39%
	Palau	USD	2,465,000	2,004,990	-19%

Respondent and interviewer fatigue

- The combination of respondent and interviewers fatigue leads to a drop off in the number of items reported in the diary. This fatigue can be measured by comparing the average number of items reported in the diary week 1 and week 2 (Figure 2).

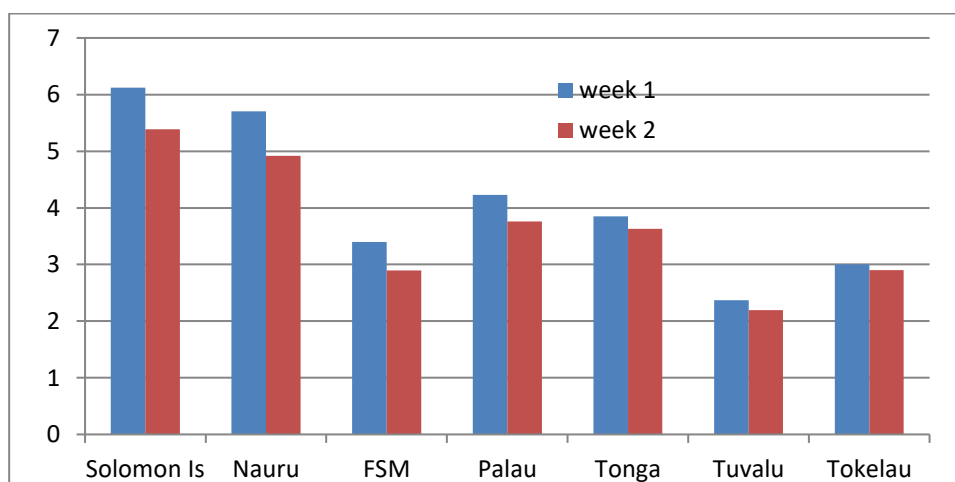


Figure 2: Annual expenditure on cell phone top up (national aggregates) according to the source

- On average, week 2 reports 10% fewer items compared to week 1. The fatigue of the interviewers who do not visit the selected households every other day (as they were instructed) significantly impacts the quality of the diary.

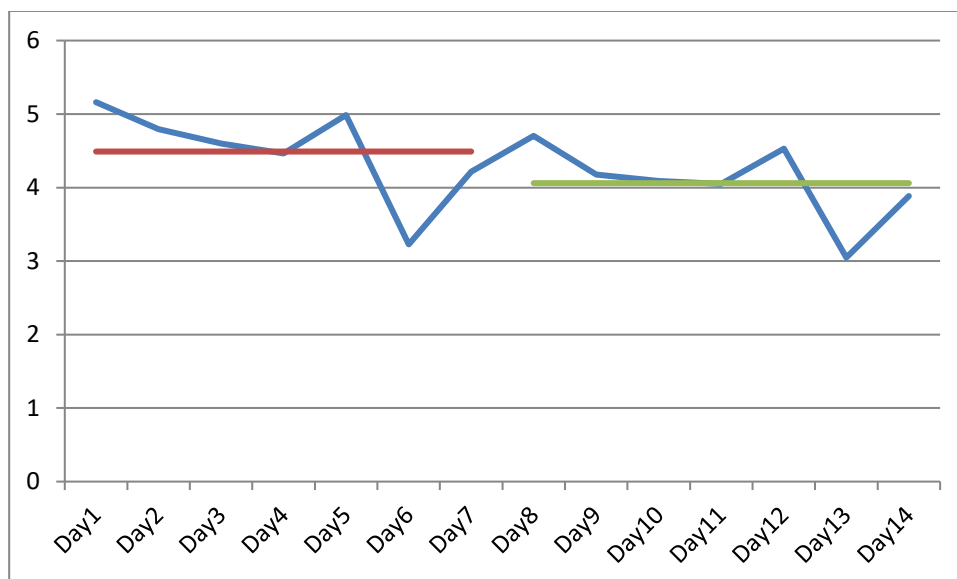


Figure 3: Average number of items reported per day per household day1 to day14 of the diary (all HIES combined)

- Both weeks show similar profile, but week 2 at a lower level. The decrease in day 6 and 13 are mainly due Sunday (low transactions day).
- Figure 4, 5 and 6 emphasise under reporting of items in the diary.

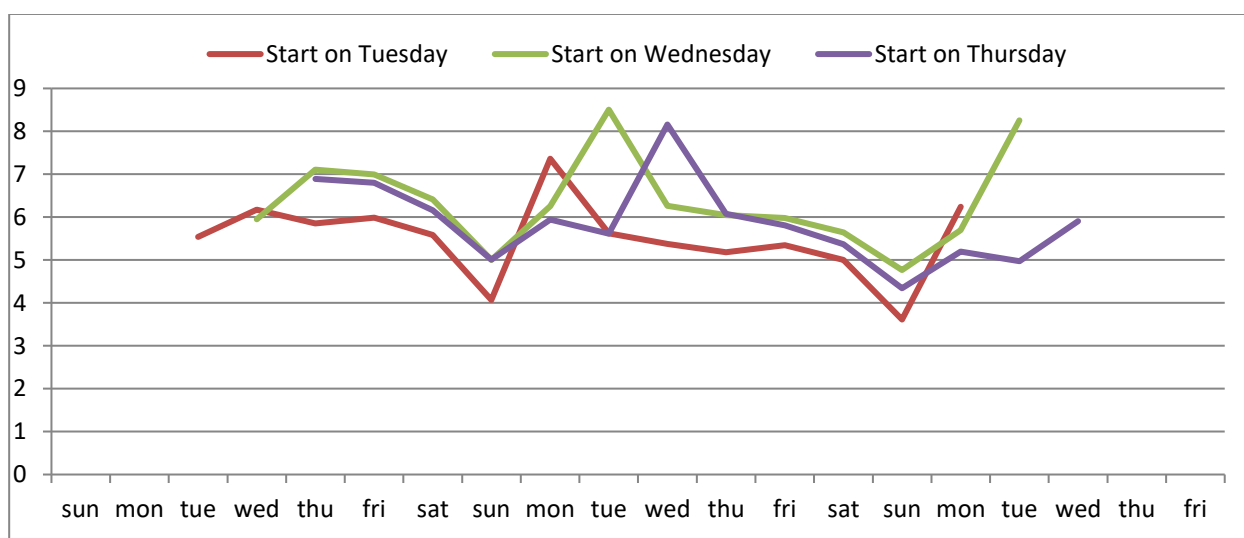


Figure 4: Average number of items reported per household per week day by starting day of the diary (Solomon Islands HIES 2013/13)

- This case shows the impact of Sunday and highlights the lack of diary monitoring. The households were visited 3 times (instead of 7): first visit on day 1, second visit 7 days later to pick the diary 1 and drop the diary 2 and the last one on day 14 at the end.

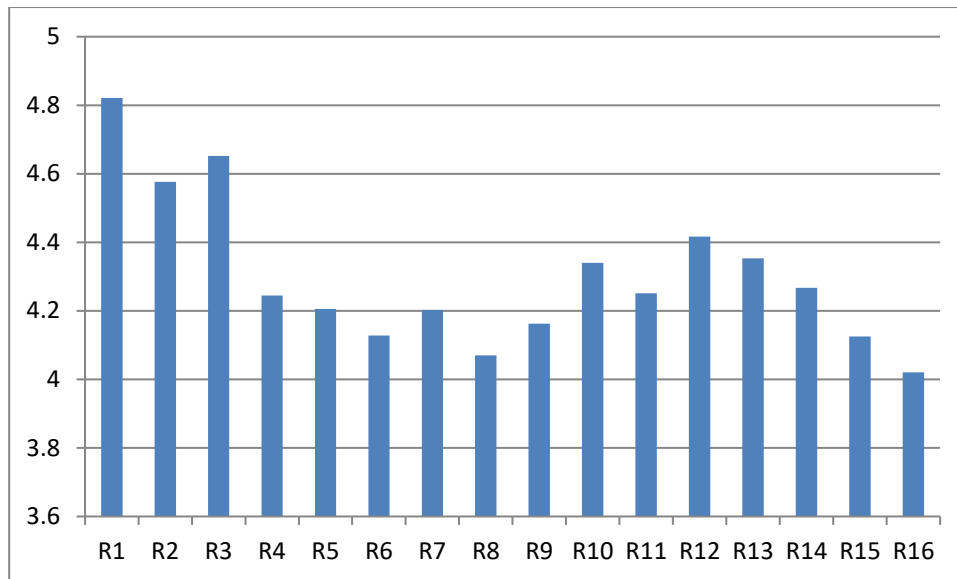


Figure 5: Average number of items collected by rounds (all HIES combined)

- The interviewer fatigue is highlighted over time during the field collection. In the middle of the field operation (round 7 to 9) 14% less items were reported on average compared to round 1.

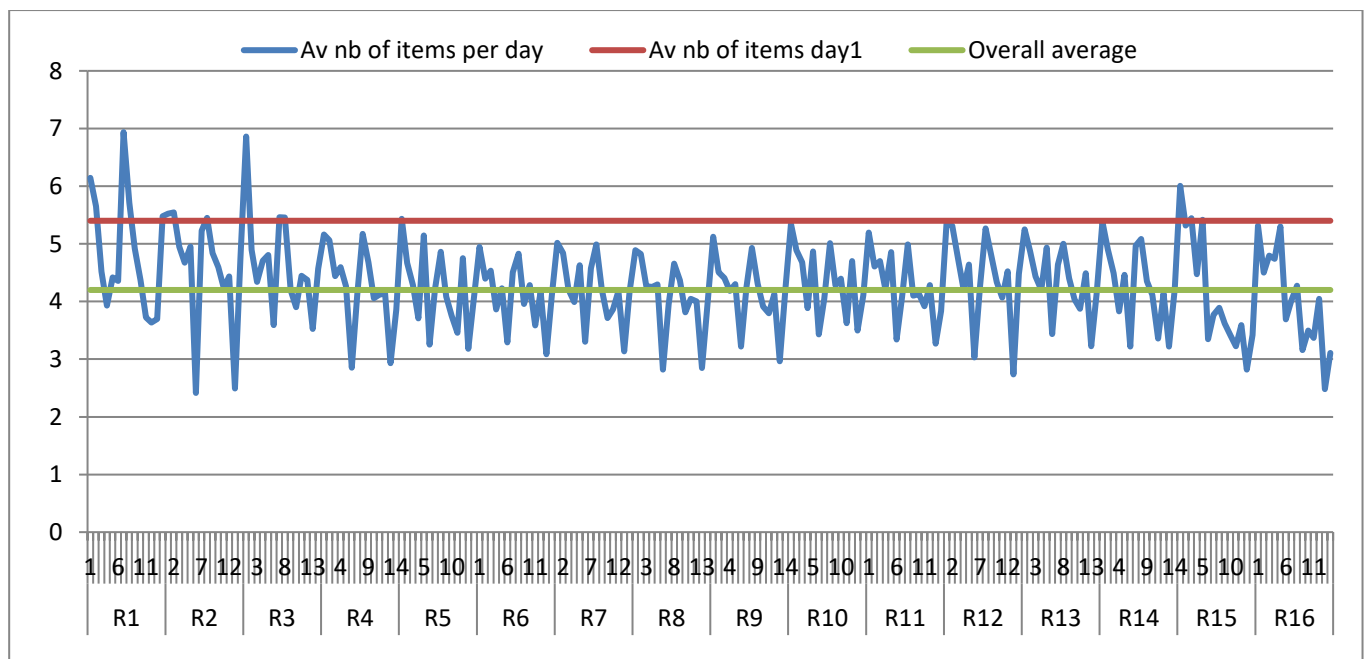


Figure 6: Number of items reported in the diary each round (all HIES combined)

- On average 5.4 items were reported on day 1 compared to the overall 14 day average of 4.2 resulting in a loss of more than 23%.

Diary in question

- There is evidence in both the dataset from the Pacific HIES using diaries and in the survey methodology literature of reductions in the number of items and total value of item over the dairy period.
- The diary data have to be questioned given the burden it represents for the respondents and the cost of its implementation (the diary monitoring forces the interviewer to stay in the same village for the 2 week period).
- Research has shown that a recall survey questionnaire performs better than household diary with less supervision.

Emergence of CAPI

- The electronic collection started in the Pacific region with censuses (Vanuatu and Tonga 2016) and showed some great benefits in terms of:
 - data quality (data validation at entry)
 - data availability (real time availability of results and metadata, data are cleaned and edited in the field)
 - cost benefit (according to the price of the tablets)
 - and geo-localization with GPS incorporated in the device (possibility of taking pictures too)
 - monitoring of field staff: all problems and errors are detected and flagged to survey management (through the field supervisor)
- Given that HIES runs on a totally different method and field schedule than census, the integration of this new technology in the current standard HIES has to be properly tested before implementation. Moreover, the use of this process can become a real challenge in remote areas (rural areas of Pacific Islands Countries and Territories) in regards to:
 - Internet access - this new technology needs an internet connection to operate efficiently. If no access is available, the use of satellite phone can be an alternative.
 - Charging batteries - the devices required regular battery charging. If no access to electricity, the use of solar panel or alternative source of charging can be considered
 - Data back up: to prevent any loss of data, and when the internet access does not exist, field staff are required to connect a flash drive to back up their files on a daily base.

Plan for the future of HIES in the Pacific

Pilot new sections and update the questionnaire using new international recommendations

- The standard HIES questionnaire has to be reviewed and modified according to some new recommendations about:
 - Employment: the International Labor Organization issued a new set of guidelines on collecting labor force participation and employment statistics;
 - Disability: over the past few years efforts were made to collect information on disability following international best practices;

- Food security: module developed by FAO for estimating the prevalence of food insecurity through use of the Food Insecurity Experience Scale;
- Shocks: many countries in the Pacific are vulnerable to climate change and frequent national disasters. Better understanding of the frequency, severity and strategies used by households is necessary to better tailor public policies on vulnerability.

Improve data quality

- Food consumption: in order to address the issues indicated by the diary, alternative options for capturing food consumption need to be tested. Nowadays many countries around the world have adopted the 1 week recall that seems to provide good estimates of food consumption at lower cost. Looking at the food consumption pattern in the Pacific, the top 30 food items cover around 80% of the food consumption.
- Expenditure on non-food items: same idea as the food consumption, a non-food list of items based on a 1 week recall period can be tested.
- Non-Farm enterprise: capture information on self-employment or microenterprises represents a real challenge in HIES. An effort will be made in developing and testing a new module used in other parts of the world and adapting it to the Pacific context.
- Non-standard units: the use of CAPI will bring major improvement in this area (compared to the paper based questionnaire). CAPI system allows the use of photos in order to specify more precisely the species of food items (fish, sea food...), and their size and quantities. The idea is to create a catalogue of the main non-standard units used in the region (commonly used or sold at the market) and incorporating photos showing the scale of these units compared to easy identifiable objects (soda bottle, cup....).
- Food consumed away from home: food consumed away from home is usually highly under reported (individual items bought and consumed away from home are most likely not reported in the household diary at home – similar as cell phone top up). A specific module on food consumed away from home asked at the individual level has to be developed in order to improve this important part of the food intake.

Implementation of a pilot test

Methodology

This methodological work will attempt to answer simultaneously both the question of whether diary or recall is preferable in the Pacific context, as well as how that methodology can be best implemented with tablet data collection. To capture the necessary information on food consumption, four treatment arms are proposed:

- 7-day recall implemented on tablets – The recall questionnaire would be based on similar consumption module designs from the region. The item list would be populated from the diary information from the previous survey and further refined through pilot testing. Food consumed outside of the household would be collected using an individual 7-day recall diary.
- 14-day diary with visits every two days by interviewers to enter items on tablets – This is an adaptation of the previous diary methodology with the added step of having interviewers come and enter the data every two days. This provides the benefits of being able to ensure that the supervision visits are being made (using the data entry time stamp generated automatically by the tablets) and to implement checks on the data, covering range, outlier values, and decreases in number / value of times over multiple visits. Food consumed outside the household will be collected as part of the diary.
- 14-day diary with supervision visits every two days – This method is the traditional diary approach and mimics the 14-day diary with tablet entry in that it has the same field protocols and visit

schedule. The main difference is that the data will not be entered at the time of the visit, and therefore it will not be possible to perform any data checks. Food consumed outside the household will also be collected as part of the diary.

- 14-day diary with no supervision visits – Though this method has never been the official methodology for the HIES, evidence from existing surveys indicate that this was very likely the de facto implementation strategy by many interviewers. This arm is included to see if the patterns of consumption follow those seen in the previous surveys. If the consumption patterns are similar, these results will be used as the baseline from which to measure the improvement of the chosen methodology, and will be helpful in later assessing the impact of the change in collection method on the poverty trend.

In addition, the experimental fieldwork will be spread over as wide of a variety of locales as permitted by the budget to address both the range of consumption patterns that are likely to be found in the Pacific (urban areas with greater food diversity versus rural areas with high levels of bulk purchases and home production). The design of the fieldwork will also ensure that at least one area in the test does not have either electricity or internet connectivity. The extended period required in the village to administer the diary (two weeks) should provide ample time to finalize the protocols related to field implementation.

Sample design

The Republic of Marshall Islands (RMI) has been selected to conduct the test given that RMI is the next country who will conduct a HIES. Due to the limited time and budget for this exercise, the experiment will not try to general the results to the population of RMI generally. Instead, the experiment will focus on internal validity and a comparison between methods for the selected EAs. Therefore, the survey will use 12 purposefully selected EAs. Given the differing amounts of time needed to collect consumption data across the four experimental arms, there will be an uneven distribution of data points. Based on the time requirements, the distribution of the sample across the four arms is 36 percent in arm 1, 13 percent in arm 2, 13 percent in arm 3, and 38 percent in arm 4.

The sample size calculations are based on data from the recent 2016 Tuvalu Household Income and Expenditure Survey since the most recent data from RMI is from 2002. The variable of interest for the calculations was the average items of acquired in a seven day period. The sample size calculations were done to detect a difference of 20 percent, taking into account the uneven distribution across the four arms of the survey, and using the mean, standard deviation, and design effects from the Tuvalu data. Calculations were done in Stata using the `sampsi` command with a two-sided test with 95% confidence and a power of 80%. The “raw” sample size calculations are then adjusted for design effects and then adjusted using the finite population correction (which have a substantial impact in this case as the design effect adjusted sample requirements are well above the total population of the target areas).

The proposed field work plan has a projected sample size of 204 households for arm 1 (7-day recall module), 72 households for each arms 2 and 3 (highly supervised diary on CAPI and paper, respectively), and 216 households for arm 4 (unsupervised diary). The total sample size will be 564 households. This design accounts for the field work structure while also leaving a margin of error if the data from Tuvalu is an imperfect approximation of the data for RMI.

Table 11: summary of survey design

Arm	Mode	Collection method	Number of visits to each selected hh	Total sample size
1	CAPI	7 days recall	1	204
2	CAPI	2 week diary	7	72
3	paper	2 week diary	7	72
4	paper	2 week diary	3	216

Data collection

In an ideal situation, these experiments would be done in a wide range of countries to sufficiently cover the possible variation in the region. Due to constraints in time and financing, the experiments are likely to cover one, or at most two, countries, with three locations in each country. Preliminary discussions have identified the Republic of the Marshall Islands as a likely first-choice location and the budget has been developed accordingly. In addition to being the first country that is scheduled to go to the field with tablet data collection, it has a number of very remote areas which are key to determining field protocols in low and no connectivity environments, as well as a densely populated urban area in Ebeye.

Timeline

Since the start of all new HIES activities using tablets is on hold pending the outcome of these experiments, it is important that activities move quickly. Below is a possible calendar of activities. The start date, however, would depend on the availability of funds.

Table 12: survey timeline

Activity	2017			2018			
	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Identification of Funding Source(s)							
Questionnaire Development							
Finalization of the Choice of Fieldwork Location							
Training / Pilot of Experimental Materials							
Fieldwork							
Data Compiling, Cleaning & Analysis							
Final Results							