

Vanuatu - Demographic Health Survey 2013

Vanuatu National Statistics Office - Ministry of Finance
Vanuatu Health Department - Ministry of Health

Report generated on: July 14, 2016

Visit our data catalog at: <http://pdl.spc.int/index.php>

Overview

Identification

ID NUMBER

VU-VNSO-DHS-2013-v1.0

Version

VERSION DESCRIPTION

The final version of the 2013 DHS data, VNIQ55.DAT is the edited version of the raw data captured by the Data Entry Operators during the Data Entry Stage.

The DHS application creates new datafiles while it goes through the different stages of processing and saves these files for reference.

1. VNIQ51.dat - this is the initial raw data which concatenates all the datafiles of each EA.
2. VNIQ52.dat - this is generated after the recoding of the 'Other' responses.
3. VNIQ53.dat - this is generated after the execution of the secondary edits.
3. VNIQ54.dat - this is generated after the final imputations are included in the data.
4. VNIQ55.dat - the final edited version of the raw data and is generated after the execution of the 'Anthrop' program.

Recoded Datafile

1. VNIR51.dat - this is the final recoded data for the individual (women) questions.
2. VNMR51.dat - this is the final recoded data for the Mens questions

The dictionary files for these datafiles include:

1. VNIQ51.dcf - dictionary for the raw data (VNIQ51.DAT, VNIQ52.DAT, VNIQ53.DAT, VNIQ54.DAT, VNIQ55.DAT)
2. VNIR51.dcf - dictionary for the recoded women datafile
3. VNMR51.dcf - dictionary for the recoded men datafile

The preliminary report tables generated immediately after the completion of the batch editing are generated from the TGIQ55.DAT

The tables for the 15 Chapters are generated from the recoded datafiles.

THIS DOCUMENTATION ONLY PROVIDES METADATA OF THE FINAL RAW DATAFILE, TGIQ55.DAT.

THE RECODED DATAFILES TGIR51.DAT AND TGMR51.DAT ARE ATTACHED AS SEPARATE FILES WITH THEIR RELEVANT METADATA DESCRIPTIONS. USERS WHO NEED TO KNOW IN MORE DETAILS ON THE RECODE PROCEDURES CAN REFER TO THE STANDARD RECODE MANUAL IN THE DHD TOOLKIT PREPARED BY MEASURE DHS.

PRODUCTION DATE

2014-02-06

NOTES

There is only one version of the documentation which is based on the final datasets from which the preliminary and chapter tables were generated.

Overview

ABSTRACT

The 2013 Vanuatu Demographic and Health Survey (VDHS) is a national sample survey designed to provide information on population, family planning, maternal and child health, child survival, AIDS and sexually transmitted infections (STIs), reproductive health, nutrition, disability and child labour and child discipline in Vanuatu.

The DHS involves interviewing a randomly selected group of women who are between 15 and 49 years of age. These women will be asked questions about their background, the children they have given birth to, their knowledge and use of family planning methods, the health of their children, awareness of AIDS and sexually transmissible diseases, and other information that will be helpful to policy makers and administrators in health and family planning fields.

Similar questions will also be asked of all men 15 years and over in half of the sample households.

The Vanuatu National Statistics Office (VNSO) in collaboration with Ministry of Health (MOH) served as the implementing agencies for the DHS. The VNSO took responsibility for operational matters including planning and conducting fieldwork, processing of collected data and organizing the writing and distribution of reports. The VNSO furnished the necessary central office space for survey personnel and undertook to secure transport for the data collection activities. Staff from the VNSO were responsible for overseeing the day-to-day technical operations including recruitment and training of field and data processing staff and the supervision of the office and field operations.

The overall organization and control of the VDHS rests on the Head of VNSO/Director of Health who acts as Project Directors. The Project Director was responsible for the appointment of the project coordinator who then was responsible for recruiting the supervisors and interviewers for the DHS.

The Project Coordinator, with the support from the Director, were responsible for overseeing the day-to-day technical operations including recruitment and assisting in training of field workers and data processing staff and the supervision of the office and field operations.

The Project Coordinator also took charge of all the logistical issues associated with the fieldwork. This involves determining which areas team supervisors and interviewers will be working in and how the field materials will be distributed and collected during the maximum of (12 weeks) of fieldwork.

Financial support for the DHS were provided by the United Nations Population Fund (UNFPA), UNICEF and the Asian Development Bank (ADB) while the Secretariat of the South Pacific Community (SPC) provided financial support through technical assistance during different stages of the project.

SURVEY OBJECTIVES

The main objective of the 2013 Vanuatu Demographic and Health Survey (VDHS) is to provide current and reliable data on fertility and family planning behavior, child mortality, adult and maternal mortality, children's nutritional status, the use of maternal and child healthcare services, and knowledge of HIV and AIDS.

Specific objectives are to:

-1. collect data (at the national level) that will allow the calculation of key demographic rates;
-2. analyze the direct and indirect factors that determine the fertility level and trends;
-3. measure the level of contraceptive knowledge and practice among women and men by method, urban-rural residence and region;
-4. collect high-quality data on family health, including immunization coverage among children, prevalence and treatment of diarrhea and other diseases among children under 5 years of age
-5. maternity care indicators (including antenatal visits, assistance at delivery, and postnatal care);
-6. collect data on infant and child mortality;
-7. obtain data on child feeding practices, including breastfeeding, and collect 'observation' information to use in assessing the nutritional status of women and children;

.....8. collect data on knowledge and attitudes of women and men about sexually transmitted infections (STIs), HIV and AIDS, and evaluate patterns of recent behavior regarding condom use;

.....9. collect data on knowledge and attitudes of women and men about tuberculosis; and

....10. collect poverty information to determine levels of hardship among children and adults.

This information is essential for making informed policy decisions and planning, monitoring, and evaluating programmes on health-both with respect to general health, and reproductive health in particular-at the national level, and in urban and rural areas.

A long-term objective of the survey is to strengthen the technical capacity of government organizations to plan, conduct, process and analyze data from complex national population and health surveys. Moreover, the 2013 VDHS provides national, rural and urban estimates regarding population and health that are comparable with data collected in similar surveys in other Pacific DHS pilot countries and other developing countries.

KIND OF DATA

Sample survey data [ssd]

UNITS OF ANALYSIS

- households and individuals in private dwellings

- women 15-49

- men 15+

- children 0-5 for haemoglobin measurement

- children 5-14 for child labor eligibility

- children 1-14 for child discipline eligibility

Scope

NOTES

The scope of the Vanuatu 2013 DHS include:

INDIVIDUAL/HOUSEHOLD

.....basic demographic characteristics of individuals in a particular household dwelling, including age, sex, residence, marital status, educational attainment, eligibility and disability

.....basic household characteristics of the private dwellings, including sanitation, water, electricity, households materials and household wealth ownership

WOMEN

.....women characteristics and background, reproduction, contraception, pregnancy & post-natal care, child immunization, marriage & sexual activity, fertility, economic activity, HIV/AIDS, Malaria and other health issues.

MEN

.....men's background, reproduction, contraception, marriage & sexual activity, fertility preferences, employment & gender roles, HIV/AIDS, Malaria and Other health issues

CHILDREN

.....child labor, child discipline, disability, blood pressure, weight, height measurement, vaccination & immunization.

TOPICS

Topic	Vocabulary	URI
housing [10.1]	CESSDA	http://www.nesstar.org/rdf/common
employment [3.1]	CESSDA	http://www.nesstar.org/rdf/common
censuses [14.1]	CESSDA	http://www.nesstar.org/rdf/common
fertility [14.2]	CESSDA	http://www.nesstar.org/rdf/common
Health	World Bank / UNICEF	
HIV/AIDS	World Bank	
Population & Reproductive Health	World Bank	
Poverty	World Bank	
Education	World Bank	
Disability	UNICEF	
Malaria	World Bank	
Child Labor	UNICEF	
Child Discipline	UNICEF	
Child Birth Registration	UNICEF	

KEYWORDS

Population Census, Demography, Disability, DHS, Fertility, Contraception, Immunization, HIV/AIDS, Health

Coverage

GEOGRAPHIC COVERAGE

The 2013 DHS is a sample survey which covers the whole country including urban and rural areas.

Rural areas were then broken down into Rural 1 and Rural 2 to show the remoteness of the areas from the urban areas

UNIVERSE

The survey covered all de jure household members (usual resident) in the household.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Vanuatu National Statistics Office	Ministry of Finance
Vanuatu Health Department	Ministry of Health

OTHER PRODUCER(S)

Name	Affiliation	Role
Statistics for Development Division	Secretariat of the Pacific Community	[Technical assistance in] questionnaire design
	Secretariat of the Pacific Community	[Technical assistance in] data collection
	Secretariat of the Pacific Community	[Technical assistance in] data processing
	Secretariat of the Pacific Community	[Technical assistance in] data analysis

FUNDING

Name	Abbreviation	Role
Asian Development Bank	ADB	Funding
AusAID - Australian Government	AusAID	Funding
United Nations Fund Population Assistance	UNFPA	Funding
United Nations Childrens Fund	UNICEF	Funding
Secretariat of the Pacific Community	SPC	Funding
Vanuatu Ministry of Health	VMOH	Funding & In-Kind
Vanuatu National Statistics Office	VNSO	Funding & In-Kind

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Toga Raikoti	SDD	Statistical Development Division, SPC	Data Processing Specialist
Rara Soro	VNSO	Vanuatu National Statistics Office	Systems Analyst

DATE OF METADATA PRODUCTION
2014-11-19

DDI DOCUMENT VERSION
Version 1.0

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DDI-VU-VNSO-DHS-2014-v1.0

Sampling

Sampling Procedure

The primary focus of the 2013 VDHS was to provide reliable estimates of key population and health indicators, including fertility and mortality rates, both for the country as a whole, and separately for urban and rural areas (this is standard practice for a DHS). The survey used the sampling frame based on census enumeration areas, with population and household information from the 2009 Vanuatu Census of Population and Housing. The primary sampling units, comprising of 93 total enumeration areas (EA), were selected in each domain using systematic random sampling with probability proportional to the estimated number of households in the EA. Then in each selected EAs a total of 24 households were randomly selected with equal probability. It should be noted that DHS sampling was prepared by SPC.

It was not considered viable to generate results at an island division level for Vanuatu due to the expected small sample sizes at these fine geographical levels. However, it was considered worthwhile to split the rural population into two separate domains-Rural one covering households surrounding the urban area (easy access to Port-Vila and Luganville) and all households living in all administrative centers of all other provinces, and Rural 2 covering the other remaining rural Vanuatu population-because access to main health facilities for rural 1 population is more available compared to access to the Rural 2 population whom tend to have limited or no access to those health facilities.

The survey was designed to obtain completed interviews of 3,129 women aged 15-49. In addition, males aged 15 and over in every second household surveyed were interviewed. To take non-responses into account, 2,232 households countrywide were selected: 672 in the urban area and 1,560 in rural areas.

1. DOMAINS OF OBSERVATION - STRATIFICATION

Vanuatu 2012 DHS aims to provide results at National level first, but the distinction between rural and urban areas is expected as well.

The rural areas of Vanuatu cover a very large scope of households with different situation, especially in terms of access to health facilities. It was then considered to split the rural area of Vanuatu into 2 areas (Rural1 and Rural2)

There are therefore 3 domains of reporting for Vanuatu DHS 2013, which are based on splitted Enumeration Area (EA) designed for the 2009 census:

Urban: people living in town - easy access to facilities (especially hospital)

.....Shefa:

.....Port Vila urban based on census definition

.....Rural areas around Vila urban (Mele, Pango, Erakor, Ifira)

.....Sanma:

.....Luganville urban based on census definition

Rural1: people living in areas with easy access to town, and people living in provincial centre with easy access to provincial facilities (especially provincial health centre).

.....Shefa: rest of Efate (out of Port-Vila): the ring road has changed the access to health facilities for the population living in North Efate, they have now a better access to Vila hospital

.....Sanma: around Luganville:

.....On the West coast up to Port Orly

.....On the East coast down to Tassiriki

.....Aore island

.....Tafea: Lenakel

.....Ambae: Saratamata

.....Malampa: Lakatoro

.....Torba: Sola

Rural2: people living in area with no access to hospital or provincial health centre.

.....Shefa: all the islands out of Efate (Shepherd)

.....Sanma: Malo and far Santo rural

.....Tafea: Far Tanna rural and outer islands (Futuna, Aneytum, Aniwa, Erromango)

.....Penama: far Ambae rural and outer islands (Pentecost & Maewo)

.....Malampa: far Malakula, Ambrym, Paama

.....The rest of Vanuatu Rural will be classified as RURAL2 "Far rural"

There is no EA excluded from the selection. Each EA inhabited has a probability higher than 0 to be selected.

2. SAMPLE SIZE

The sampling unit is the household, and the sampling was based on the Vanuatu 2009 census. DHS sample is based on 2 major constraints, where in each domain, there was a need to interview at least:

.....1000 women 15-49

.....500 men 15+

The women constraint was the most important, as more individuals were needed from a smaller age group. That was why the sample design was based on the distribution of women 15-49 in Vanuatu.

The sample size in each domain was determined according to the average number of women 15-49 per household:

.....Women aged 11-45 years old at the time of 2009 census (11/2009) who will be 15-49 years old on 11/2013 (period of DHS field work).

In order to get robust estimates, 1000 women were needed in each of the 3 areas. These 1000 women are then allocated within each stratum according to the number of women in each stratum.

Based on the number of households, we could derive the average number of women 15-49 per household in 2013

At this stage, we could automatically derive the number of households to select per stratum (number of women to interview / average women 15-49 per household)

3. SELECTION OF PSU (splited EAs)

The sampling strategy is a 2 stages sample:

.....Selection of Primary Sampling Unit (splited EAs)

.....Within all the selected splited EAs, selection of households.

Primary Sampling Unit is the first stage of the selection. In the case of Vanuatu, PSU are the splited Enumeration Area used for the 2009 census. According to the number of household expected in each domain and the workload of 24 households per EA (number of household one team can survey in 1 week), we can come out with the following number of EAs to select:

2232 households have to be interviewed following this distribution per stratum. This sample size allows the interview of at least 1000 women per domain, which is the main constraint. In order to achieve this sample size, field teams have to replace any refusals or non contacted households.

All the inhabited splited EAs of Vanuatu have a probability of selection which is proportional to its size (in terms of number of households). This is the probability of selection of each splited EA:

4. NUMBER OF FEMALES 15-49 AND MALES 15+ EXPECTED IN THE SAMPLE

As expected, at least 1000 women were obtained in each domain.

Only 500 males 15+ are required per domain. If all the males of all selected households are interviewed, there will be more than twice as many men as needed for the survey purpose.

In the field we need the men's sample half the size of the women's sample. That way field staff can interview males 15+ from every second household selected (12 households).

5. SELECTION OF HOUSEHOLDS (household listing)

· The second stage of the sampling plan is the selection of 24 households within the selected EAs. All the households within the EA have the same probability of selection. As we expect 24 households per EA, the probability of selection for each household is: 24/total no. of hhlds in EA

In order to get 24 households, and to prevent any replacement (refusal, absence...), it is preferable to select 6 extra households. Now we have to select:

.....24 households to contact and interview in priority- listA
6 households in case of replacement - listB
 ==> Total 30 households

The 24 households selected in listA are the one to contact first. If for any reason the interview cannot be conducted in some of these households, interviewers have to replace with households listed in listB (6 extra households)

The latest household listing comes from the 2009 census, which is 4 years old now. Since the last census, the household listing have not been updated. Field teams have to achieve this task in the field before they start the interviews. The household listing is the first exercise each team has to complete. They have to list all the occupied dwelling within the EA. Any vacant house should not be recorded in the household listing.

Once the household listing is achieved (household counted from 1 to N), supervisors have to do the household selection, 30 households (24 listA and 6 listB)

In order to select 30 households out of the updated household list, supervisor need:

.....At least 30 households within the EA (if in the updated listing, less than 24 households have been identified, some extra households have to be selected in the nearest EA),

.....A sampling step 'St'

.....St = Total no. of HHS in the EA/30 ---- keep only the integer,

.....A starting point Sp = the supervisor choose a number between 1 and the sampling step $1 \leq Sp \leq St$

From the starting point (Sp), add the sampling step (St) separately to get the serial number (1 to N) of the other 29 selected households.

Within these 30 selected households, 4/5 are listed in listA and 1/5 in listB. It means 4 out of 5 selected households are listA and the fifth is listB.

In the following example, 74 households are listed in the household listing.

.....The sampling step $St = 74/30 = 2.46 \Rightarrow 2$ is the integer
The starting point $Sp=(1,2) \Rightarrow 1$ or 2 are possible, 2 is selected by the supervisor
The selection of the 30 households is shown in the following table:

In case of more than 6 replacements are required (listB too short), field staff can choose any households within the EA.

.....In each selected EA, a survey team will be in charge of 24 households. One week is the time period required to interview all males aged 15 and more, and all females 15 - 49 in each household (= one round of field operation)
At the end of each round, each team has completed 24 households

Deviations from Sample Design

During the fieldwork, one of the EAs has to be changed due to difficulties in accessing due to unforeseen reasons and a EA was reselected for replacement.

There were some Wmen and Men's questionnaires that were not done and a special team was assigned to revisit these households to capture the rquired information. For those that they were unable to collect information, these questionnaires were coded as missings during the data entry processing which has an impact on the response rates.

Response Rate

In total, 2,232 households were selected for the sample, with 2,222 households found to be occupied during data collection. Of these existing households, 2,200 were successfully interviewed, giving a household response rate of 99%.

In occupied households 2,651 women were identified as being eligible for individual interviews. Interviews were completed with 2,508 women, yielding a response rate of 94.6%.

Of the 1,598 eligible men identified in the selected sub-sample of households, 83.4% were successfully interviewed.

Response rates were higher in rural areas than in the urban area, with the rural-urban difference in response rates being the greatest among eligible men.

A summary of the response rate is provided below:

Household response rate was:

- 1) URBAN = 97.2
- 2) RURAL = 99.8
- RURAL1 = 99.6
-RURAL2 = 100.0
- 3) TOTAL = 99.0

The eligible women response rate for each strata were:

- 1) URBAN = 92.4
- 2) RURAL = 95.8
- RURAL1 = 94.1
-RURAL2 = 97.8
- 3) TOTAL = 94.6

The eligible men response rate for each strata were:

- 1) URBAN = 79.5
- 2) RURAL = 85.5
- RURAL1 = 79.8
-RURAL2 = 92.3
- 3) TOTAL = 83.4

Weighting

Sample weights for the household data were computed as the inverse of the probability of selection of the household, computed at the sampling domain level (urban/rural1/rural2 within each province).

The household weights were then normalized by a constant factor so that the total weighted number of households equals the total unweighted number of households.

Likewise for the male sub-sample, this was also calculated as a normalised weight.

The women and male weights were also computed using normalised weights, but to improve the accuracy of the estimates, the weights were calculated for each region by age groups.

Altogether, there were four weights derived:

-1) Household weight
-2) Male sub-sample weight
-3) Woman weight
-4) Man weight

Questionnaires

Overview

Three questionnaires were administered during the 2013 VDHS:

-1. a household questionnaire
-2. a women's questionnaire, and
-3. a men's questionnaire.

These were adapted to reflect population and health issues relevant to Vanuatu, and were presented at a series of meetings with various stakeholders, including government ministries and agencies, non-governmental organizations (NGOs) and international donors. Survey questionnaires were then translated into Vanuatu local dialect 'Bislama' and vice versa by the MOH staff.

The topics of questions for each of the questionnaire include:

Household Questionnaire:

-1. Personal characteristics which include relationship, sex, age, residential status, marital status, education, eligibility
-2. Child labor
-3. Child discipline
-4. Disability
-5. Household characteristics which include source of water, sanitation, wealth, construction of walls and mosquito nets
-6. Weight, height, length measurement for CHILDREN aged 0-5
-7. Blood pressure, weight, height measurement for WOMEN aged 15-49
-8. Blood pressure, weight, height measurement for MEN aged 15 and over
-9. Anemia test

Woman's Questionnaire:

-1. Respondent's background
-2. Reproduction
-3. Contraception
-4. Pregnancy and post-natal care
-5. Child immunization and health and child's and woman's nutrition
-6. Marriage and sexual activity
-7. Fertility preferences
-8. Husband's background and woman's work
-9. HIV/AIDS
-10. Malaria
-11. Other health issues

Man's Questionnaire:

-1. Respondent's background
-2. Reproduction
-3. Contraception
-4. Marriage and sexual activity
-5. Fertility preferences
-6. Employment and gender roles
-7. HIV/AIDS
-8. Malaria
-9. Other health issues

Data Collection

Data Collection Dates

Start	End	Cycle
2013-09-02	2013-12-06	N/A

Data Collection Mode

Face-to-face [f2f]

Data Collection Notes

1. LISTING

Household listing was implemented by survey teams two days prior to data collection. All private households within the selected village or enumeration area were listed and recorded along with the head of the household and total number of household members. From the total updated household list, 24 households were randomly selected to be interviewed. Supervisors and field editors assisted their teams with updating the listing of households on the forms and maps.

The maps and list of households used in the 2013VDHS were prepared by VNSO from the 2009 Census of Population and Housing.

All women aged 15-49 years who slept in the sample household on the night prior to the interview were eligible to be interviewed using the women's questionnaire. Every second household was sub-selected for the men's survey.

All men aged 15 or over in sub-selected households were eligible to be interviewed.

2. QUESTIONNAIRE PRE-TEST TRAINING

The questionnaire pre-test training was undertaken from 10.6.2013 for three weeks with about 50 enumerators. The purpose of the training was to familiarise the questionnaires to the enumerators as well as test the suitability aspects of the questionnaires such as the translation, skip procedures and filtering instructions. Two demographers from SPC, Kaobari Matikarai and Renee Sorchik, were the trainers and they were also assisted by the SPC data processing specialist.

In total, 39 field workers (24 women, 15 men) were trained as supervisors, editors and interviewers.

Presentations were also presented by staff of the Health Ministry on various topics relevant to the survey. These include presentations on HIV/AIDS, Malaria, Vaccination and other health topics like tuberculosis, salt intake and other related diseases.

There were also exercises and tests conducted for the enumerators during the training to gauge their knowledge gained. Results from these tests and exercises were used to select who should be the supervisors and editors of each team.

The last week of the training involved the enumerators actually visiting some households and put into practice what they had learnt from the training in terms of interviewing techniques, filling of questionnaires as well as testing the questionnaires to ensure there was consistent flow of information in the questions.

After the pre-test training, the questionnaires were then finalised based on the changes found from the training.

3. FINAL DHS TRAINING

The main training of 2013 VDHS fieldworkers was conducted during 5th -23rd August 2013. Interviewers were recruited prior to the training. Recruitment of fieldworkers involved interviewing and testing for selection. In total, 109 fieldworkers were trained, 80 of whom were selected to be supervisors, field editors and interviewers. The remaining 29 fieldworkers were assigned as data editors and data entry operators, reserves or backup to the selected interviewers and survey nurse.

This training was held in Malvatumauri national chiefs' council chamber (Chiefs Nakamal), and was conducted in both English

and Bislama. Fieldworkers were instructed regarding the importance of the overall survey and given an explanation of each question within the survey, as well as how to ask each question.

Training included instructions on how to follow skip and filtering procedures within the questionnaire. Fieldworkers were tested on their ability to understand the questionnaire and their performance in conducting an interview. Quiz and test results were used for selecting the best supervisors and field editors. In addition to classroom training, fieldworkers underwent several days of field practice to gain more experience in conducting interviews and handling fieldwork logistics.

During fieldwork practice, ten teams were formed, consisting of one supervisor, one field editor, four female interviewers and two male interviewers and one nurse for measurement. Three days were assigned for fieldwork practice, with each team covering 24 households.

During fieldwork practice, some issues were identified (e.g. some questionnaires were printed incorrectly, transport was insufficient). These were dealt with before the actual survey was conducted.

The actual field enumeration was supposed to commence on the 26th of August but due to delays in funding, the survey was delayed for a week and started on the 2nd of September 2013.

3. TEAM WORKLOAD

A round of survey is an allocated time period of 1 week during which each team has to complete the interview of 1 EA.

Each round (one week) the team had to achieve:

-The household listing (day1)
-The selection of 24 households(day1)
-The contact of 24 households and replacement in case
-The interview of all females 15-49 of these 24 households
-The interview of males 15+ in 12 households
-The editing of all the forms

Data collection was for three months from September to November. There were 10 teams and each team was assigned a number of EAs to complete. Teams 1-7 was based in Villa while the other teams were based in Luganville.

4. LANGUAGE OF THE INTERVIEW

The questionnaires for the DHS was translated into Bislama where interview could be conducted using the relevant language.

Questionnaires

Three questionnaires were administered during the 2013 VDHS:

-1. a household questionnaire
-2. a women's questionnaire, and
-3. a men's questionnaire.

These were adapted to reflect population and health issues relevant to Vanuatu, and were presented at a series of meetings with various stakeholders, including government ministries and agencies, non-governmental organizations (NGOs) and international donors. Survey questionnaires were then translated into Vanuatu local dialect 'Bislama' and vice versa by the MOH staff.

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-7. Blood pressure, weight, height measurement for WOMEN aged 15-49

.....8. Blood pressure, weight, height measurement for MEN aged 15 and over

.....9. Anemia test

Woman's Questionnaire:

.....1. Respondent's background

.....2. Reproduction

.....3. Contraception

.....4. Pregnancy and post-natal care

.....5. Child immunization and health and child's and woman's nutrition

.....6. Marriage and sexual activity

.....7. Fertility preferences

.....8. Husband's background and woman's work

.....9. HIV/AIDS

.....10. Malaria

.....11. Other health issues

Man's Questionnaire:

.....1. Respondent's background

.....2. Reproduction

.....3. Contraception

.....4. Marriage and sexual activity

.....5. Fertility preferences

.....6. Employment and gender roles

.....7. HIV/AIDS

.....8. Malaria

.....9. Other health issues

Data Collectors

Name	Abbreviation	Affiliation
Vanuatu National Statistics Office	VNSO	Ministry of Finance

Supervision

Team members and Responsibilities

There were ten teams composed of nine members in each team:

.....1. One supervisor - who was responsible for overseeing all activities of the team.

.....2. Four female interviewers - whose primary task was to conduct the face-to-face interviews with the females identified as being in scope of the survey.

.....3. Two male interviewers - whose primary task was to conduct the face-to-face interviews with the males identified as being in scope of the survey, as well as carry out the household section for each household.

.....4. One editor - who was responsible for checking through each questionnaire once finished to ensure it had been filled in correctly.

.....5. One nurse - who was to carry out all health test and measurement for all eligible respondents (women 15-49, men 15+ and children aged less than 5 years) in the selected households.

Three teams based in Luganville carried out interviews in the Sanma and Torba province while the remaining seven teams were based in Port Vila and carried out interviews in Shefa, Malampa, Penama and Tafea province.

The supervisor's role was to ensure that all questionnaires were completed and forwarded to VNSO for a control check and

data processing. Similarly, it was the supervisor and field editor's responsibility to communicate with the 2012 VDHS Survey Manager about any issue the teams encountered in the field.

Field visits were also made by team in the Vanuatu Statistics on a periodic basis during fieldwork to monitor the progress of the enumeration and most importantly address any issues raised by the teams.

Data Processing

Data Editing

Data Editing

The Editing of the Vanuatu DHS followed the DHS standard edit application as specified by MACRO. Data Editing started right from the field operations where each team of enumerators had a Field Editor who was solely responsible for the checking of the completed questionnaires and make sure they were filled correctly.

During the data processing stage, data editing took place at a number of stages which includes:

1. Office editing and coding:

Once questionnaires were received, they were thoroughly checked to ensure there was no missing variables, no skip errors and inconsistencies were eliminated. Some variables had to be coded like Industry and Occupation.

2. During Data Entry

Logics, skip and inconsistency checks were incorporated in the data entry screen to ensure the data entry operators (DEO) punched in the correct information into the dataset.

A 100% Double entry was also undertaken to ensure consistencies and reliability in the data. Comparisons of datafiles were then done by the DEO to ensure the data in the questionnaire are fully captured.

3. Secondary Editing

In this stage, the supervisor then runs the verification batch edit which will generate error messages for the DEO to verify and rectify in the data. Successful completion of this checks ensures data is fully edited and cleaned.

A data entry manual with a description of the error messages was also provided to assist the office editors to correctly identify and verify the errors encountered.

4. Field Check tables

This includes the generating of tables which results could be used to monitor field enumeration. Some tables provide information on rate of non-response, refusals, vacant households etc and this could be produced by teams and individual enumerators. This helps the Project Controller to monitor and address these issues directly to the respective teams and enumerators.

CSPRO software was used for the editing.

Detailed documentation of the editing of data can be found in the "VNEdits5.rtf" which contains general Guidelines for Data Editing and descriptions of error messages encountered.

Other Processing

The Data Processing follows the standard procedures as specified by MACRO.

There were 93 EAs and data were processed in clusters (EAs) where each cluster of 24 households were being processed through the following steps:

- 1) Questionnaire reception - registering the clusters
- 2) Office checking and coding
- 3) Data Entry
- 4) Double Entry
- 5) Comparison and Verification of Data
- 6) Backing up of Data
- 7) Secondary Editing
- 8) Data Backup of final data.

After all clusters are processed, the edited files are then concatenated into one data file and the following steps are completed:

- 9) Recoding of the "Other" category where necessary
- 10) Frequency check of each variable to ensure there is consistency as well as the value sets (categories) are clearly specified.
- 11) Final batch edit on data
- 12) Verification / Checking / Updating of data from questionnaires
- 13) Adding sample weights
- 14) Calculating of Wealth Index and merging with data
- 15) Run Imputation Program
- 16) Run Anthrop Program
- 17) Recode of variables for analysis
- 18) Compare frequencies between Raw and Recoded variables
- 19) Production of Preliminary Report
- 20) Production of Final Tables for analysis

Details of each of these steps can be found in the data processing documentation, data editing guidelines, data processing programs in CPro and SPSS, and tabulation guidelines.

Data entry was conducted by 8 data entry operators assisted by two office editors.

The role of the two office editors were to check and ensure all completed EA questionnaires are in place, count the number of eligible men and women and should match the number of questionnaires. They also assisted in the verification process to identify from the questionnaires the correct answers in the comparison listing as well as verification and modifying of the secondary edits (batch edits).

There were two data entry supervisors. A total of 9 computers (8 data entry computers plus one supervisors' computer) was used. All data entry was conducted at the Vanuatu National Statistics Office using manual data entry. CPro version 4.1.002 was used with a highly structured data entry program, using system controlled approach that controlled entry of each variable. All range checks and skips were controlled by the program and operators could not override these. A standard set of consistency checks were also included in the data entry program. Open-ended responses ("Other" answers) were also captured which were then recoded later depending on their frequencies.

Data Entry started 1 week after the data collection had started to allow for some completed EAs to be used for the testing and training of the data operators.

In the supervisor computer, there was a menu which was used by the supervisors to control and monitor the data entry process. There was a Control menu checking and ensuring that all questionnaires for the cluster had been entered, were structurally sound, and that women's and children's questionnaires existed for each eligible woman and child as well as for eligible men in the household.

100% verification of all variables was performed using independent verification, i.e. double entry of data, with separate comparison of data followed by modification of both datasets to correct keying errors by original operators who first keyed the files.

To improve the quality of data being processed, a meeting was arranged with the supervisors and the field editors to address issues faced during the data entry process. Some of the issues include:

-missing response to questions
-skip questions not followed
-inconsistencies in eligibility and data entered.
-inconsistencies in dates of immunization and calendar.
-missing questionnaires

After completion of all processing in CPro, all individual cluster files were backed up before concatenating data together using the CPro file concatenate utility.

Data Appraisal

Estimates of Sampling Error

ESTIMATES OF SAMPLING ERRORS

The main objective of a DHS survey is to provide estimates of a number of basic demographic and health variables through interviews with a scientifically selected probability sample chosen from a well-defined population: women of reproductive age (15-49). Estimates from a sample survey are affected by two types of errors:

-1. Non-sampling and
-2. Sampling.

Non-sampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the field operation to minimise this type of error, non-sampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the VNDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results. Sampling errors are the errors that result from taking a sample of the covered population through a particular sample design.

Non-sampling errors are systematic errors that would be present even if the entire population was covered (e.g. response errors, coding and data entry errors, etc.).

The computer software used to calculate sampling errors is the ISSA Sampling Error Module. This module uses the Taylor linearisation method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

Details of the sampling errors are presented in the sampling error appendix of the report.

Other forms of Data Appraisal

The DHS application allows the data entry supervisor to generate a number of field-check tables as and when required by the fieldwork coordinator.

These tables provide necessary information on response rates and other details which would allow the coordinators to assess the reliability and quality of the data being collected.

These tables could be generated by Teams or by even individual enumerator which will give reliable information on which teams or individual is not collecting reliable data.