

Papua New Guinea



mVAM Methodology

Background:

In February 2016, WFP, in close consultation with the National Disaster Center (NDC) of Papua New Guinea (PNG), launched a remote telephone-based food security monitoring system in the country using the mobile Vulnerability Analysis and Mapping (mVAM) approach. Two survey rounds have been completed so far.

The purpose of the initial survey (Round 1), conducted in January-February 2016, was to assess the effect of the 2015-2016 El Niño Southern Oscillation (ENSO) on food security and livelihoods. Data was collected using Digicel Mobile Network from the Digicel call center in Port Moresby. Call operators interviewed a total of 3,708 households in all 231 LLGs classified by NDC in September 2015 as experiencing severe, very severe, or extreme drought conditions (categories 3, 4 and 5).

The follow-up survey (Round 2) assessed the recovery of food security and livelihoods following the 2015-2016 El Niño event, as well as to gauge the current food security conditions in PNG. Digicel operators interviewed a total of 4,708 households by phone between 23 November and 31 December 2016.

Methodology:

Households were randomly selected from Digicel's mobile subscriber database. Within each LLG, the survey targeted 19 households for interviews. However, due to the location of Digicel's mobile phone reception towers and the current location of the mobile phone subscribers, achieving this target was not always possible. Thus, some LLGs had far more than 19 interviews and some far fewer; LLGs which had fewer than five responses have been excluded from the analyses and maps presented in the reports.

In Round 2, the sampling methodology initially prioritized households reached during the first survey: 1,204 households surveyed in Round 1 were successfully interviewed in Round 2. Additional households were then randomly selected from Digicel's mobile subscriber database.

Both surveys were conducted in the two main languages spoken in Papua New Guinea: Tok Pisin and English. A total of seven call operators conducted the interviews (three female and four male). As per standard survey procedures, respondents' consent was obtained prior to the interviews. All respondents received a 2 kina airtime credit incentive after completing the survey. For security and safety measures all respondents were identified with an anonymous ID.

The survey questionnaire aims to collect data at the

household and community level and is divided into five sections with questions relating to:

1. Demographic and geographic information;
2. Community food security situation;
3. Household-level food security experience;
4. Aid assistance received; and
5. Open-ended question on community perception of the food security situation.

Community food security situation:

In the community food security section, respondents are interviewed about the food security situation, food supply, current supply of drinking water, households suffering from hunger, consumption of famine foods, mortality, condition of food gardens, main food items, and the availability of planting materials in their village.

Household Food Insecurity Access Scale (HFIAS):

The HFIAS score is a continuous measure of the degree of food insecurity (access) in the household in the past four weeks (30 days). The index was calculated by summing the number of "Yes" responses for each of the nine questions that form the basis of the [HFIAS methodology](#).

Data Cleaning and Market Prices:

Data cleaning was done on a daily basis during the mVAM survey; duplicate and incomplete surveys were removed. In addition, calls were randomly checked and where there were any discrepancies in any set of questions, surveys were disqualified.

Market prices were collected during survey for main staple crops and rice from all respondents at the national level. Some of the respondents responded in various units. To mitigate this, units were standardized using the table below during quality check:

Staple Food	Unit of Measurement
Kaukau (Sweet Potato)	1 heap (4-5 Pieces)
Sago	1 plastic bag (1kg/5Kg/10Kg)
Banana	1 Bunch (24 bananas), Whole banana = 4-5 bunches
Cassava	1 heap (4-5 Pieces)
Taro	1 heap (4-5 Pieces)
Yam	1 heap (3-4 Pieces); Single Yam
Rice	1 plastic bag (1kg/5Kg/10Kg)

Definitions:

Food supply: This term refers to the quantity of food available in the markets/shops (not to the quality/cost of the food).

Water supply: This term refers to the quantity of drinkable/safe water in the village (not to water that can't be drunk because it is not safe).

Famine foods: famine foods are foods that people wouldn't eat in normal times (inexpensive, wild foods that are not tasty or healthy, foods that are culturally not eaten, such as family pets etc).

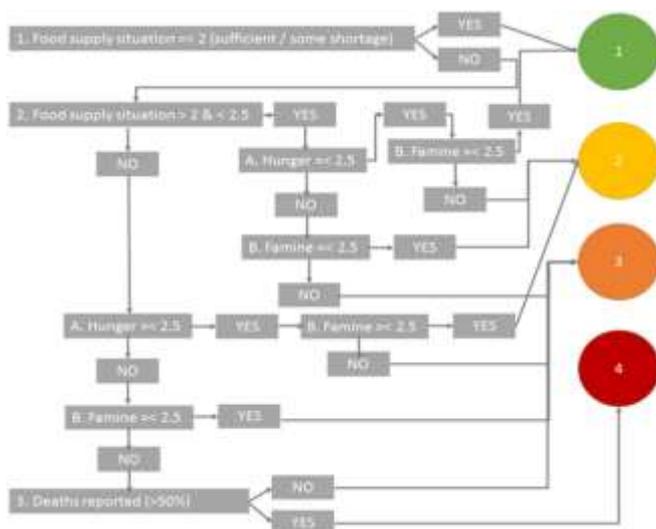
Food Security Impact Phase Classification:

Three community-level criteria were used to classify each LLG into one of four food security impact phases (low, moderate, high and severe).

Criterion 1: This refers to the food supply situation, as reported by the majority of respondents in each LLG. For example, if the majority of respondents in a given LLG said the food supply in their community was sufficient, that LLG was classified as Phase 1. If the majority said there were some shortages, the LLG was classified as phase 2 or 3; and if the majority said there were extreme shortages, it was classified as phase 3 or 4.

Criterion 2: This refers to the number of households suffering from hunger and consuming famine foods in each LLG. If the majority of respondents reported that they were not suffering from hunger and were not consuming famine foods, the phase classification obtained through criteria 1 (above) was downgraded by one phase. Conversely, if the majority of respondents reported suffering from hunger and consuming famine foods, that LLG's phase classification was increased by one phase.

Criterion 3: This refers to the number of deaths in the community reported by respondents. If the average number of deaths reported by respondents in a category 3 LLG was 5 people or more, then that LLG was increased to phase 4. Conversely, if the average number of deaths reported in a phase 4 LLG was lower than 5, that LLG was downgraded to phase 3. Number of deaths did not affect the classification of phase 1 and 2 LLGs.



Open-ended question on community:

At the end of the survey, every respondent was given the opportunity to share a comment through an open-ended question on whether the food

security situation in their community changed since the drought and if so how. These findings were summarized in the word cloud.

Limitations:

Mobile phone survey results tend to be skewed by wealthier households and those living in urban areas as these populations are more likely to own or have access to mobile phones. Despite mobile service coverage of 80 percent as of early 2016, an estimated 65% of the population of over 7.7 million do not have access to a mobile phone – the country currently has just 2.7 million unique subscribers.

Although it is also worth noting that while penetration is measured using subscription data, the percentage of actual usage may be higher as mobile access is communal in rural PNG societies. A handset is usually shared among groups and families.

In addition, women in PNG are much less likely than men to have access to a mobile phone, primarily due to cost, technical literacy, and cultural and infrastructure constraints. This may have led to bias in the sample due to the underrepresentation of women. Out of the 4,708 respondents in this survey, 1,166 were female (25%).

Due to the nature of mobile surveys, the questionnaire needed to be as short and simple as possible. As such, only a limited amount of information could be collected. Moreover, this second round of remote monitoring was intended to serve as a follow-up to the initial survey conducted in January/February 2016, to assess drought recovery and current conditions of food security and livelihoods in the country. Therefore, the questionnaire for Round 2 remained nearly unchanged from Round 1, with additions of a few questions aimed at capturing post-drought assistance and recovery.

Given these inherent biases in mobile surveys, it is important to note that the results of this survey should not be seen as precise estimates of food insecurity, but rather as a way of capturing patterns and relative levels of food insecurity between one area and another.

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mVAM Questionnaire

Round 2 Survey Questionnaire, November 2016

Introduction

Agree: Are you interested in participating in this survey, now or another time?

- YES (Go to Question 1 Age)
- NO, later → When can I call you at another time? (record when to call back - hour/day)
- NO → End of the survey

Question 1: Age

Enumerator: What is your age? [Report # of years] **If the age of the respondent is under 16, end survey**

Section 1: Demographic and Geographic Info

Question 1: Gender_Respondent

Enumerator: The sex of respondent a man or a woman? [Report man or woman]

Question 2: Gender_HoH

Enumerator: Is the head of your household a man or a woman? [Report man or woman]

Question 3: ADM1_Province

Enumerator: In which province are you currently living in? [Report the name of the Province]

Question 4: ADM2_District

Enumerator: In which District are you currently living in? [Report the name of the District]

Question 5: ADM1_LLG

Enumerator: In which LLG are you currently living in? [Report the name of the LLG]

If you cannot find LOCATION in the list, please identify:

Section 2: Community food security situation

Enumerator: I would like to ask you some questions about the food situation in your village.

Question 1: Food supply

Enumerator: What is the current food supply situation in your village, compared to normal?

SUFFICIENT SOME SHORTAGE EXTREME SHORTAGE NO FOOD AVAILABLE

Question 2: Water supply

Enumerator: What is the current supply of drinking water in your village, compared to normal?

SUFFICIENT SOME SHORTAGE EXTREME SHORTAGE NO WATER AVAILABLE

Question 3: Hunger

Enumerator: How many households in your village are CURRENTLY suffering from hunger?

NONE SOME MANY ALL

Question 4:

Enumerator: How many households in the village are currently ONLY consuming famine foods such as foods found in the forest, for example wild yam, wild berries, banana corm or green pawpaw.

NONE SOME MANY ALL

Question 5: mortality

Enumerator: In the last 6 months, did anyone in your village die because they did not have enough food to eat?

YES NO

Question 6: Production

Enumerator: What is the condition of food gardens in the village currently, compared to normal?

NORMAL LESS MUCH LESS NONE

Question 7:

Enumerator: What is the MAIN FOOD ITEM in your area?

KAUKAU SAGO BANANA CASSAVA TARO YAM

Question 8:

Enumerator: Currently, how much does 1 heap of [MAIN STAPLE] cost? [Report with the amount you pay for 1 heap in PGK. If respondent does not know, enter A; if item is not present in the market, enter B]

Question 9:

Enumerator: What is the supply of [MAIN STAPLE] in your nearest market/ shop, compared to normal ?

SUFFICIENT SOME SHORTAGE EXTREME SHORTAGE NO SUPPLY AVAILABLE

Question 10:

Enumerator: What is the supply of planting materials (seeds/ cuttings) for the [MAIN STAPLE]?

SUFFICIENT SOME SHORTAGE EXTREME SHORTAGE NO PLANTING MATERIALS AVAILABLE

Question 11: Rice price

Enumerator: Currently, how much does 1 kg of rice cost in your nearest market shop? [Report with the amount you pay for 1 package of 1 kg of rice in PGK. If respondent does not know, enter A; if item is not present in the market, enter B]

Section 3: Household Food Security Experience Section

Enumerator: I would like to ask you some questions about your household food DURING THE PAST 7 DAYS.

Question 1:

Enumerator: DURING THE PAST 7 DAYS, did you at any time worry that there wasn't enough food to eat for your household? YES/NO

Question 2:

Enumerator: Was your household able to eat the kind of food that you normally eat? YES/NO

Question 3:

Enumerator: Did your household eat a more limited variety of food than normal? YES/NO

Question 4:

Enumerator: Did your household eat food at any stage that no one really wanted to eat but there was no other choice? YES/NO

Question 5:

Enumerator: Did your household eat smaller meals than needed because there was not enough food? YES/NO

Question 6:

Enumerator: Did your household eat fewer meals per day than usual because there was not enough food? YES/NO

Question 7:

Enumerator: During the past 7 days, did it happen that your household had no food to eat of any kind? YES/NO

Question 8:

Enumerator: Did anyone in your household go to bed feeling hungry because there was not enough food? YES/NO

Question 9:

Enumerator: Did anyone in the household go a whole day and night without eating because there was not enough food? YES/NO

Question 10:

Enumerator: What is your household's main income activity?

Garden crops Cash crops

Livestock Fishing/Hunting

Mining Casual labour

Trader/business owner/seller Technical professional (mechanical, engineer, doctor, nurse, teacher, etc.)

Government/public servant Religious activity

Other _____

Question 11:

Enumerator: To what extent has your income or food derived from [MAIN INCOME

ACTIVITY] recovered since the latest drought/frost?

YES - FULLY YES - PARTIALLY NOT RECOVERED NOT AFFECTED

Question 12:

Enumerator: Are any of your children currently suffering from any sickness?

YES NO NO CHILDREN

Question 13:

Enumerator: If, yes what are they suffering from?

DIARRHOEA / DYSENTERY / VOMITING / STOMACH PROBLEMS

RASH/SKIN PROBLEM MALARIA DENGUE

COUGHING / TB / RESPIRATORY PROBLEMS FAINTING AND DIZZINESS

OTHER _____

Section 4: Aid Assistance Section

Question 1:

Enumerator: In the past 6 months, have you received any food assistance because of the drought/frost situation?

YES NO (Go to next section - Open question) NO, I was not affected by the drought/frost (Go to next section - Open question)

Question 2:

Enumerator: If yes, from whom did you receive the assistance? (Multiple answers possible)

Wantok Churches NGO Government UN World Food Program

Private business

Other _____

I don't remember

Question 3:

Enumerator: was the assistance received sufficient to improve the food situation in your household?

YES NO

Question 4:

Enumerator: was the assistance provided when you needed it the most?

YES NO

Open Question:

Enumerator: This is our last question, has the food security situation in your community changed since the last drought/frost, and if so why?

..... [Free text]

If respondent does not want to respond to the open ended question, go to the conclusion.

Conclusion

Question 1: *Call back*

Enumerator: May we call you back in 3 months?

YES NO

Enumerator: Thank you very much for your time! Your answers will aid to the understanding and response to needs in your community.

Instructions for Enumerator:

1. Please end the survey ticking one of the box below:

Survey completed Survey incomplete

2. Please rate your perception of the respondent's knowledge of the food security situation and ability to provide good quality information: Knowledgeable Not very knowledgeable