SAVING
LIVES
CHANGING
LIVES

Vulnerability Analysis and Mapping

Food security analysis at the World Food Programme

Food security analysis, commonly known as Vulnerability Analysis and Mapping (VAM) is a core area of the World Food Programme's work and forms the basis for the design of all of its operations. Prior to any intervention, WFP undertakes an analysis of the food security situation in the area and answers some critical questions:

- **Who** is food insecure or vulnerable?

- **Why** are they food insecure or vulnerable?

- **How many** are they?

- **Where** do they live?

- **What** should be done to save their lives and livelihoods?

- **How** is the situation likely to evolve and what are the risks threatening them?

VAM provides geospatial and economic analysis, food security monitoring and assessments, post-shock assessments and thematic analysis. The information VAM supplies allows WFP to perform effective targeting, determine the most appropriate type and scale of intervention (e.g. food distributions, school feeding, cash or voucher programmes), and ensure the most efficient use of humanitarian resources by allocating funding according to needs.

WFP undertakes food security analysis in close collaboration with partners worldwide, including governments, UN agencies, local/international NGOs, regional bodies and academic institutions. These partnerships ensure a shared understanding of food security problems and common priorities for action.

OPEN DATA

VAM endeavours to make all the food security data it collects as "open" as possible, in order to provide the most accurate and timely information. All information is freely available online at the VAM One Stop Shop (vam.wfp.org), featuring the latest food security data, publications and analytical tools, together with anonymized aggregated data, which is hosted in an open databank. Through an API, anyone can access the data and use it for their own analysis.

Users can browse through information on the site by year, assessment type, fieldwork status, and country. The site offers an overview of the food security situation in all countries where WFP works, including detailed information on key indicators such as market prices, baseline and monitoring data.

In order to make the data more easily digestible, VAM also offers a number of data visualizations online at dataviz.vam.wfp.org. Users can explore economic and seasonal data, browse interactive reports, and access thematic dashboards which combine nutrition, economic and climate data to provide an overview of the food security situation in specific countries.

VAM also provides data related to food security to HDX, the Humanitarian Data Exchange (data.humdata.org), an open platform developed by Office for the Coordination of Humanitarian Affairs (OCHA), which aims to accelerate data flows in the humanitarian sector and reduce the time between data collection and decision-making.

200 Food security analysts in **more than 80 countries**

Out of **16,000** WFP staff

▶ VAM IN NUMBERS ◀

100% of WFP project documents are based on VAM analyses

VAM accounts for **less than** **.5%** of WFP's annual budget

WFP
World Food Programme

November 2018
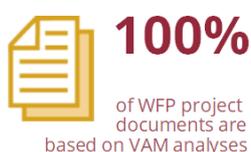
ASSESSMENT TYPES

Comprehensive Food Security and Vulnerability Analysis (CFSVA)

Also known as a baseline survey, a CFSVA provides an in-depth picture of the food security situation during a non-crisis period. It usually covers an entire country and is valid for up to five years. A CFSVA contains a breadth of information (food consumption patterns, markets, education, nutrition, livelihoods), and includes an analysis of risks and vulnerabilities. CFSVAs inform the design of the first post-emergency needs assessments, serve as an essential benchmark against which to measure change after a crisis, and inform contingency planning and preparedness.

Crop and Food Security Missions (CFSAM)

CFSAMs are conducted jointly with FAO, usually for emergencies related to agricultural production or overall food availability problems, always in response to a government request. The mission analyses the supply and demand of staple foods, estimates any uncovered staple food import requirement for the coming year and analyses households' access to food.

Emergency Food Security Assessment (EFSA)

An EFSA is undertaken following a disaster or a shock. It covers affected geographic areas to determine the impact on households and their livelihoods and provides response recommendations for food assistance options. It forms the basis for the design of relief and recovery operations, and can be in the form of an initial, rapid or in-depth assessment.

Focusing on speed and usability for immediate programmatic decision-making, the VAM team in WFP's Asia Regional Bureau has also developed a 72-hour assessment methodology, a type of rapid assessment that highlights the most affected areas and populations in the immediate aftermath of a sudden-onset disaster.

Joint Assessment Missions (JAM)

JAMs are conducted in collaboration with UNHCR to understand the food and nutrition situation, needs, risks, capacities and vulnerabilities of refugees or internally displaced people.

NEEDS ASSESSMENTS

When faced with an emergency or dealing with structural food insecurity, actionable information can save lives and change livelihoods. VAM engages closely with humanitarian and development partners in a variety of joint needs assessments to help identify vulnerable groups and analyse the underlying causes of food insecurity by combining face-to-face with advanced and emerging technologies. Increasingly, VAM engages in basic needs analysis and developing innovative approaches and tools to monitor people's wellbeing and ability to meet their basic needs over time, resulting in better informed response analysis for effective and efficient programme delivery by national, regional and global partners. VAM also conducts analysis and provides support on key thematic priorities, which currently include targeting, urban vulnerability as well as migration and forced displacement.

Reaching the furthest behind first

With increasing needs that cannot be met with the existing funding levels, WFP and partners have the obligation to ensure an effective use of limited resources by targeting the right people with the right assistance. In 2017, VAM led the work with UNHCR to agree on Joint Targeting Principles in refugee settings, signed by the two heads of agencies. VAM is now setting up the *"Reaching the furthest behind first"* initiative aiming to strengthen targeting practices within WFP and among partners to identify the needs of the most vulnerable populations and inform vulnerability-based prioritization decisions in case of funding gaps.

Adapting to an Urban World

In response to the increased urbanization around the globe, VAM, together with the Global Food Security Cluster (gFCS), is taking a lead role in enhancing food security and basic needs analysis in the urban space leveraging innovative approaches and technologies. Based on best practices, including lessons from recent studies in Manila and

Kinshasa, an urban assessment guidance is under development which will be part of a concerted effort by WFP to strengthen its programme response in urban areas.

Monitoring food security, migration and forced displacement

Hunger and displacement due to conflict and natural disasters have increased largely over the past years. Following the flagship publication: "At the Root of Exodus: Food security, conflict and international migration" launched in May 2017, WFP VAM together with partners as the International Organization of Migration (IOM), is setting up the *migration pulse* to empower the displaced by giving them a voice. The *pulse* produces high-frequency data and analysis by using advanced digital technologies together with face-to-face interviews to access highly mobile and hard-to-reach populations in multiple locations. The findings will inform development and humanitarian actions through a credible and timely understanding of the impacts of internal displacement and cross-border migration in areas of origin, transition and destination.

ECONOMIC ANALYSIS

VAM's economic analysis and monitoring provides critical information on food availability and on the functioning of markets that households depend upon to acquire food. It also helps WFP identify the most appropriate forms of assistance (cash, food, or vouchers), evaluate the impact of food assistance on markets, and optimize the efficiency and value for money to those receiving food assistance.

Shock Impact Simulation Model (SISMod)

VAM has developed a light version of SISMod, an economic modelling system, which provides early quantitative estimates of food insecurity for a current situation as well as the anticipated scenarios in the near future. SISMod is used in a variety of crisis situations, to provide preliminary estimates of household food security, and to estimate the short- to mid-term impact of a sudden-onset disaster.
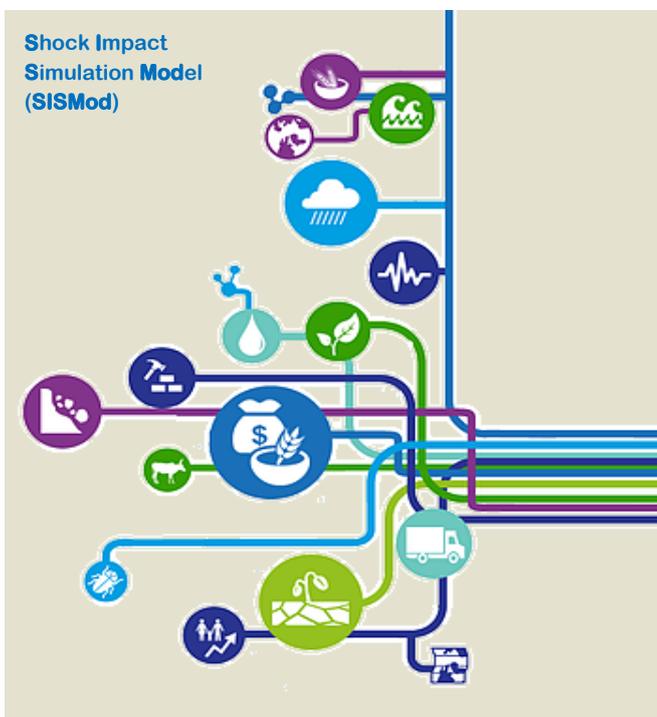
ALert for Price Spike (ALPS)

The ALert for Price Spikes is an indicator that monitors the extent to which a local food commodity market experiences unusually high food price levels. It shows abnormal price levels of selected staple commodities and the number of markets per country with high food prices, and allows comparison between markets at the same time or over different periods for the same market. The methodology is based on empirical work undertaken at the Centre of Research and Studies on Economic Development (CERDI).

ALPS is derived from the difference between the latest observed price available and the corresponding seasonal price trend. It informs WFP's operational programming related to cash, vouchers, and local procurement, while triggering early warning alerts for further food security and market analysis and monitoring.

GEOSPATIAL ANALYSIS

Drawing on the skills and expertise of highly specialized staff, VAM processes large amounts of weather and Earth Observation data. Combined with additional information such as environmental and socioeconomic factors, this information helps to provide context and short- to mid-term perspectives for food security and livelihoods in any given area, and allows WFP to develop intervention strategies before a crisis occurs.

Call Detail Records (CDR)

Sudden impact disasters often result in the displacement of large numbers of people who are especially vulnerable to food insecurity. Analysis of mobile phone Call Detail Records (CDR) help estimate population movements following a disaster, helping the humanitarian community to identify where assistance is most needed.

VAM has partnered with Flowminder/WorldPop, a foundation which aggregates, integrates and analyses anonymized mobile operator data, satellite and household survey data to estimate population displacements following a crisis. The approach has been used to improve humanitarian assistance in settings such as Nepal (following the 2015 earthquakes) and Haiti (following the passage of Hurricane Matthew in October 2016).
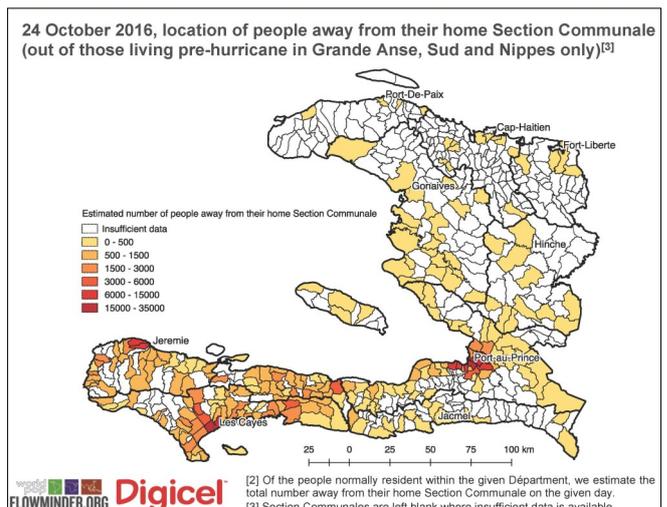
CDR analysis from Haiti after Hurricane Matthew, October 2016.

Very High-Resolution Satellite Imagery

In order to identify and monitor food security hotspots where rapidly-evolving situations may necessitate intervention, VAM analyses Very High-Resolution (VHR) Satellite Imagery, providing WFP with information on the needs of vulnerable communities which may require assistance.
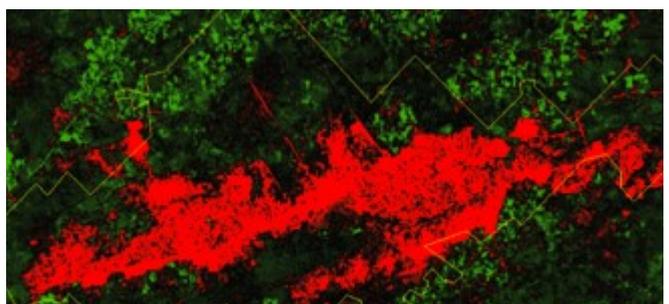
Changes in landscape - refugee camp in Uganda, 2017.

## MOBILE VULNERABILITY ANALYSIS AND MAPPING (mVAM)

Taking advantage of expanding network coverage and cell phone ownership, VAM uses mobile surveys to collect high-frequency data from households (such as food consumption, coping strategies, nutrition indicators) and from key informants (such as market prices, access, and other issues which may affect food security). Remote mobile data collection provides a more flexible and efficient way to collect information: surveys are cheaper, faster, and can be conducted even in unstable areas without putting enumerators at risk. Data collection methods are tailored to the needs of each location: the mVAM toolkit includes live calls, Interactive Voice Response (IVR), SMS, online surveys, and 2-way communications systems.

mVAM was piloted in 2013 at WFP offices in Goma, Democratic Republic of the Congo (DRC) and Galkayo, Somalia. The first country-wide SMS and IVR-based food security monitoring system was launched in September 2014, when mVAM was used in Guinea, Liberia, and Sierra Leone in support of the Ebola emergency response. By 2018, mVAM began transitioning to rolling, real-time food security monitoring systems in order to more quickly and accurately capture improvements and deteriorations in food security. In areas such as Syria or Yemen, where the situation is rapidly evolving, data is collected and processed daily to create interactive dashboards that provide a snapshot of the current food security situation in as near real-time as possible.
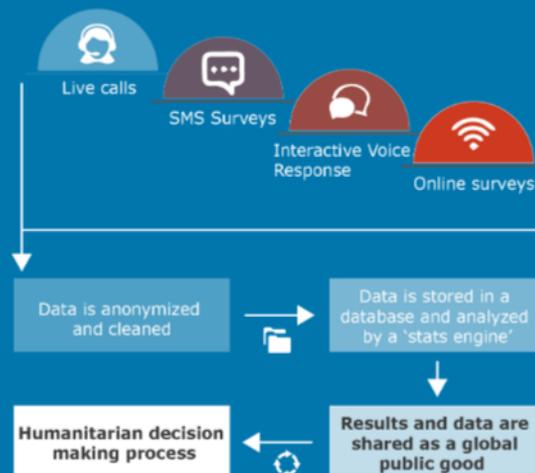
2-way communication platforms

With the goal of ensuring greater digital inclusion for those in areas where internet access is less affordable, VAM has designed and built "lightweight" websites which can be accessed at no data cost from a basic smartphone. These sites are used to share useful information back to communities affected by food insecurity (such as nutrition information, commodity prices, or information about WFP programs) and offer a platform for people to contact WFP to provide feedback.

In partnership with the University of Leiden's Centre for Innovation (HumanityX) and InSTEDD, VAM has also developed a chatbot builder interface that allows WFP country offices to develop their own chatbots to collect and share real-time information about food security. The bots can "chat" with users over messenging clients, giving users information about WFP programmes, in particular food distributions and cash transfers, and providing help with issues related to food assistance. Users will also be able to share information on the food security situation in their community. The chatbot is currently being field-tested.

Photo page 1: WFP/Ifrah Osman Absieh
Photo page 3: WFP/Kusum Hachhethu

PUBLICATIONS

The Market Monitor

This quarterly bulletin provides information on price changes for the most commonly consumed staple foods and their potential impacts on the cost of the basic food basket. Based on information collected at the market level or collated from national institutions, it serves as a useful monitoring tool for analysing price volatility.

The Seasonal Monitor

The Seasonal Monitor examines satellite imagery of rainfall and vegetation in order to assess the development of the growing season and how such conditions might impact the lives and livelihoods of the resident populations. Real-time satellite data streams and seasonal forecasts are analyzed to highlight potential developments
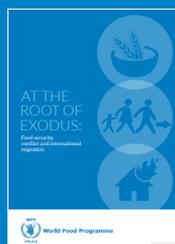
At the Root of Exodus: Food security, conflict and international migration

In response to the wake of the surge of international migration, VAM in close consultation with UNHCR, IOM and FAO, conducted the study "At the Root of Exodus: Food Security, Conflict and International Migration". The report explores the role that food security and other factors play in compelling cross-border migration, and finds that food security is a critical 'push' factor driving international migration along with economic opportunities and income inequality. It is the first time such comprehensive analysis has been carried out. Drawn from quantitative and qualitative research, the study features the accounts of people forced to take extreme measures when left with nothing at all.

The Global Report on Food Crises

The Global Report on Food Crises is produced by FSIN, led by the European Union in collaboration with UN Agencies (FAO, UNICEF and WFP), FEWS NET, the Joint Research Centre of the European Commission (JRC), and regional bodies such as the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS), the Intergovernmental Authority on Development (IGAD) and the Central American Integration System (SICA). The report honors the World Humanitarian Summit — Grand Bargain commitment to provide evidence-based and consensus-driven needs assessments that can inform both humanitarian and development interventions. It uses a consultative process to compile food security analyses from around the world into a meaningful global public good.

FOOD SECURITY INFORMATION NETWORK

FAO, WFP and IFPRI launched the Food Security Information Network (FSIN) in October 2012, to establish a global initiative to strengthen food security and nutrition analysis and decision-making. FSIN offers a common platform for standards setting and knowledge sharing and links countries' capacity needs with existing initiatives led by institutions, donors and partners at regional and global levels. Given the relatively recent emergence of resilience and the proliferation of food and nutrition indicators, two Technical Working Groups (TWG) were established under FSIN. The TWGs are composed of world-renowned experts in their fields. The primary objective of the TWG on Measuring Food and Nutrition Security is to recommend the most effective possible dashboard of indicators to help FSIN stakeholders monitor progress towards meeting their food and nutrition security objectives over the coming decades, while the TWG on Resilience Measurement

developed technical guidelines and a Community of Practice on food and nutrition security resilience measurement in order to share methods, standards and lessons learned among practitioners.

INTEGRATED PHASE CLASSIFICATION (IPC)

IPC is a multi-agency platform which brings partners together for consensus building, increased transparency and improved quality of assessments. It is comprised of twelve members from key organizations focusing on food security. WFP is an active member of the Global IPC steering committee and the technical advisory group within the IPC structure, as well as the Cadre Harmonisé (CH), the harmonized framework for the analysis and identification of areas at risk and vulnerable groups in the Sahel.

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