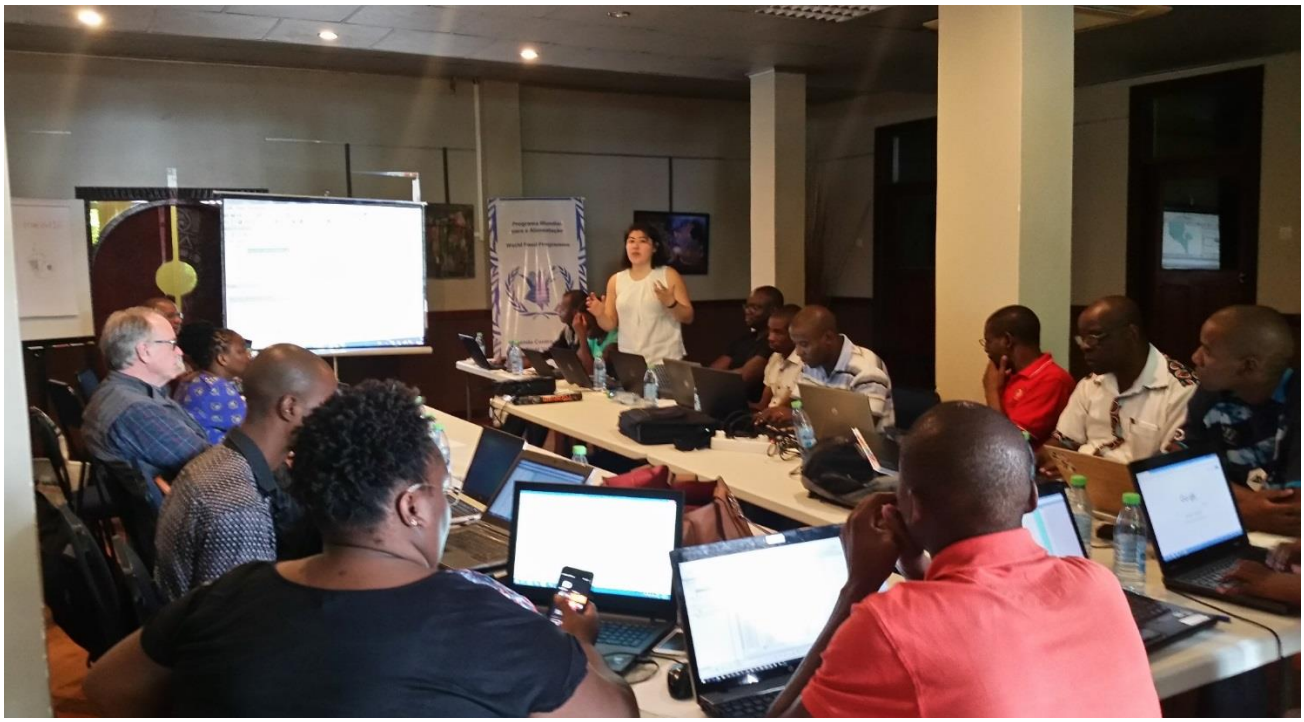
Integrated Context Analysis (ICA) Technical Paper

WFP
wfp.org

Mozambique

April 2017



KFW

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Table of Contents

1. Introduction

This report provides the technical analysis of the Integrated Context Analysis (ICA) in Mozambique, and complements the ICA Programmatic Interpretation and Conclusions by providing an evidentiary basis for discussions on what broad programmatic strategies are appropriate for different parts of the countries. The ICA Programmatic Interpretation and Conclusions will be available as a separate document.

The Integrated Context Analysis (ICA) is an analytical process that contributes to the identification of broad national programmatic strategies, including resilience building, disaster risk reduction, and social protection for the most vulnerable and food insecure populations.

The ICA is based on principles of historical trend analyses across a number of technical and sectorial disciplines, the findings of which are overlaid to identify areas of overlap. Trend analyses provide an understanding of what has happened in the past and what may (or may not) be changing to act as a proxy for what may occur in the future, and where short, medium, and longer-term programming efforts may be required. It is based on two core factors: trends of food insecurity and main natural shocks (droughts, cyclones, and floods).

By overlaying these findings on each other, combinations of recurring food insecurity and shock risk can be identified, and in turn the combinations of broad programmatic strategies that may be required to address these in a more holistic manner, drawing on the comparative advantages and technical expertise of governments, partners, communities, and of affected populations themselves.

Beyond the core ICA factors above, additional layers related to subjects that are relevant to programme strategies (e.g. land degradation, nutrition) can be overlaid as lenses to support further strategic adjustments. The ICA can also be used to identify areas where further in-depth studies or food security monitoring and assessment systems are needed. When used as part of WFP's Three-Pronged Approach (3PA) the ICA can guide the identification of priority areas in which to conduct Seasonal Livelihood Programming (SLP) consultations to identify area-specific complementary and multi-sectorial programmes with governments and partners, which in turn set the foundations for targeted joint efforts with communities and partners to plan and implement programmes through Community-Based Participatory Planning (CBPP).

Partnerships

The ICA workshop and report for Mozambique was produced with financial support from German Cooperation.
The following agencies, organisations, and government bodies participated in the ICA workshop:

- Technical Secretariat for Food Security and Nutrition (SETSAN)
- National Disaster Management Institute
- Ministry of Land and Rural Development
- Ministry of Agriculture and Food Security
- National Institute for Social Affairs
- Ministry of Health
- Ministry of State Administration and Public
- World Food Programme (WFP)
- Food and Agriculture Organization (FAO)
- United National Development Programme (UNDP)

2. The ICA Data Layers

This page overviews how to think about and use the various ICA data layers to identify programme themes relevant to particular geographic areas. Each layer is included for a specific purpose. The ICA Areas and Categories, explained in more depth on the following page, combine the core layers of food security and natural shocks to visualise the intersection of the main programmatic themes. Lenses and Additional Contextual Information layers are used to refine strategies identified via the Categories.

ICA Categories and Areas

ICA Categories

- Assists with broadly identifying where to place the thematic programme building blocks of safety nets, DRR and early warning/preparedness systems.

ICA Areas

- Adds detail to the process above, by showing the intersection of food insecurity and natural shock risk.

ICA Core

Food Security Layer

- Helps to identify where food security safety nets (to provide predictable, consistent assistance) are needed by highlighting areas where food insecurity consistently recurs over the defined threshold.

Natural Shock Risk Layer

- Highlights areas where natural and climate-related hazard risk are highest and thus DRR efforts are appropriate. These can be built into safety net efforts in areas with consistently high food insecurity.
- Contributes to defining regions where early warning and preparedness should be emphasised

Lenses

Land Degradation Lens

- Land degradation can heighten the impact of natural shocks, and is a major contributor to food insecurity. This lens shows where efforts to halt and reverse land degradation are required, either as part of safety nets, DRR or stand-alone programmes, and through policy.

Nutrition Lens

- Shows where nutrition strategies may be required in both food insecure and food secure areas

Population Distribution

- Shows the geographic concentration of where people live

Cereal Production

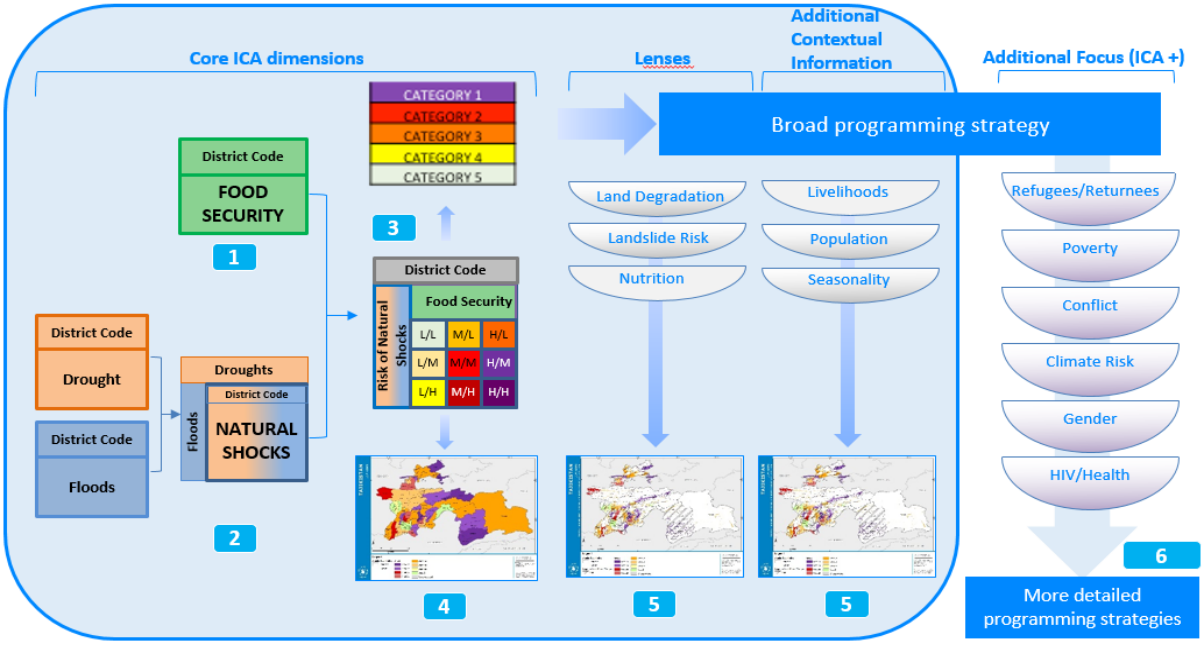
- Shows main cereals grown in different provinces and level of production, providing insight into links between food security, cereal production, and natural shocks.

Numbers of Affected People

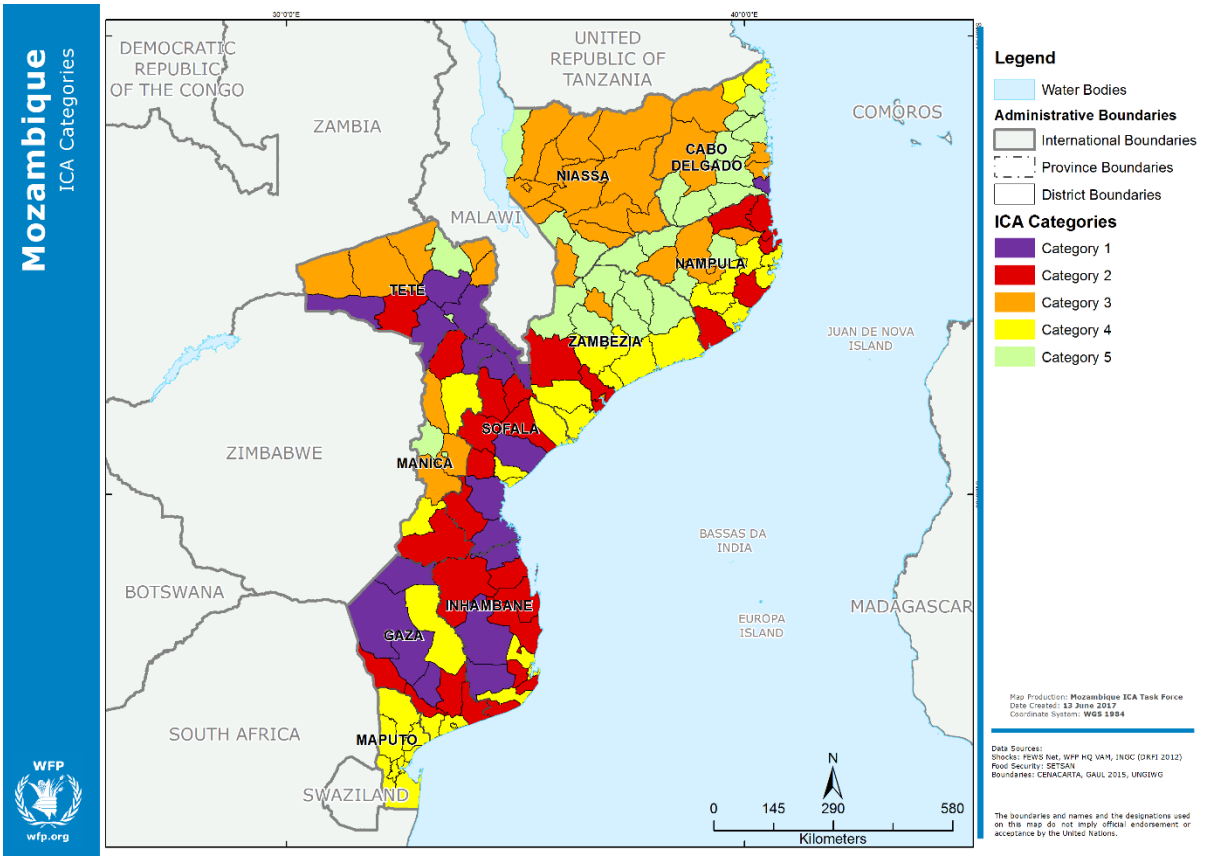
- Estimates how many people are in need of long term assistance, and how many may need assistance if a shock occurs, by looking at the relative levels of food insecurity considering three baseline assessments (CFSVA 2006, 2013, 2016).

3. ICA Technical Construction Process

This diagram outlines how the ICA layers are put together during the analysis process.



4. ICA Categories

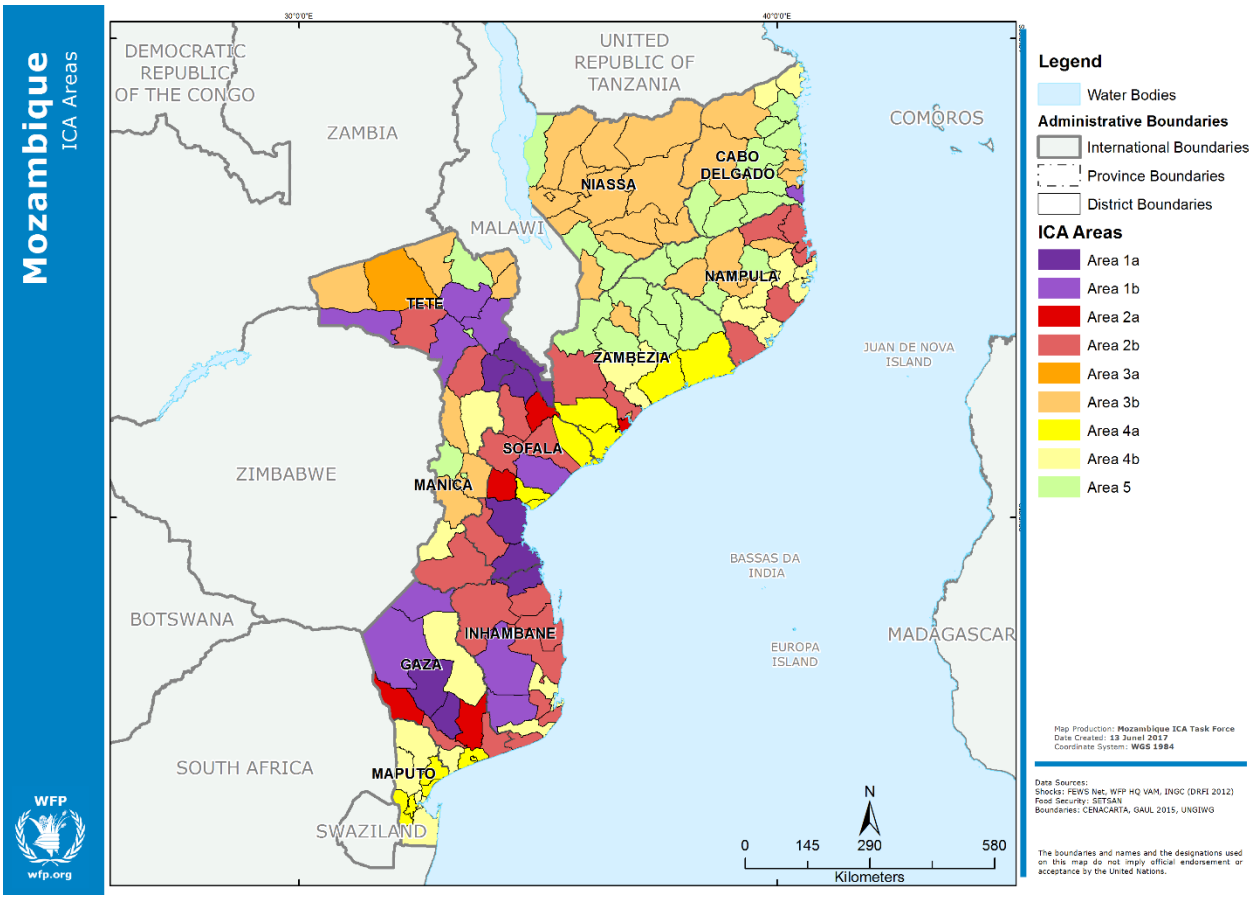


The ICA categorises the country's Districts into Categories 1 to 5 based on their levels of recurring food insecurity and exposure to natural shocks. This is done by combining some of the ICA Areas on the following page, as shown

in the table below, such that the nine Areas become five Categories. The ICA Categories and areas provide evidence for broad programmatic strategies and discussion with partners.

Risk of Exposure to Natural Shocks	Recurrence of Food Insecurity		
	LOW	MEDIUM	HIGH
LOW	Area 5 **CATEGORY 5** In the absence of a clear long term food insecurity entry point (noting that pockets of food insecurity may exist) programme themes should concentrate on DRR to a level justified by the risk. This can include ensuring appropriate early warning/preparedness relative to risk, as well as mitigating land degradation and other risk reduction measures.	Area 3 B **CATEGORY 3** Locations identified as Area 3A show persistent food insecurity that can justify safety nets; Area 3B locations are more likely linked to seasonal factors where safety nets may also be applicable, or shocks where recovery is more of a focus. Whilst natural shock risk is lower, local contexts may benefit from early warning/ preparedness to reduce risk from possible events.	Area 3 A
MEDIUM	Area 4 B **CATEGORY 4** In the absence of a clear long term food insecurity entry point (noting that pockets of food insecurity may exist), DRR including early warning / preparedness is a priority. Further, attention should be paid to land degradation given that this could worsen future shocks, potentially impacting food security.	Area 2 B **CATEGORY 2** Intermittent food insecurity patterns may be related to either shocks (natural or man-made) or seasonal factors. If seasonal, safety nets can reduce predictable food insecurity; if shocks are a cause, a recovery focus may be suitable. At the same time, high shock risk argues for DRR including early warning and preparedness.	Area 1 B **CATEGORY 1** Persistent food insecurity suggests that safety nets providing predictable support to vulnerable populations may be appropriate, whilst high shock risk justifies including DRR, including early warning and preparedness themes
HIGH	Area 4 A	Area 2 A	Area 1 A

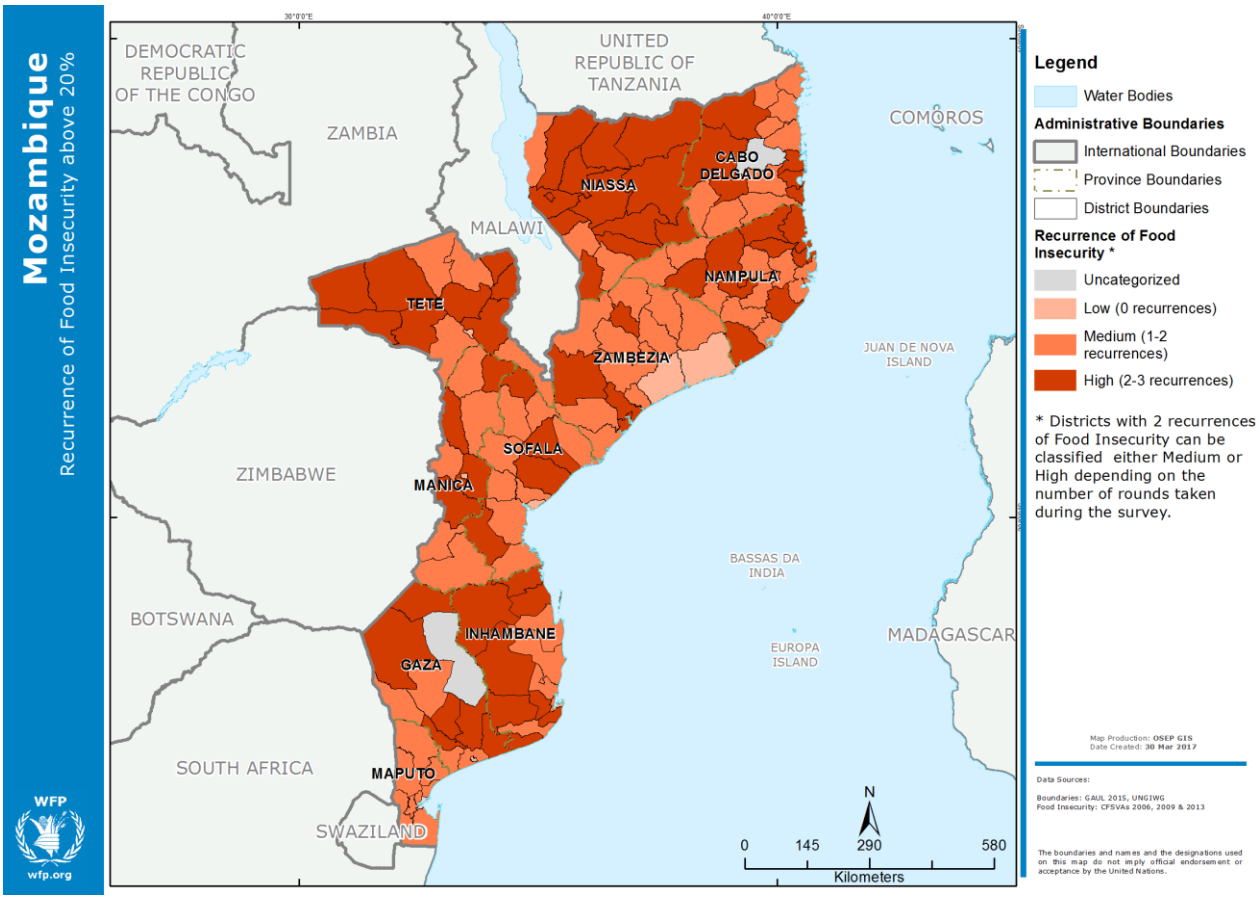
5. ICA Areas



The ICA areas map is created by combining for each District the three-point scale values for food security and natural shock risk shown on the following two pages. The high/medium/low values are cross-tabbed, producing the nine area types shown in the table below.

Exposure to **Natural Shocks**	**Recurrence of Food Insecurity above Threshold**		
	LOW	**MEDIUM**	**HIGH**
LOW	**Area 5**	**Area 3B**	**Area 3A**
MEDIUM	**Area 4 B**	**Area 2 B**	**Area 1 B**
HIGH	**Area 4 A**	**Area 2 A**	**Area 1 A**

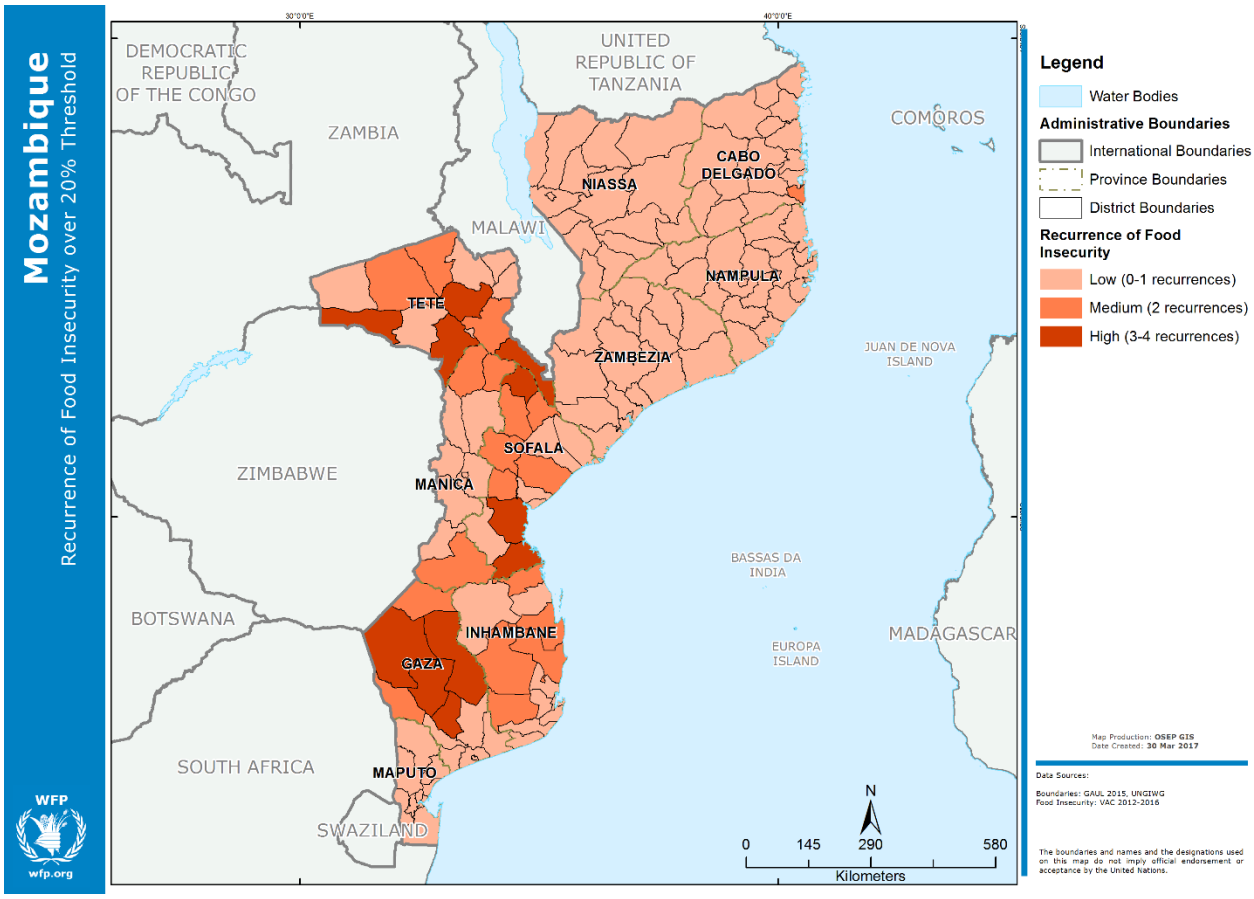
Food Security Analysis



Two distinct data sources were considered for the food security analysis: the first using data from the 2006, 2009 and 2013 Food Security and nutrition Baseline data from SETSAN. Each of the three baseline assessments was conducted annually, such that in total 3 rounds were available. For the purposes of the analysis, data was aggregated at district level.

It should be noted that: baseline data was only available for 2006, 2009 and 2013. Therefore, the evolution of the baseline situation over the past 4 years was not properly captured.

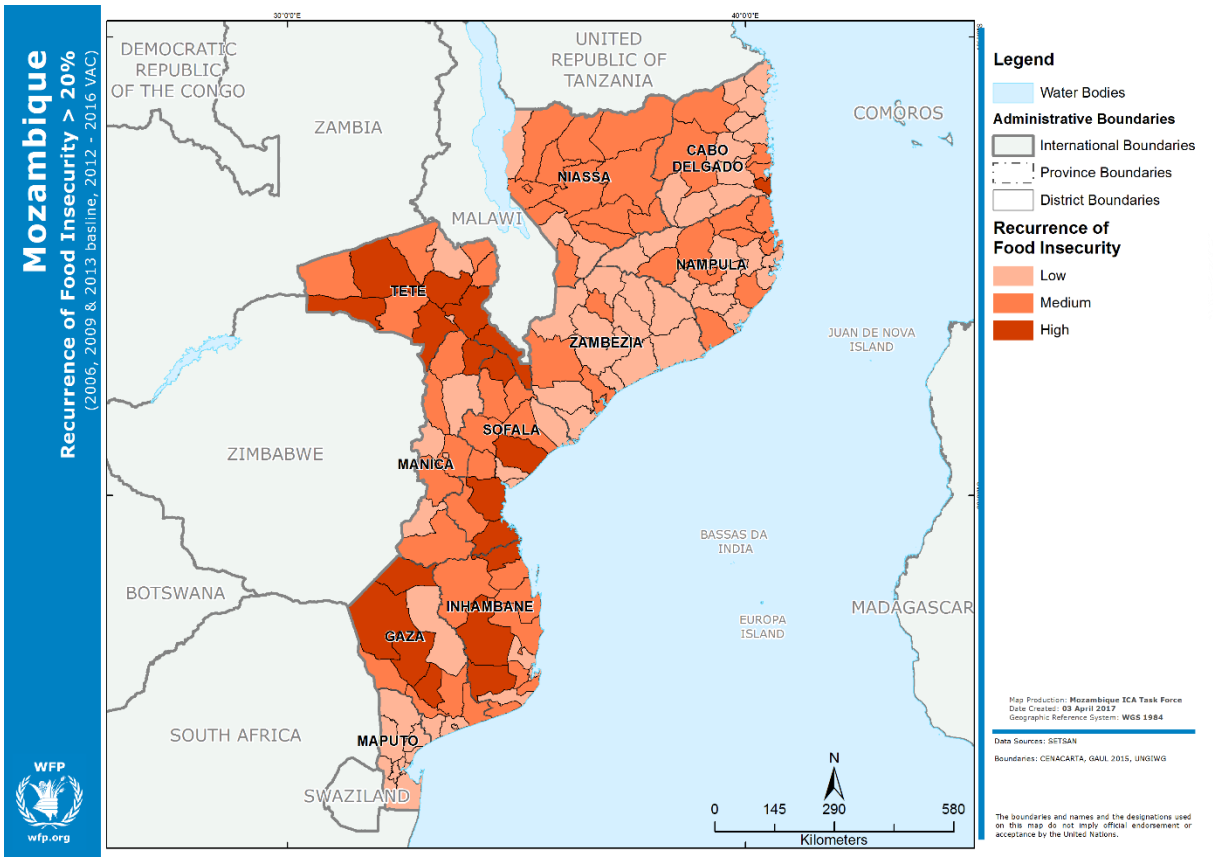
The key indicator utilised for the analysis was the Food Consumption Score, considering households with poor and borderline food insecurity. The food security threshold was set at **20%** given that this highlights areas where at least one in five households is food insecure. Areas were classified considering the number of times the indicator value was above the threshold.



The second data source considered come from the latest Vulnerability Assessments conducted by SETSAN. The Vulnerability Assessment (VA) quantitative data was collected once a year from March, 2012 through November, 2016., such that a total of 5 rounds were available.

However, it should be noted that these assessments did not cover all districts in the country but focused instead on districts affected by drought emergencies (Central and Southern regions of the country). VAC data only targeted the most affected districts hence it is not a national wide assessment unlike the baselines.

The key indicator utilised for the analysis was the Food Consumption Score. The food security threshold was set at 20% given that this highlights areas where at least one in five households is food insecure. Areas were classified considering the number of times the indicator value was above the threshold.

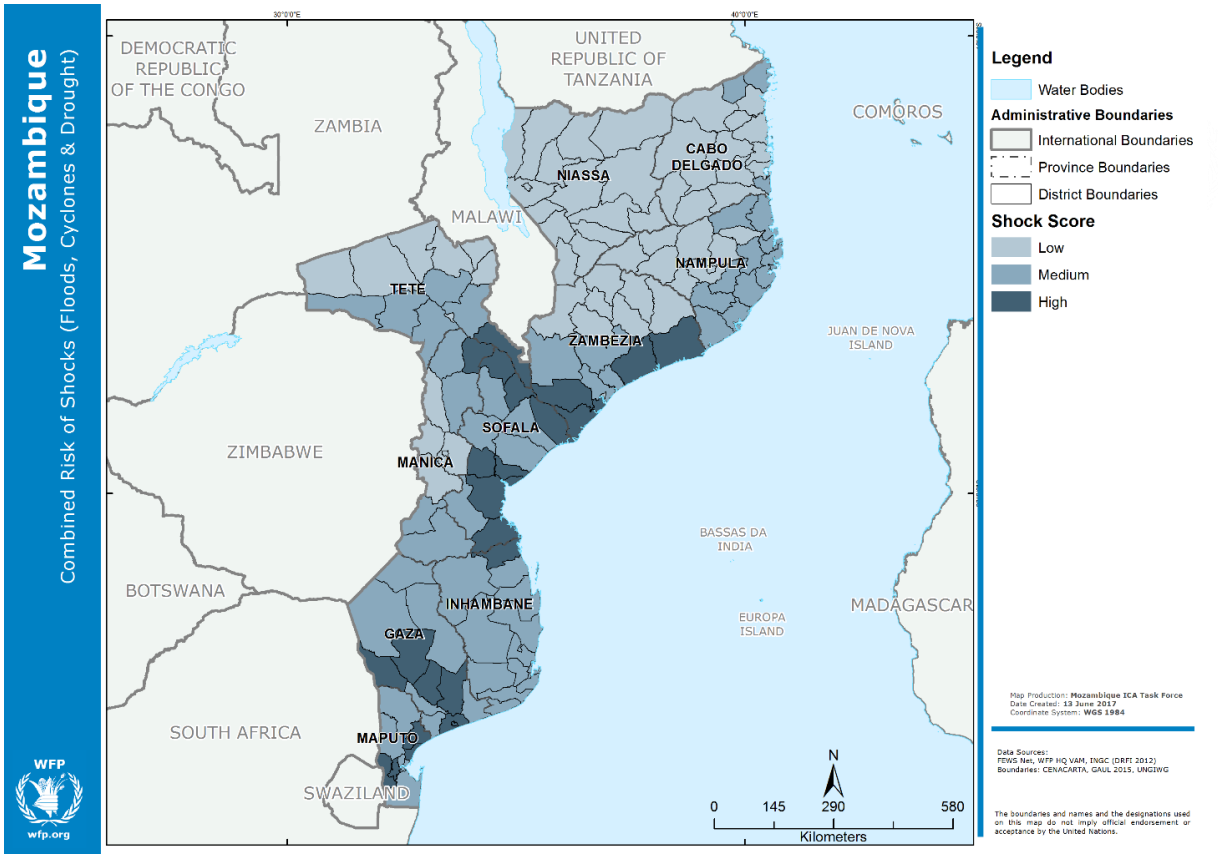


The results of the two analyses were combined in order to highlight districts where households are affected by both chronic food insecurity (as seen in the baseline results) and acute food insecurity during shock events (as seen in VAC results). The results were cross-tabbed according to the table below:

	Recurrence of food insecurity (Baseline) by **district**		
Recurrence of food insecurity (VAC)	Low (1)	Medium (2)	High (3)
Low (1)	Very Low	Low	Moderate
Medium (2)	Low	Moderate	High
High (3)	Moderate	High	Very High

Final food insecurity classification by **district**			
Combination of VAC & baseline classifications	**2 – 3**	**4**	**5 - 6**
ICA Reclassification	LOW (1)	MEDIUM (2)	HIGH (3)

6. Natural Shock Risk Analysis



The natural shocks analysis was carried out using data on floods, drought and cyclones. Data for each of these shocks was analysed by district.

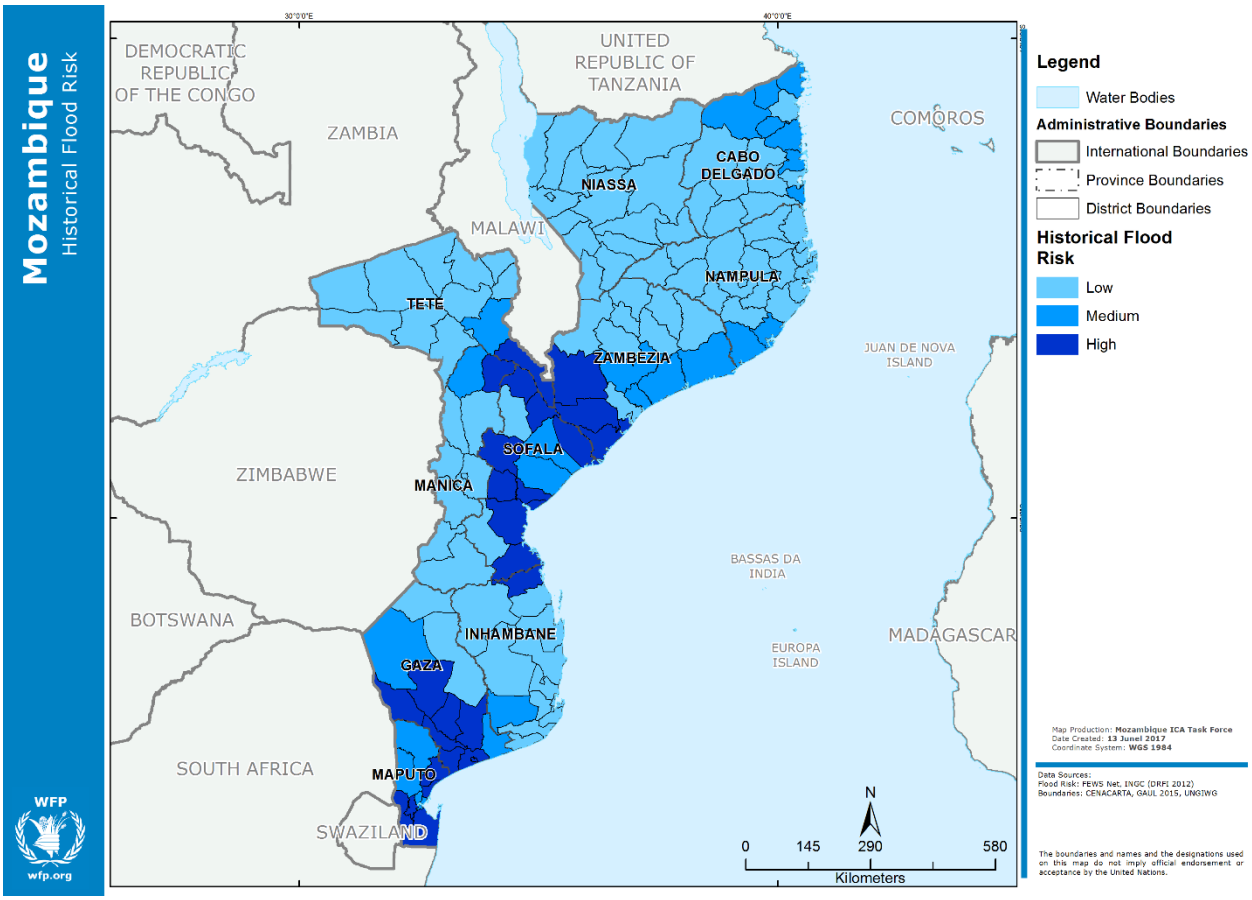
For the shocks and aggravating factors in this ICA, preference to using natural breaks (Jenks) was given. This method is designed to obtain the best possible categorization within the values of the different classes. The technique is based on natural groupings inherent to the data: the class breaks are identified to best group similar values and to maximize the differences between classes. This method reduces the variance within the classes and maximizes the variance between different classes.

At the same time, recognizing that there is no perfect data source or method of classification, the Mozambique ICA Task Force considered that the current results could be used by WFP and relevant stakeholders, and that this was the most appropriate approach for now given the context of Mozambique and type of data that was available at the time of the analysis.

Flood & Cyclone exposure					
Drought exposure	Low /Low(2)	Low/Medium (3)	Low/High (4) Or Medium/Medium	Medium/High (5)	High/High (6)
Low (1)	3	4	5	6	7
Medium (2)	4	5	6	7	8
High (3)	5	6	7	8	9

Combined exposure by district			
Combined risk of natural shocks	**3 – 4**	**5 – 6**	**7 – 9**
ICA Reclassification	LOW (1)	MEDIUM (2)	HIGH (3)

Floods



Flood data was obtained from the FEWS Net and included historical flood extents available since 1975, as well as flood risk models for the Limpopo and Incomati rivers. The original dataset was aggregated to the district level. These results were complimented by additional list of high and very high-risk districts from the INGC – as identified in the 2012 Disaster Risk Financing and Insurance Country Note. It should be noted that the flood data had limitations, the only data that was available for the analysis was on the flood extent and the FEWSNET dataset provided did not contain information on the frequency of the events. It should be noted that in the last 5 years the patterns of floods are changing and affecting the northern area of the country that were not registering extreme floods events. This was noted by the Mozambique ICA Task force.

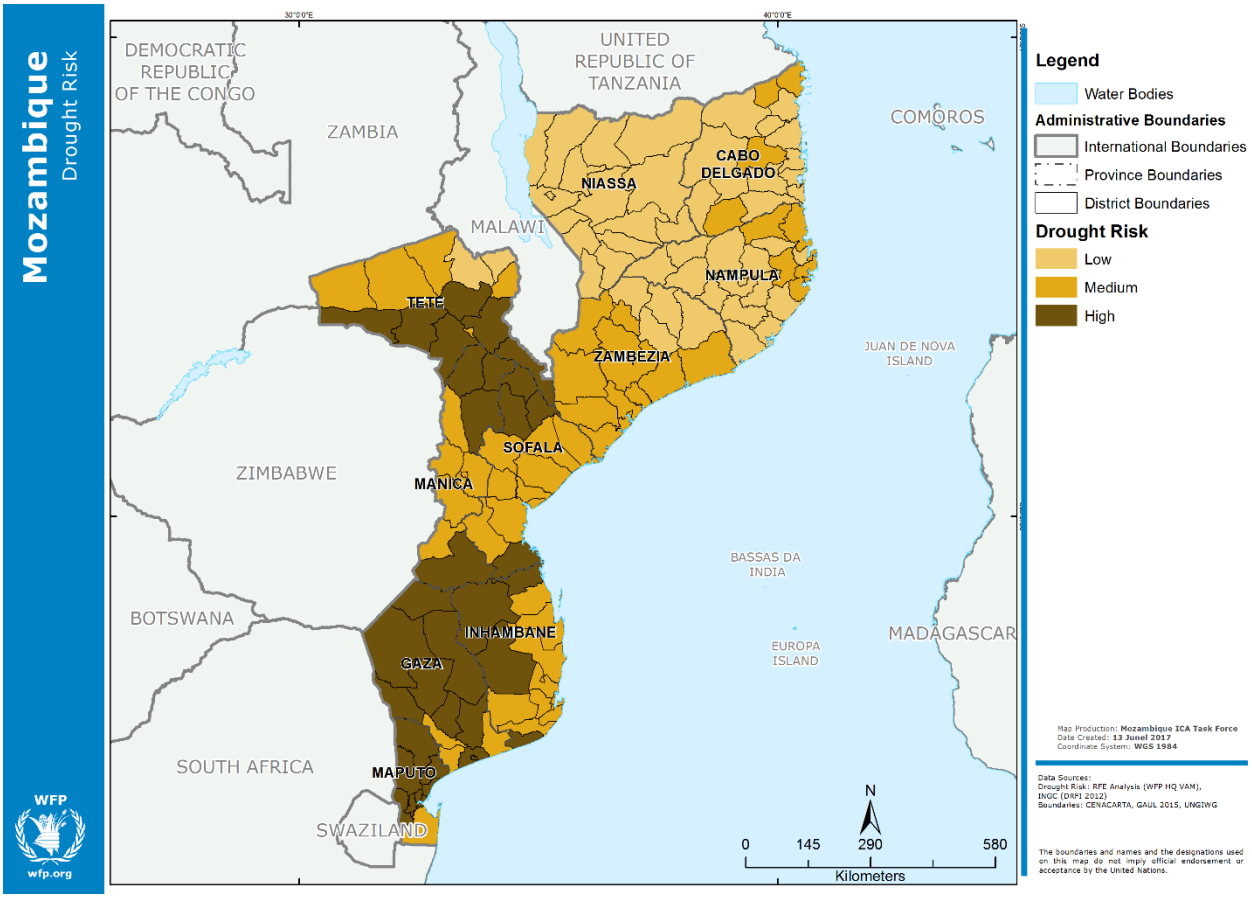
% of surface area affected by **district**			
% of surface area affected	0%	1 – 10%	> 10%
ICA Reclassification	LOW (1)	MEDIUM (2)	HIGH (3)

INGC flood hazard classification by **district**				
INGC classification	Low or Zero	Moderate	High	Very High
ICA Reclassification	LOW (1)		HIGH (2)	

Flood risk by **district**			
Flood Hazard	Low (1)	Medium (2)	High (3)
Low (1)	Low	Medium	High
High (2)	Medium	High	High

Flood risk by **district**			
Flood risk (% territory affected & hazard)	**2**	**3**	**4 - 5**
ICA Reclassification	LOW (1)	MEDIUM (2)	HIGH (3)

Drought



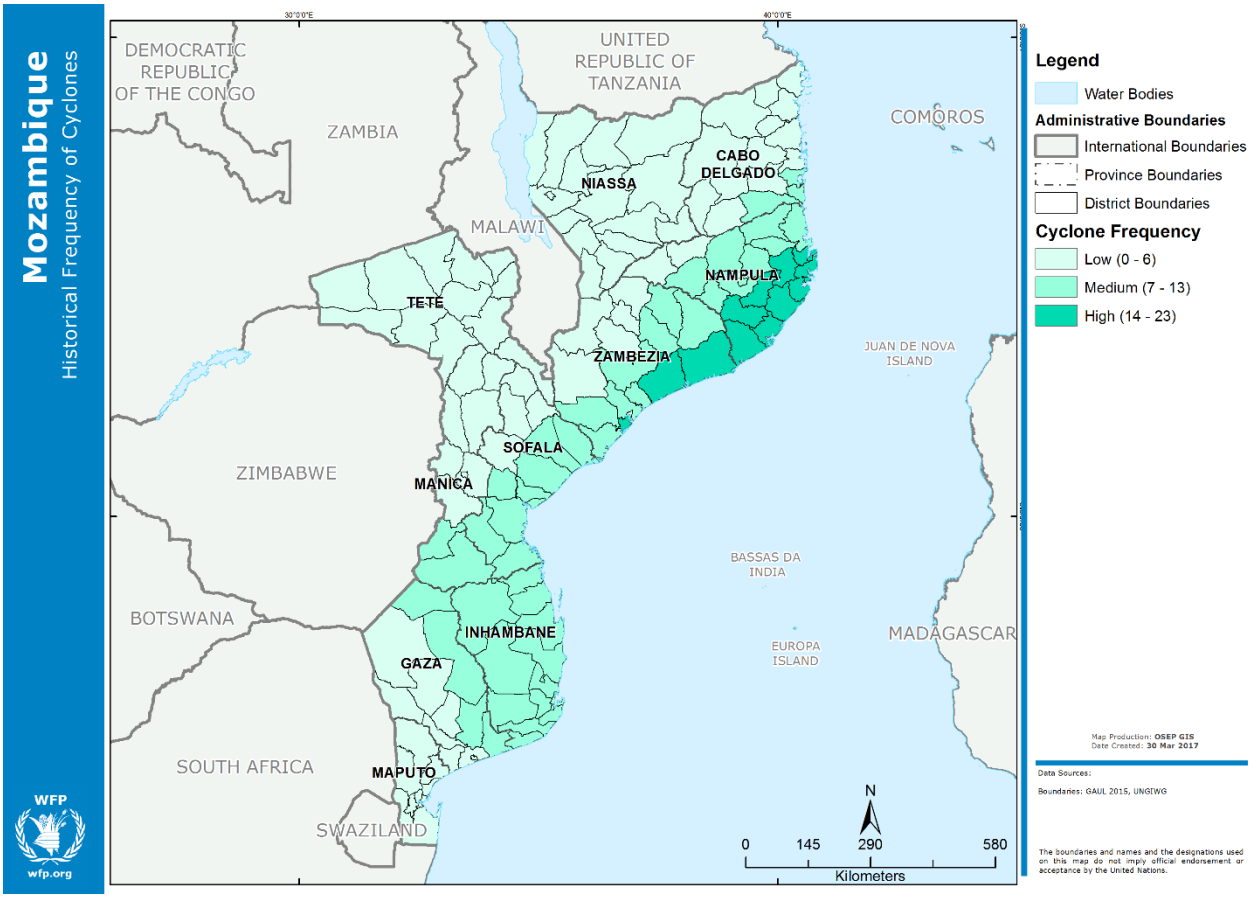
Drought data was obtained from the Rainfall Estimate (RFE) analysis (provided by WFP HQ VAM) and was available from 1981 through 2015. The original dataset was aggregated to the district level. These results were complimented by additional list of high and very high-risk districts from the INGC – as identified in the 2012 Disaster Risk Financing and Insurance Country Note. It should be noted that: the analysis is based on remotely-sensed data, which may not always capture the exact situation on the ground. Furthermore, the use of Rainfall Estimates considers only the deficit of precipitation and not other factors that may alter the impact of deficits (e.g. irrigation). The key indicator used to detect the drought risk zones was the number of poor growing seasons), which measures rainfall for each growing season which is then evaluated against a long-term average. The range of values classified by the ICA as indicated below.

Number of Poor Growing Seasons by **district**			
NPGS	**1 – 6**	**7 – 10**	**> 10**
ICA Reclassification	LOW (1)	MEDIUM (2)	HIGH (3)

INGC hazard classification by **district**				
INGC classification	Low	Moderate	High	Very High
ICA Reclassification	LOW (0)		HIGH (2)	

Drought risk by **district**			
Flood Hazard	Low (1)	Medium (2)	High (3)
Low (0)	Low	Medium	Medium
High (2)	Medium	High	High
Drought risk by **district**			
Drought risk (NPGS x hazard)	**2**	**3**	**4 – 5**
ICA Reclassification	LOW (1)	MEDIUM (2)	HIGH (3)

Cyclone



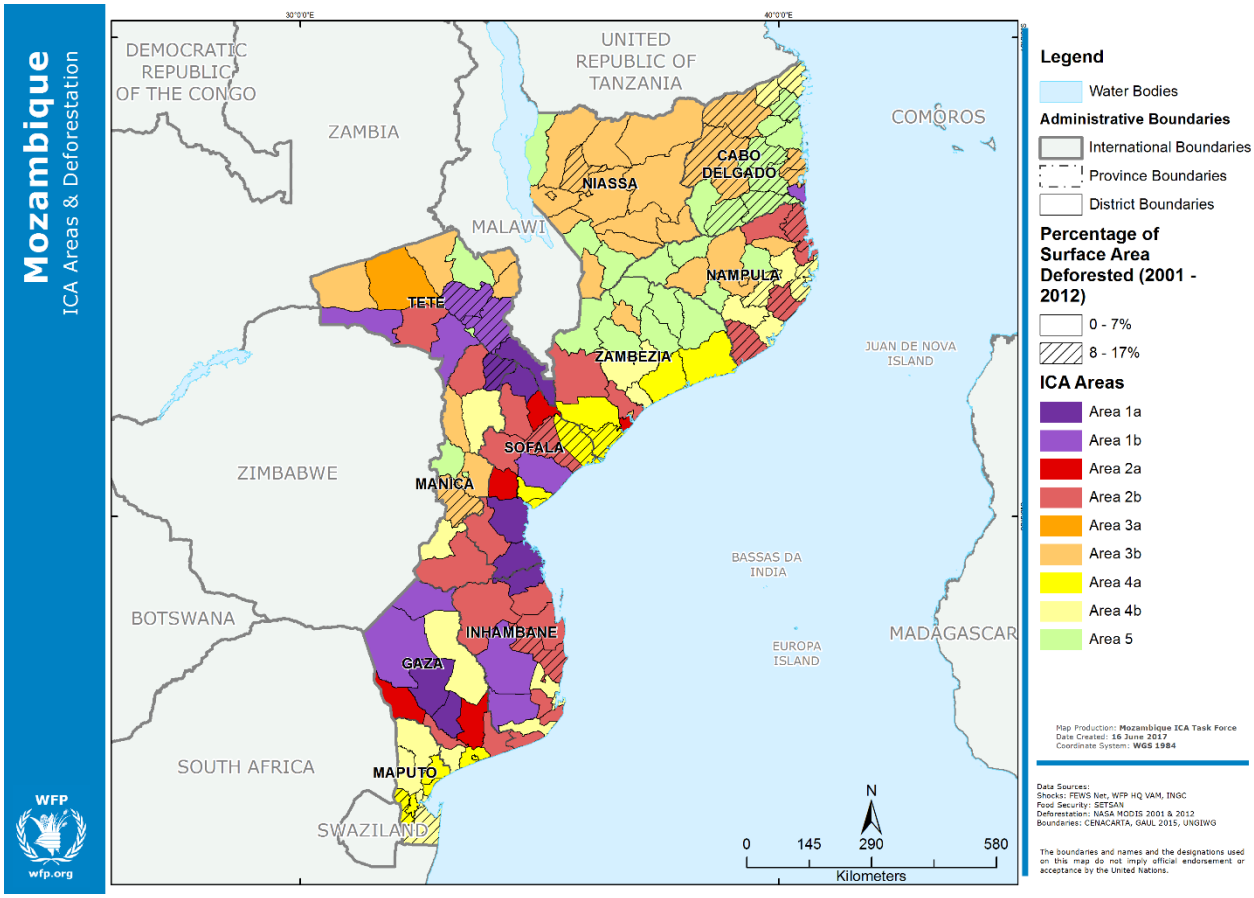
Cyclone frequency data were obtained from FEWS Net and were available from 1930 through 2000. The original dataset was aggregated to the district level. The key indicator used was the average frequency per district, with the range of values classified by the ICA as indicated below.

Average cyclone frequency by **district**			
Average Cyclone frequency	0 – 6	7 – 13	14 - 23
ICA Reclassification	LOW (1)	MEDIUM (2)	HIGH (3)

7. ICA Lenses

ICA lenses provide information relevant to further refining programme strategies overlaid on top of the ICA Categories. Thus, for example, the Landslide Risk lens can be used to pinpoint areas where landslide risk could be addressed as part of DRR programming. ICA lenses are simple one-indicator overviews of a particular subject.

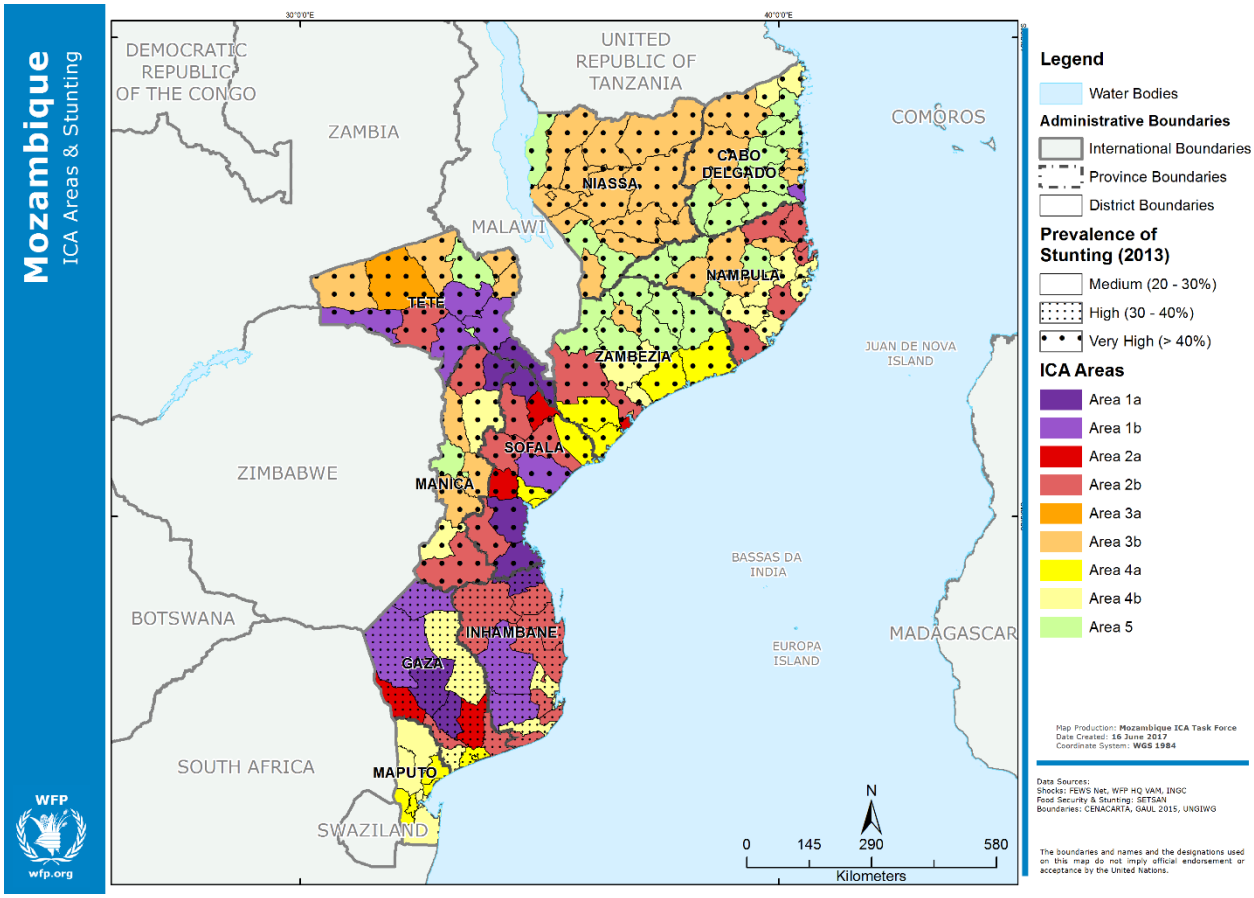
Land Degradation Lens



The key indicator used to assess land degradation was a deforestation analysis performed using remotely sensed land cover data for 2001 and 2012 from the National Aeronautics and Space Administration (NASA). The original dataset were analysed by WFP HQ GIS unit and aggregated to the District level, considering percentage of area deforested.

It should be noted that small-scale deforestation, where food insecurity and coping strategy resulted in cutting trees for charcoal production is less apparent on the map. This may be in part due to the resolution of the data (~250 m) which limits its sensitivity to capturing localized changes. On top of the ICA categories, Districts with more than 8% of surface area deforested were mapped to highlight areas with degradation problems.

Nutrition Lens

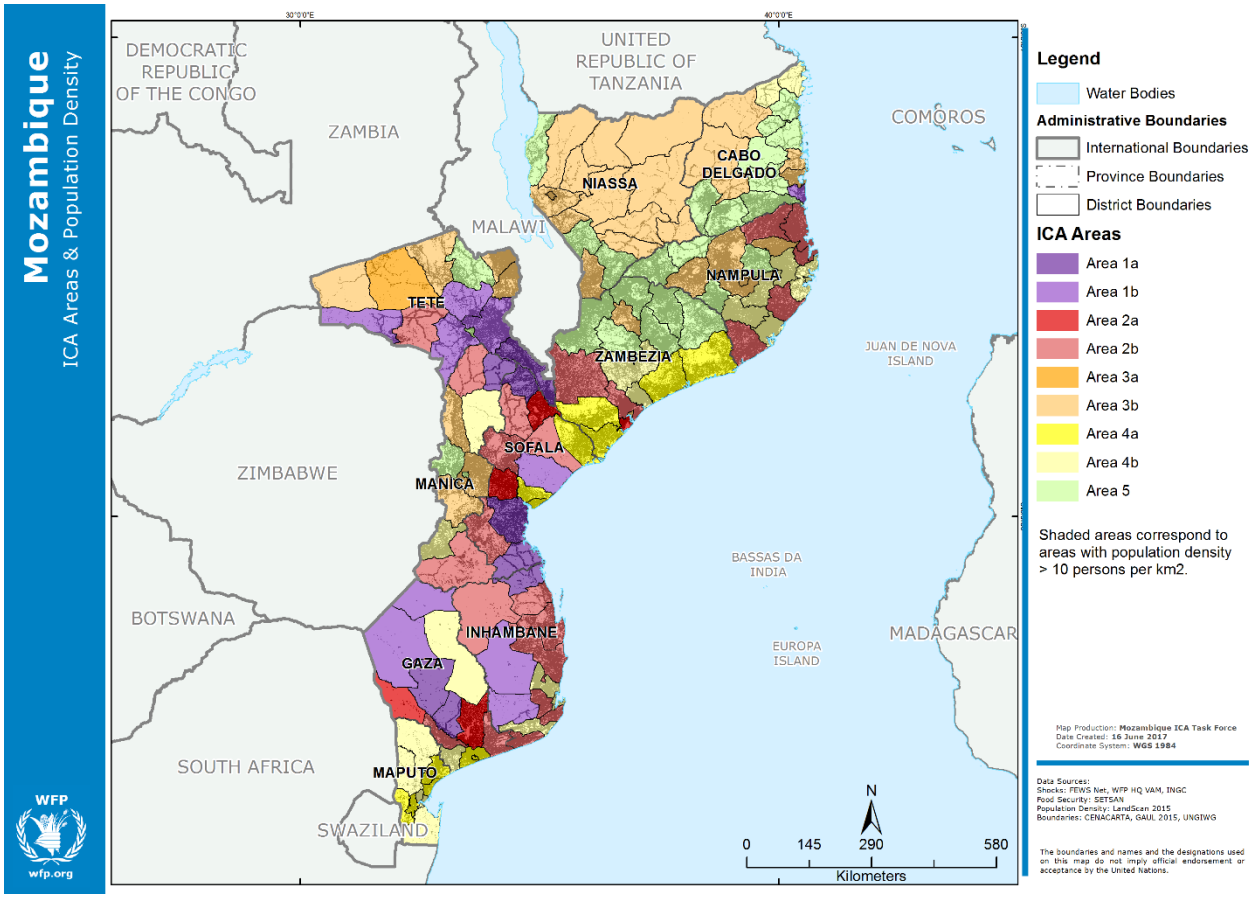


Nutrition data was obtained from SETSAN and was available for year 2013. The original dataset was available only at the Provincial level. Data was available only at Province level, the key indicator used was the prevalence of stunting, with the range of values classified by the ICA according to the standard WHO thresholds for public health significance.

Prevalence of Stunting (2013)			
% of stunted children	20 – 30 %	30 – 40%	> 40%
Reclassification	MEDIUM	HIGH	VERY HIGH

On top of the ICA categories, stunting above 20% threshold was mapped in order to highlight where chronic malnutrition is present.

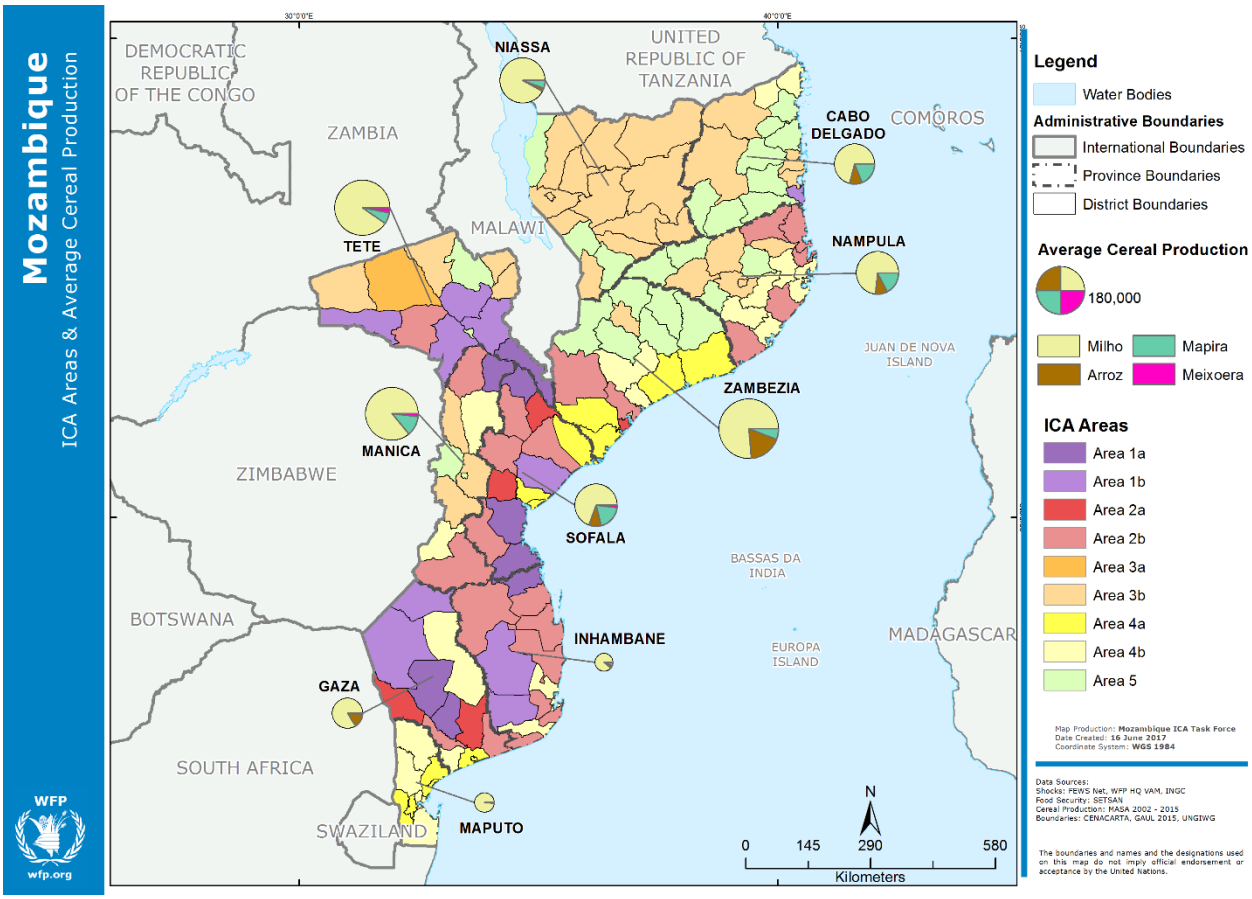
Population Density Lens



Population density was mapped using data from LandScan and was available for 2015. Shaded areas correspond to areas with population density > 10 persons per km2. It should be noted that the LandScan is a global dataset that estimates the likely distribution of census population figures based on land cover, roads, slope, village locations, etc.

Population density data mapped and overlaid on the ICA categories highlights where people are living in the districts that have been categorised according to food insecurity and natural shock risk.

Agricultural Production Lens



Agricultural production was analysed using Ministry of Agriculture and Food Security (MASA) data available from 2002 to 2015.

On top of the ICA categories, cereal production at province level for key cereals including millet, rice, cassava and maize was mapped.

8. Estimated Numbers of Food Insecure People

Longer-term programme planning requires an indication of the number of people who are likely to require assistance. To calculate this, the number of people estimated to be food insecure for 2006, 2009 and 2013 as reported by baseline surveys, was tabled. Figures for total district population in 2016 were used for the estimates. The lowest numbers (in yellow) and the highest numbers (in red) are highlighted:

Estimated number of people with Poor/Borderline Food Consumption from 2006, 2009 and 2013		
2006	2009	2013
9,024,261	6,653,495	8,516,395

The overall average of the number of people estimated as food insecure based on the three baseline surveys (8,064,717) reflects the number of people who are either (a) consistently food insecure or (b) have experienced food insecurity at some point as a result of a specific shock or event. This figure can represent an overall longer-term planning estimation.

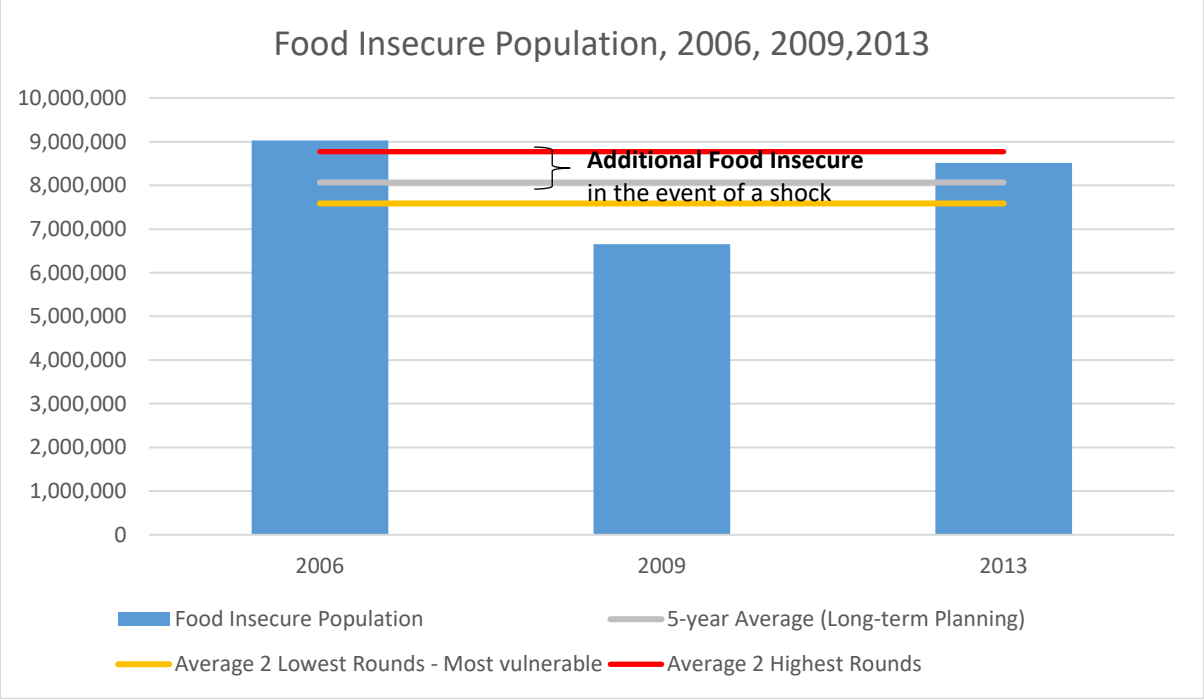
The average of the two lowest figures recorded over the recall period (7,584,945) provides an estimate of a core group of people who were consistently food insecure irrespective of whether there were good harvests or not in the last five years, and thus for planning purposes, can reflect an estimate of those *most vulnerable* to food insecurity.

The difference between the averages of the two highest figures recorded over the recall period (8,770,328) and the overall average above reflects the estimated number of *additional* people at risk, who could fall into crisis in the event of a shock (be it natural or man-made) (705,611).

In summary, planning estimates (rounded up) would be as follows:

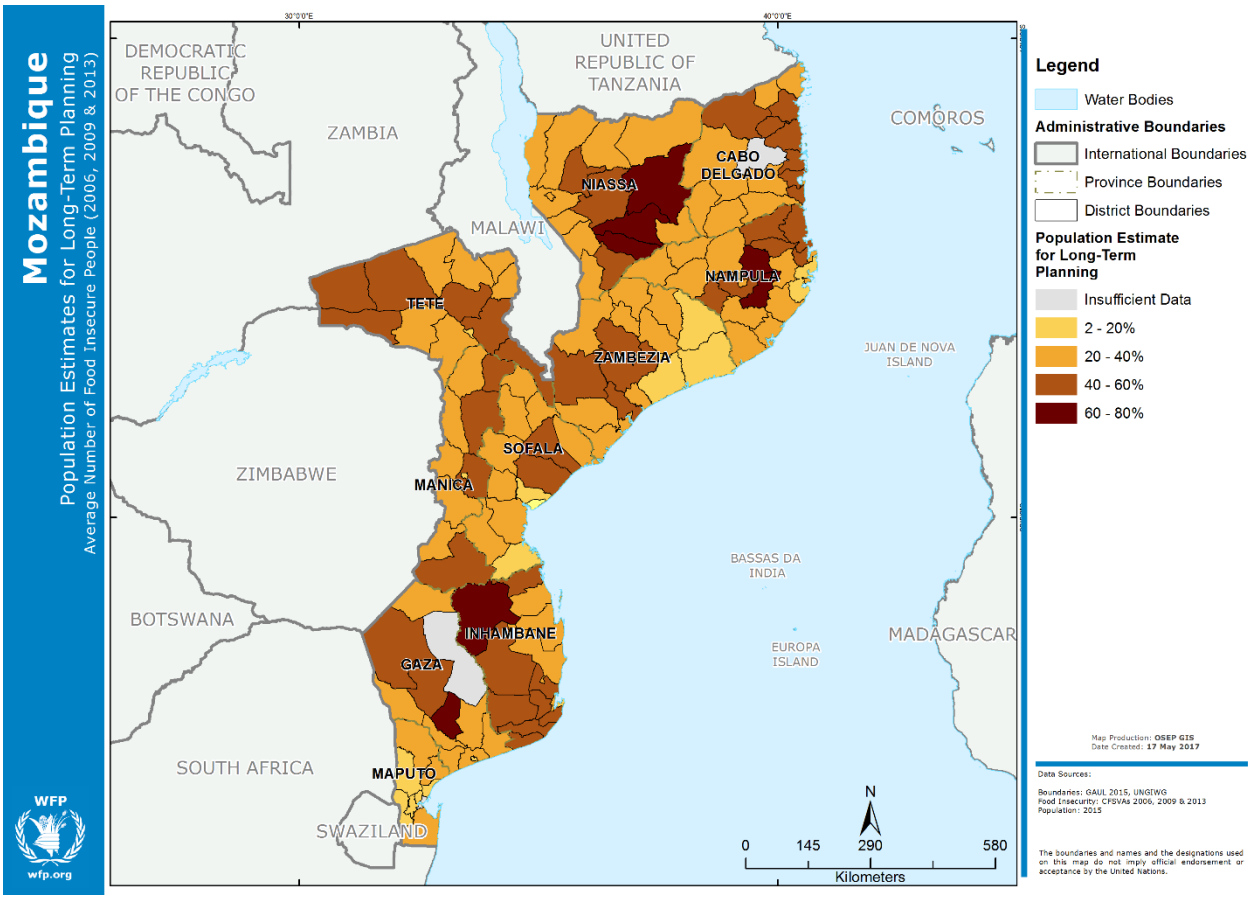
Long-term planning: average number of food insecure people in 2006, 2009 & 2013	**8,064,717**
Most vulnerable: *of the above*, estimated number of consistently food insecure people	**7,584,945**
Preparedness planning: *in addition to the above,* additional number of food insecure in the event of a shock (be it natural or man-made)	**705,611**

It is essential to note that these are just planning estimates and that actual numbers should be derived from emergency assessments in the event of a crisis and that plans should be adjusted throughout the programming cycle based on assessments that reflect the current situation.



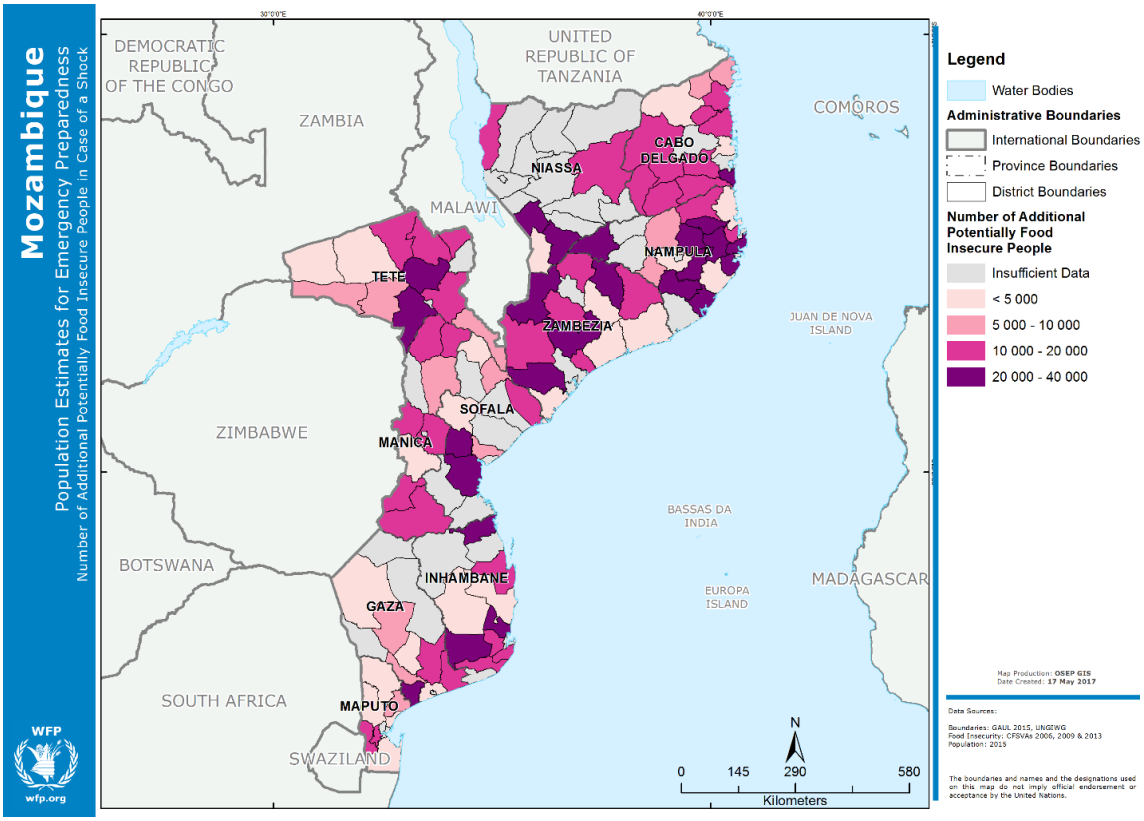
Food Insecure Population for Long-Term Planning

The analysis on the previous page analysis is also carried out at the district level, in order to highlight which areas have higher need for long-term planning or preparedness.



The population figures for long-term planning were mapped by district as a percentage of the total district population, highlighting areas that require longer-term programming to address food insecurity.

Food Insecure Population for Preparedness



The number of people who could potentially fall into food insecurity and require assistance in the event of a shock were mapped by district. The map highlights areas that require greater preparedness measures, or programmes designed to absorb additional vulnerable people.

9. Technical Analysis Methodology

Food security

The ICA food security analysis aims to assess how the chosen indicator values have fluctuated, versus a benchmark, over the time period for which data are available. It assesses the food security trend of each geographic area against the threshold and reclassifies each area using a simple 3-point scale to indicate its food insecurity status (e.g., “low” as 1, “medium” as 2 and “high” as 3). As previously mentioned, in Mozambique the threshold for was set at 20%.

To assess the food security trend, the ICA food security analysis considers the r**ecurrence above threshold,** measured as the ***number of times*** the area in question has had a food security indicator value equal to or above the threshold.

The number of recurrences for each dataset was classified to the 3-point scale, and the two classifications cross-tabbed to produce the final food insecurity classification.

Rapid-onset shocks

When using spatial flood data, information on the estimated frequency of events for the time period available is provided for each pixel, and the pixel coverage capture the affected areas. As frequencies can be very high for a single pixel, it is important to balance this information with a consideration of the total surface area by district that is affected. This approach is outlined below.

When local tabular data is available and specifies the historical number of events per year by district (preferably for the previous 30 years, though a minimum of 20 is acceptable), the total of the events over the period in question is taken and the final reclassification into low, medium and high levels of occurrence described below

is based on that figure. When such national data is available, the number of events that occurred in the past five years can also be mapped to highlight areas where recovery activities may be relevant.

When working with spatial raster data, the objective is to extract a district-level table from the shock frequency raster (in this case, floods, for ease of reference) that captures (a) the extent of flood areas and (b) the occurrence of floods by pixel. Using **Jenks Natural Breaks** (available through ArcGIS), the range of values for both the surface area affected and the number of occurrences can be broken down into three classes and reclassified as **low**, **medium** or **high** values. These values are cross-tabbed to yield a final classification by district which can itself be reclassified into the 3-point scale (low, medium, high) and mapped (see map presented in Part 2).

Where floods and storms are being considered, the analysis follows the same steps for each hazard independently but findings for each are cross-tabbed again to yield a single consolidated classification.

Slow-onset shocks

When working with **national level data** that presents the number of drought events that have occurred by year and by district, the range of values defined by the whole time period for which data is available can be broken down into three classes and reclassified as **low**, **medium** or **high** values using **Jenks Natural Breaks** (available in ArcGIS) and subsequently mapped.

When national level data on drought occurrences is not available, the "**Number of Poor Growing Seasons (NPGS)**" can be used as a proxy to measure recent exposure to drought. This is done using remote-sensed datasets on the Normalized Difference Vegetation Index (NDVI) or Rainfall Estimates data (RFE) (depending on context). *For more detailed information, please see the ICA Guidance Note on Drought.*

The analysis. Preparation and analysis of RFE data in particular is complex. In essence, multiple raster files that capture NDVI values at specific intervals in time over a number of years are downloaded and filtered for atmospheric interference and other factors that can influence final readings. Once done:

- A **long-term average** of rainfall for each growing season is calculated (there may be more than one growing season in a given location).
- The RFE values for the growing seasons of each of the years is compared against the benchmark (80% of the long-term average).
- This comparison is expressed as the *number of poor growing seasons (NPGS)* if the values fall below the benchmark.

The results of the above are presented in raster format, where each pixel captures the number of times that the rainfall of the growing seasons were significantly below the long-term average. From this, figures are aggregated to yield an average number of poor growing seasons by district. The range of values for the NPGS is broken down into three classes (**low, medium** and **high**) and mapped.

When RFE, NDVI and/or WRSI data are available, these can be cross-tabbed to yield a merged classification that reflects the impacts of all.

Land degradation

Deforestation

The current method of analysis for land degradation aims to identify and qualitatively classify recent deforestation, in particular in areas associated with high recurrence of shocks and food insecurity. The analysis compares the status of land cover classes as measured in 2001 with the present (2012), considering changes on a yearly basis and with a spatial resolution of 500m. Data is sourced from MODIS (NASA) which offers global coverage.

Deforested areas are identified by identifying areas that were initially forest (2001) but which are a different land cover class in the final (2012) dataset.

10. Data Sources

Food security

Main source

Indicator: Food Consumption Score
Source: VAM & SETSAN
Time span: 2006, 2009 & 2013
Comments: Baseline, but last 4 years not captured

Additional sources for triangulation

Indicator: Food Insecure People
Source: SETSAN VAC
Time span: 2012 - 2016
Comments: Not all districts covered

Natural Shocks

Floods

Indicator: Surface Area at Flood Risk
Source: FEWS Net
Time span: 1975 onwards
Comments: Flood frequency not available; partially modelled data

Indicator: INGC Flood Hazard Index
Source: DRFI 2012
Time span: N/A
Comments: Caveats, limitations, concerns, etc.

Drought

Indicator: Number of Poor Growing Seasons
Source: WFP HQ VAM
Time span: 1981 - 2015
Comments: Remotely-sensed dataset; based on precipitation only, and may not capture other factors that moderate the impact of droughts

Indicator: INGC Drought Hazard Index
Source: DRFI 2012
Time span: N/A
Comments: Caveats, limitations, concerns, etc.

Land degradation

Indicator: Deforested Area
Source: NASA MODIS land cover
Time span: 2001 - 2012
Comments: Resolution limited, may not capture small-scale changes

Nutrition

Indicator: Prevalence of stunting
Source: SETSAN
Time span: 2013
Comments: Caveats, limitations, concerns, etc.

Other datasets/thematic areas

Focus: Population Density
Indicator: Population density
Source: LandScan
Time span: 2015
Comments: Caveats, limitations, concerns, etc.

Focus: Agricultural Cereal Production
Indicator: Average production in tonnes
Source: MASA
Time span: 2002 - 2015
Comments: Caveats, limitations, concerns, etc.

11. Data tables

Final ICA Collecting Table

District Name	ICA Area	ICA Category	Recurrence of Food Insecurity - Baseline	Recurrence of Food Insecurity - VAC	Combined Recurrence of Food Insecurity	INGC Flood Hazard	INGC Drought Hazard	Percentage of Surface Area at Flood Risk	Final Flood Risk	NPGS	Final Drought Risk	Cyclone Frequency	Final Cyclone Risk	Combined Natural Shock Risk Score	% of Deforested Area
MUTARARA	Area 1a	Category 1	Medium	High	High	High	High	17	High	10	High	5	Low	High	7
TAMBARA	Area 1a	Category 1	High	Medium	High	High	Very High	3	High	9	High	4	Low	High	9
BUZI	Area 1a	Category 1	Medium	High	High	High	Low	10	High	12	Medium	9	Medium	High	3
CHEMBA	Area 1a	Category 1	High	High	High	High	Very High	4	High	10	High	5	Low	High	4
MACHANGA	Area 1a	Category 1	Medium	High	High	High	High	2	High	12	High	11	Medium	High	1
GOVURO	Area 1a	Category 1	High	Medium	High	High	High	2	High	13	High	11	Medium	High	3
GUIJA	Area 1a	Category 1	High	High	High	Very High	Very High	8	High	12	High	6	Low	High	2
MABALANE	Area 1a	Category 1	Medium	High	High	Very High	Very High	3	High	13	High	6	Low	High	1
MECUFI	Area 1b	Category 1	High	Medium	High	Moderate	Low	2	Medium	5	Low	9	Medium	Medium	7
CHANGARA	Area 1b	Category 1	Medium	High	High	Low or Zero	High	0	Low	8	High	4	Low	Medium	6
CHIUTA	Area 1b	Category 1	High	High	High	Low or Zero	High	0	Low	8	High	5	Low	Medium	9
MAGOE	Area 1b	Category 1	High	High	High	Low or Zero	High	0	Low	9	High	5	Low	Medium	4
MOATIZE	Area 1b	Category 1	High	Medium	High	High	Very High	0	Medium	9	High	4	Low	Medium	9
MUANZA	Area 1b	Category 1	High	Medium	High	Low or Zero	Low	3	Medium	10	Medium	9	Medium	Medium	7
FUNHALOURO	Area 1b	Category 1	High	Medium	High	Low or Zero	High	0	Low	10	High	10	Medium	Medium	2
PANDA	Area 1b	Category 1	High	Medium	High	Low or Zero	Moderate	1	Medium	10	Medium	9	Medium	Medium	2

CHICUALACUALA	Area 1b	Category 1	High	High	High	Low or Zero	Very High	2	Medium	14	High	5	Low	Medium	5
MASSANGENA	Area 1b	Category 1	High	Medium	High	Moderate	Very High	0	Low	12	High	7	Medium	Medium	2
INHASSUNGE	Area 2a	Category 2	High	Low	Medium	Low or Zero	Low	20	High	11	Medium	14	High	High	4
CAIA	Area 2a	Category 2	Medium	Medium	Medium	High	High	21	High	9	High	6	Low	High	7
NHAMATANDA	Area 2a	Category 2	Medium	Medium	Medium	High	Moderate	13	High	13	Medium	7	Medium	High	3
CHIBUTO	Area 2a	Category 2	High	Low	Medium	Very High	Very High	19	High	12	High	7	Medium	High	2
MASSINGIR	Area 2a	Category 2	Medium	Medium	Medium	Very High	Very High	7	High	13	High	4	Low	High	3
NAMAPA - ERATI	Area 2b	Category 2	High	Low	Medium	Moderate	High	0	Low	3	Medium	9	Medium	Medium	6
MEMBA	Area 2b	Category 2	High	Low	Medium	Moderate	High	0	Low	5	Medium	12	Medium	Medium	8
MOGINCUAL	Area 2b	Category 2	High	Low	Medium	Low or Zero	Low	0	Low	4	Low	20	High	Medium	15
MOMA	Area 2b	Category 2	High	Low	Medium	Moderate	Low	5	Medium	6	Low	22	High	Medium	8
CIDADE DE NACALA-PORTO	Area 2b	Category 2	High	Low	Medium	Low or Zero	Moderate	0	Low	7	Medium	16	High	Medium	1
NACALA-VELHA	Area 2b	Category 2	High	Low	Medium	Low or Zero	Moderate	0	Low	6	Low	15	High	Medium	2
MORRUMBALA	Area 2b	Category 2	High	Low	Medium	High	Moderate	3	High	10	Medium	6	Low	Medium	5
NICOADALA	Area 2b	Category 2	High	Low	Medium	Low or Zero	Low	0	Low	10	Medium	11	Medium	Medium	6
CAHORA-BASSA	Area 2b	Category 2	High	Low	Medium	Low or Zero	High	0	Low	8	High	4	Low	Medium	3
GURO	Area 2b	Category 2	Medium	Medium	Medium	High	Very High	0	Medium	9	High	4	Low	Medium	6
MACHAZE	Area 2b	Category 2	Medium	Medium	Medium	Moderate	High	0	Low	11	High	9	Medium	Medium	5
CHERINGOMA	Area 2b	Category 2	High	Low	Medium	Low or Zero	Low	3	Medium	10	Medium	8	Medium	Medium	11
CHIBABAVA	Area 2b	Category 2	High	Low	Medium	Low or Zero	Low	0	Low	12	Medium	8	Medium	Medium	3
CORONGOSA	Area 2b	Category 2	Medium	Medium	Medium	High	Moderate	6	High	11	Medium	5	Low	Medium	3
MARINGUE	Area 2b	Category 2	Medium	Medium	Medium	Low or Zero	High	0	Low	9	High	5	Low	Medium	3

HOMOINE	Area 2b	Category 2	High	Low	Medium	Low or Zero	Low	0	Low	9	Medium	11	Medium	Medium	1
INHASSORO	Area 2b	Category 2	High	Low	Medium	Low or Zero	Moderate	0	Low	12	Medium	12	Medium	Medium	2
JANGAMO	Area 2b	Category 2	High	Low	Medium	Low or Zero	Low	0	Low	9	Medium	11	Medium	Medium	1
MABOTE	Area 2b	Category 2	High	Low	Medium	Moderate	High	0	Low	12	High	9	Medium	Medium	1
MASSINGA	Area 2b	Category 2	Medium	Medium	Medium	Low or Zero	Moderate	0	Low	11	Medium	11	Medium	Medium	9
VILANKULO	Area 2b	Category 2	Medium	Medium	Medium	Low or Zero	Moderate	0	Low	12	Medium	12	Medium	Medium	3
ZAVALA	Area 2b	Category 2	High	Low	Medium	Moderate	Very High	0	Low	11	High	9	Medium	Medium	2
CHOKWE	Area 2b	Category 2	High	Low	Medium	Very High	Moderate	48	High	12	Medium	5	Low	Medium	1
MANDLACAZE	Area 2b	Category 2	High	Low	Medium	Low or Zero	Moderate	1	Medium	12	Medium	8	Medium	Medium	2
MARAVIA	Area 3a	Category 3	High	Medium	High	Low or Zero	Moderate	0	Low	8	Medium	4	Low	Low	3
CIDADE DE LICHINGA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	5	Low	3	Low	Low	0
LICHINGA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	6	Low	3	Low	Low	4
MAJUNE	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	5	Low	3	Low	Low	1
MARRUPA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	3	Low	3	Low	Low	2
MAUA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	4	Low	4	Low	Low	0
MAVAGO	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	4	Low	2	Low	Low	2
MECANHELAS	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	6	Low	5	Low	Low	4
MECULA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Low	0	Low	6	Low	3	Low	Low	3
METARICA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	5	Low	4	Low	Low	1
MUEMBE	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	5	Low	3	Low	Low	10
NGAUMA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Low	0	Low	6	Low	4	Low	Low	1
NIPEPE	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	3	Low	4	Low	Low	3

SANGA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	5	Low	2	Low	Low	1
CIDADE DE PEMBA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Low	0	Low	6	Low	8	Medium	Low	0
MONTEPUEZ	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	3	Low	3	Low	Low	8
MUEDA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	1	Medium	5	Low	3	Low	Low	13
PEMBA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Low	0	Low	4	Low	7	Medium	Low	9
QUISSANGA	Area 3b	Category 3	High	Low	Medium	Moderate	Low	2	Medium	5	Low	6	Low	Low	8
CIDADE DE NAMPULA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	2	Low	11	Medium	Low	0
MECUBURI	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	3	Low	7	Medium	Low	5
NACAROA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	4	Low	11	Medium	Low	6
RAPALE-NAMPULA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	3	Low	11	Medium	Low	1
RIBAUE	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	3	Low	7	Medium	Low	3
CIDADE DE QUELIMANE	Area 3b	Category 3	High	Low	Medium	Low or Zero	Low	0	Low	10	Medium	0	Low	Low	2
NAMAROI	Area 3b	Category 3	High	Low	Medium	Low or Zero	Low	0	Low	7	Medium	6	Low	Low	2
ANGONIA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	6	Low	5	Low	Low	0
CHIFUNDE	Area 3b	Category 3	Medium	Medium	Medium	Low or Zero	Moderate	0	Low	7	Medium	4	Low	Low	4
TSANGANO	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	7	Medium	5	Low	Low	2
ZUMBO	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	9	Medium	4	Low	Low	6
BARUE	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	12	Medium	3	Low	Low	6
GONDOLA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Moderate	0	Low	12	Medium	5	Low	Low	3
SUSSUNDENGA	Area 3b	Category 3	High	Low	Medium	Low or Zero	Low	0	Low	12	Medium	6	Low	Low	11
CHINDE	Area 4a	Category 4	Medium	Low	Low	High	Low	24	High	11	Medium	13	Medium	High	12
MAGANJA DA COSTA	Area 4a	Category 4	Low	Low	Low	Moderate	Low	4	Medium	9	Medium	14	High	High	2

MOPEIA	Area 4a	Category 4	Medium	Low	Low	High	Moderate	17	High	10	Medium	9	Medium	High	7
PEBANE	Area 4a	Category 4	Low	Low	Low	Moderate	Low	1	Medium	8	Medium	20	High	High	7
CIDADE DE BEIRA	Area 4a	Category 4	Low	Low	Low	High	Moderate	29	High	10	Medium	10	Medium	High	3
DONDO	Area 4a	Category 4	Medium	Low	Low	High	Moderate	13	High	11	Medium	9	Medium	High	3
MARROMEU	Area 4a	Category 4	Medium	Low	Low	High	Moderate	11	High	10	Medium	11	Medium	High	12
CIDADE DE XAI-XAI	Area 4a	Category 4	Low	Low	Low	Low or Zero	Very High	61	High	11	High	6	Low	High	4
XAI-XAI	Area 4a	Category 4	Medium	Low	Low	Very High	Very High	29	High	11	High	6	Low	High	1
BOANE	Area 4a	Category 4	Medium	Low	Low	High	Very High	19	High	10	High	3	Low	High	4
MANHIÔé¼A	Area 4a	Category 4	Medium	Low	Low	Very High	High	31	High	11	High	4	Low	High	5
MARRACUENE	Area 4a	Category 4	Medium	Low	Low	Very High	High	39	High	12	High	4	Low	High	3
NAMAACHA	Area 4a	Category 4	Medium	Low	Low	High	Very High	3	High	10	High	2	Low	High	9
NANGADE	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Low	4	Medium	7	Medium	2	Low	Medium	13
PALMA	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Low	2	Medium	7	Medium	1	Low	Medium	10
ANGOCHE	Area 4b	Category 4	Medium	Low	Low	Moderate	Low	3	Medium	4	Low	23	High	Medium	6
ILHA DE MOÔé¼AMBIQUE	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Low	0	Low	7	Medium	19	High	Medium	2
MECONTA	Area 4b	Category 4	Medium	Low	Low	Moderate	Moderate	0	Low	3	Low	15	High	Medium	17
MOGOVOLAS	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Moderate	0	Low	3	Low	16	High	Medium	3
MONAPO	Area 4b	Category 4	Medium	Low	Low	Moderate	High	0	Low	5	Medium	15	High	Medium	5
MOSSURIL	Area 4b	Category 4	Medium	Low	Low	Moderate	Low	0	Low	7	Medium	19	High	Medium	10
MOCUBA	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Moderate	1	Medium	9	Medium	8	Medium	Medium	3
NAMACURRA	Area 4b	Category 4	Medium	Low	Low	Moderate	Low	9	Medium	10	Medium	12	Medium	Medium	3
MACOSSA	Area 4b	Category 4	Medium	Low	Low	Low or Zero	High	0	Low	11	High	4	Low	Medium	2

MOSSURIZE	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Moderate	0	Low	11	Medium	8	Medium	Medium	7
CIDADE DE INHAMBANE	Area 4b	Category 4	Low	Low	Low	Low or Zero	Low	0	Low	9	Medium	11	Medium	Medium	1
INHARRIME	Area 4b	Category 4	Medium	Low	Low	Moderate	Moderate	0	Low	10	Medium	10	Medium	Medium	6
CIDADE DE MAXIXE	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Low	0	Low	8	Medium	11	Medium	Medium	0
MORRUMBENE	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Low	0	Low	9	Medium	11	Medium	Medium	3
BILENE - MACIA	Area 4b	Category 4	Medium	Low	Low	Very High	Moderate	10	High	11	Medium	5	Low	Medium	3
CHIGUBO	Area 4b	Category 4	0	High	Low	Low or Zero	High	0	Low	12	High	8	Medium	Medium	1
CIDADE DA MATOLA	Area 4b	Category 4	Medium	Low	Low	Very High	High	0	Medium	10	High	3	Low	Medium	0
MAGUDE	Area 4b	Category 4	Medium	Low	Low	Moderate	High	2	Medium	12	High	4	Low	Medium	2
MATUTUINE	Area 4b	Category 4	Medium	Low	Low	Moderate	Moderate	21	High	9	Medium	3	Low	Medium	15
MOAMBA	Area 4b	Category 4	Medium	Low	Low	Low or Zero	Very High	1	Medium	9	High	3	Low	Medium	4
CIDADE DE MAPUTO	Area 4b	Category 4	0	Low	Low	Very High	High	0	Medium	11	High	3	Low	Medium	3
CUAMBA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	5	Low	4	Low	Low	3
LAGO	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	6	Low	2	Low	Low	2
MANDIMBA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	5	Low	4	Low	Low	1
ANCUABE	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	3	Low	6	Low	Low	10
BALAMA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	1	Low	4	Low	Low	5
CHIURE	Area 5	Category 5	Medium	Low	Low	Moderate	Moderate	0	Low	3	Low	7	Medium	Low	13
IBO	Area 5	Category 5	Low	Low	Low	Low or Zero	Low	0	Low	8	Medium	0	Low	Low	0
MACOMIA	Area 5	Category 5	Medium	Low	Low	Moderate	Low	2	Medium	6	Low	4	Low	Low	7
MELUCO	Area 5	Category 5	0	Low	Low	Low or Zero	High	0	Low	3	Medium	4	Low	Low	12
MOCIMBOA DA PRAIA	Area 5	Category 5	Medium	Low	Low	Moderate	Low	0	Low	6	Low	2	Low	Low	8

MUIDUMBE	Area 5	Category 5	Medium	Low	Low	Moderate	Low	1	Medium	6	Low	3	Low	Low	7
NAMUNO	Area 5	Category 5	Medium	Low	Low	Low or Zero	High	0	Low	2	Medium	5	Low	Low	9
LALAUA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	3	Low	5	Low	Low	4
MALEMA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	4	Low	5	Low	Low	2
MUECATE	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	3	Low	11	Medium	Low	4
MURRUPULA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	3	Low	10	Medium	Low	2
ALTO MOLOCUE	Area 5	Category 5	Medium	Low	Low	Low or Zero	Low	0	Low	4	Low	8	Medium	Low	3
GILE	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	5	Low	13	Medium	Low	7
GURUE	Area 5	Category 5	Medium	Low	Low	Low or Zero	Low	0	Low	5	Low	6	Low	Low	3
ILE	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	6	Low	9	Medium	Low	2
LUGELA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	9	Medium	6	Low	Low	6
MILANGE	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	9	Medium	5	Low	Low	2
CIDADE DE TETE	Area 5	Category 5	Low	Low	Low	Low or Zero	0	0	Low	11	Medium	4	Low	Low	0
MACANGA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	6	Low	5	Low	Low	3
CIDADE DE CHIMOIO	Area 5	Category 5	Low	Low	Low	Low or Zero	Moderate	0	Low	11	Medium	4	Low	Low	0
MANICA	Area 5	Category 5	Medium	Low	Low	Low or Zero	Moderate	0	Low	12	Medium	3	Low	Low	4

Nutrition Data Table

Province	Wasting (2006)	Stunting (2006)	Stunting (2013)	Wasting (2013)	Wasting MICS (2008)	Stunting MICS (2008)	Stunting DHS	Wasting DHS
Niassa	2.5	46.7	44	5.8	5.2	45.5	46.8	3.7
Cabo Delgado	8.2	43.6	50.1	6.2	3.5	55.7	52.8	5.6
Nampula	2.6	63.1	49.5	12	8.7	50.6	55.3	6.5
Zambezia	5.2	43.6	40.9	8.5	5.1	45.8	45.2	9.4
Tete	8.3	50.5	51.8	8.7	2.6	48	44.2	5.6
Manica	3.2	41.8	47.9	5.8	3.8	48.3	41.9	6.7
Sofala	4.8	43.1	47.7	7	3.2	40.5	35.7	7.4
Inhambane	3.9	31.7	30.9	3	2.8	34.5	36	2.2
Gaza	1.9	30.6	39	3.3	1.3	34.2	26.8	1
Maputo	1.6	42.6	25.6	3.9	2.1	28	22.7	2.1

12.Contacts

Report produced by:
WFP Mozambique 1302 Avenida do Zimbabwe| | Maputo | Mozambique
WFP Headquarters: Kevin Wyjad | ICA Coordinator | kevin.wyjad@wfp.org

For more information, including access to the ICA Programmatic Interpretations and Conclusions Paper, please contact:

WFP Mozambique:
Domingos Reane | VAM | email: domingos.reane@wfp.org
Marta Guivambo| Programme | email:marta.guivamo@wfp.org

WFP Headquarters: Kevin Wyjad | ICA Coordinator | kevin.wyjad@wfp.org
WFP Regional Bureau: Veronica Rammala| VAM | emai : veronica.rammala@wfp.org