



# Food and Nutrition Insecurity in Somalia

2007-2014



**World Food Programme**

### **Food and Nutrition Insecurity in Somalia (2007-2014)**

First edition (2007-2012) prepared by: WFP Somalia VAM Section (Job Aming'a, Federico Doehnert, Joshua Mesa, Hersi Mohamud and Simon Renk), WFP Somalia Nutrition Section (Marc Prost and Nicolas Joannic), WFP Somalia Programme Unit (Regis Chapman) with support from HQ ODEP Emergency Preparedness Unit (Lara Prades) and Programme Design Division (Scott Ronchini and Jean-Noel Gentile).

Updated edition (2007-2014) was prepared by: WFP Somalia VAM Section: Job Aming'a, (Database Manager), Joshua Mesa (GIS Manager), Hersi Mohamud (Food Security Analyst) and Byron Ponce-Segura (Head of VAM).

May 2015

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This document was commissioned and funded by the United Nations World Food Programme Somalia.

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# Acknowledgements

This updated report would not have been possible without the input and support provided by WFP Area Offices, Local Authorities and partners. In particular, we would like to thank SWALIM, FSNAU and FEWS NET for the data provided to run this analysis.

Finally, we would also like to thank all WFP Somalia and HQ colleagues who have supported this analysis by providing feedback and critical review.





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# Foreword

Somalia has experienced a number of emergencies, be it man-made or natural disasters with sudden or slow onsets. Somalia is also a country whose people - after two decades of conflict and numerous shocks - are very vulnerable to food and nutrition insecurity. One example of this vulnerability was the famine that hit the southern parts of the country in 2011. With Somalia slowly emerging from long periods of fragility, the humanitarian community is increasingly investing in building the ability of the Somali people to bounce back from shocks while at the same time responding to urgent needs. In order to do so, it is important to know which areas have been most affected by shocks in the past and which ones will likely experience shocks in the future.

I am pleased to introduce the 2007-2014 Trend Analysis. This update of the 2012 edition attempts to provide answers to the above questions and capitalizes on products of technical partnerships with FEWSNET and FSNAU as well as the work of SWALIM. It seeks to further develop the humanitarian community's understanding of the prevailing livelihoods, land cover types and status, risks, typologies of shocks and the profile of food insecure people in Somalia. Studying the recurrence of shocks, the degradation of the natural environment, market information and food insecurity trends will allow to improve the knowledge of which populations and areas are most at risk and contributes to identifying the most appropriate types of assistance. This includes deciding when to focus on emergency assistance and when to invest in resilience programmes that support vulnerable communities in the longer-term.

This updated Trend Analysis complements seasonal analyses and snapshots. Looking at how parameters change over time will contribute to projecting the number of people likely to require food assistance and to identifying the most appropriate types of responses. Building on this improved understanding of the likelihood and magnitude of shocks in certain areas will support humanitarian actors in taking early action and tailoring programmes to local conditions.

Finally, this analysis also serves as an *Integrated Context Analysis*, an approach to strengthen the design, planning and implementation of programmes, including resilience building.

I hope that you will find this document useful.



Laurent Bukera  
WFP Somalia Representative



# Introduction

## 1. Background

To respond to the worsening food security and nutrition situation, as well as to the deteriorating security environment in Somalia, WFP introduced in April 2009 an Emergency Operation (EMOP) to replace the Protracted Relief and Recovery Operation (PRRO) in place at the time. Nonetheless, early recovery and rehabilitation remained strong components of WFP's work in the country, and were further strengthened in February 2011 by the adoption of WFP's strategy for 'Strengthening WFP Food Assistance in Somalia'. This strategy aimed at reducing unconditional food transfers and replacing them with alternative activities, in recognition of the need to emphasise a sustainable improvement of the food security and nutrition situation. Focusing on a sustainable improvement of food security and nutrition in Somalia, WFP decided in early 2012 to replace the existing EMOP with PRRO 200443 which covers the period of January 2013 to December 2015.

In order to tackle the underlying causes of food and nutrition insecurity in Somalia, an understanding of the long-term trends affecting these factors is required. The main sources of food security analysis in the country are the seasonal assessments carried out

Phase Name and Description		Phase 1 Minimal	Phase 2 Stressed	Phase 3 Crisis	Phase 4 Emergency	Phase 5 Famine (evidence for all three criteria of food consumption, wasting, and CDR is required to classify Famine)
Area Outcomes	Food Consumption & Livelihood Change	More than 80% of households in the area are comfortably able to meet basic food needs without atypical coping strategies & livelihoods are stable	Based on the IPC Household Group Reference Table, at least 20% of the households in the area are in Phase 2, 3, 4, or 5	Based on the IPC Household Group Reference Table, at least 20% of the households in the area are in Phase 3, 4, or 5	Based on the IPC Household Group Reference Table, at least 20% of the households in the area are in Phase 4 or 5	Based on the IPC Household Group Reference Table, at least 20% of the households in the area are in Phase 5
	Nutritional Status	Wasting Prevalence: <3% BMI <18.5 Prevalence: <10%	Wasting Prevalence: 3-10%, unstable BMI <18.5 Prevalence: 10-20%	Wasting Prevalence: 10-15% OR > usual & increasing BMI <18.5 Prevalence: 20-40% , 1.5 x greater than reference	Wasting Prevalence: 15-30%; OR > usual & increasing BMI <18.5 Prevalence: >40%	Wasting Prevalence: >30% BMI <18.5 Prevalence: far > 40%
	Mortality	CDR: <0.5/10,000/day U5DR: ≤1/10,000/day	CDR: <0.5/10,000/day U5DR: ≤1/10,000/day	CDR: 0.5-1/10,000/day U5DR: 1-2/10,000/day	CDR: 1-2/10,000/day OR >2x reference U5DR: 2-4/10,000/day	CDR: >2/10,000/day U5DR: >4/10,000/day
General Response Objectives		<b>Cross-Cutting Objectives:</b> (1) mitigate immediate outcomes, (2) support livelihoods, (3) address underlying causes and chronic food insecurity if it exists, and (4) monitoring				
		<b>Priority:</b> Build Resilience, Disaster Risk Reduction	<b>Priority:</b> Disaster Risk Reduction, Protect Livelihoods	<b>Priority:</b> Protect Livelihoods, prevent malnutrition, and prevent loss of life	<b>Priority:</b> Save Lives & Livelihoods	<b>Priority:</b> Prevent widespread death and total collapse of livelihoods

Figure 1: IPC Analytical Framework

by the Food Security and Nutrition Analysis Unit (FSNAU)<sup>1</sup> of the Food and Agriculture Organisation of the United Nations (FAO), as well as the Integrated Food Security Phase Classification (IPC) Map. The latter is a tool for classifying the food security and nutrition situation, which was introduced in Somalia in 2006 and has since then been used in diverse country contexts across the continent. The IPC analytical framework considers different indicators for classifying food security, such as food consumption, food access, livelihood change, nutritional status, food utilisation or hazards and vulnerabilities of affected populations. Figure 1 provides a detailed overview of the different indicators that are analysed in the IPC classification process. The IPC is a means to classify varying phases of current food security situations in Somalia.<sup>2</sup> Although the element of chronic food security analysis was introduced in 2011 as part of the shift from version 1.1 to version 2.0 of the IPC, the tool still does not provide a trend analysis over a period of several years, limiting it in assessing the underlying causes of food insecurity in Somalia.<sup>3</sup>

The exercise that informed this document consisted of a qualitative review of historical food security data (among others FAO, FSNAU and FEWS NET), nutrition data (FSNAU), and contextual information (SWALIM), with the aim of providing a deeper understanding of recent trends that would contribute to determining rationales and objectives in designing new programmes.

Understanding the context in an area – i.e. the prevailing livelihood, the land cover type and status, the typologies of shocks and risks, and the numbers and proportions of food insecure people – contributes to identifying the types of programmes that are appropriate and tailored to local conditions. In this context, the important work on past land degradation and climate analysis done by the SWALIM team has to be acknowledged. In addition, the livelihood analysis by FEWS NET also needs to be underscored. Without such data this report would not have been feasible.



Photo: WFP Somalia

1 Previously Food Security Analysis Unit (FSAU).  
2 Source: <http://www.fsnau.org/ipc>.  
3 IPC User Manual v2.0.



## 2. Objectives and Methodology

The main objective of the exercise was to contribute to a better understanding of the food security and nutrition context in Somalia and to inform programme design and targeting of beneficiaries. More specifically, the information review aimed to identify:

- Trends in numbers of food insecure populations to assist planning and programme design;
- Areas of recurring food insecurity, malnutrition and shocks, and where these converge, as a contribution to identifying if and where relief, early recovery, disaster risk reduction (DDR) and resilience building efforts and development may be required;
- Links of the above to land cover and livelihoods to better inform response and resilience;
- Seasonal variations that should be considered in programme design, to better align, complement, and harmonise programme responses and interventions;
- Potential impact of civil insecurity on food security;

The exercise consisted of a data analysis from various sources and analytical contributions, which included:

- SWALIM: Land degradation, land cover and land use data (since 2008);
- FSNAU (IPC): Figures of affected populations from seasonal assessments of the last seven years (2007-2014);
- UNEP/World Bank: Flood risk modelling from the Global Risk Data Platform project 2009;
- SPOT-VGT: Normalised Difference Vegetation Index (NDVI) spot imagery from 1998 to 2011 (1 km resolution);
- WFP Somalia: Administrative boundaries;
- FEWS NET: Seasonal calendar;
- LANDSCAN 2011: Population density raster;
- FSNAU data on nutrition from seasonal assessments and other nutrition surveys;
- FEWS NET/FSNAU and WFP market price data, as well as import/export data collected by WFP;
- WFP Food Security Assessments: Information on general Food Security situation and Food Consumption Score (FCS);
- WFP Early Warning Sheets: Information on political developments, risk factors and affected populations;
- WFP: Market Studies on cereal markets in Somalia and market integration in south and central Somalia;
- WFP: Quarterly Market Updates;
- UNHCR: Population Movement Tracking System (PMT).

**Note on shocks:** There are no records of where floods and droughts have occurred historically at the district level that would allow for a rapid trend analysis to determine the recurrence of populations being exposed to such shocks. Thus, a set of assumptions and proxy analyses was done, namely:

- Using the number of times that people were classified in Crisis and Emergency from FSNAU/IPC, as an indication of how often people have been exposed to food insecurity;
- Using the NDVI to determine the number of times that vegetation growth was below average, as a proxy to water stress (i.e. drought).

The timeframe selected for this analysis of trends was the last seven years, from 2007 to 2014. This seven-year frame was selected in order to analyse the most recent trends and to assess the frequency of the population's exposure to food insecurity over this period. Understanding more recent events also identifies where, and to what extent, resilience building efforts may be required and provides some level of prioritisation and focus in programming. It has to be noted, however, that the figures of people in famine in 2011 were excluded in the calculation of the seven-year average, in order to avoid strain on the overall results caused by the impact of the 2011 famine.

The analysis was based on the IPC data for urban and rural populations in Somalia. In the analysis process, however, urban populations were mostly excluded, as it was considered that rural and urban populations, although being inter-dependent, are affected differently by food and nutrition insecurity. Rural populations were, moreover, chosen as a starting point of the analysis due to their importance in the Somali context and the fact that they represent the majority (>60%) of the overall population.



Photo: WFP Somalia

### 3. Strengths and Limitations

The following information synthesis was pulled together by the WFP Somalia Programme Unit, VAM HQ and VAM Somalia and the Emergency Preparedness team and compiled through a mix of technical (e.g. NDVI analyses) and qualitative (e.g. reclassifying land cover types) approaches. The interpretation and overlays of various findings were also done qualitatively according to the way in which the team approached the problem. Qualitative compilation of information (e.g. IPC food security trends) and the setting of classes for mapping (e.g. population percentages) were done collectively, through discussions and agreements within the team.

Thus, the findings of this synthesis represent a joint yet internal WFP body of work, and would benefit from a presentation to and consultation with partners to (i) verify and build consensus around the understanding of the context that these findings provide; (ii) determine additional information gaps, and areas that would require deeper exploration; and (iii) identify further ways in which the information can be synthesised to further inform programme design of WFP, partners, and other stakeholders, including Government strategy and policy development.

Ideally, and for future reference, such work could be done with partners from the start, replicating the approach used by the WFP team and ensuring a common understanding and consensus from the outset. This is also suggested in order to strengthen the complementarities of work of the different actors involved in food security analysis.

Most importantly, this information should be used as a background to understanding trends and for planning and programme design. Moreover, it could be used as a contextual backdrop against which to review the most recent assessment information available – in this case the IPC Map Post-Gu 2014 and the compilation of nutrition data from nutrition surveys.

In summary, this synthesis should be seen as a complement to, and not a replacement of, recent food security and nutrition assessments. It is also recommended that as new assessment information comes in, it be incorporated and this trend document is kept updated for future reference.

The Population Estimation Survey Somalia (PESS) conducted by UNFPA with support from UN sister agencies, among them WFP, estimates the population of Somalia at 12.3 million people in 2014. This represents a sharp increase compared to the FSNAU numbers who indicated a population of estimated 7.5 million people by June 2014.



# Trend Analyses

The key difference between reviewing historical data and those from the most recent assessments is that the former incorporates changes over time, whilst the latter reflects a more current situation:

1. Historical data → used for broad planning and strengthening of longer-term programme justifications; and
2. Recent assessment data → used to update and adjust caseload estimates based on prevailing conditions on the ground.

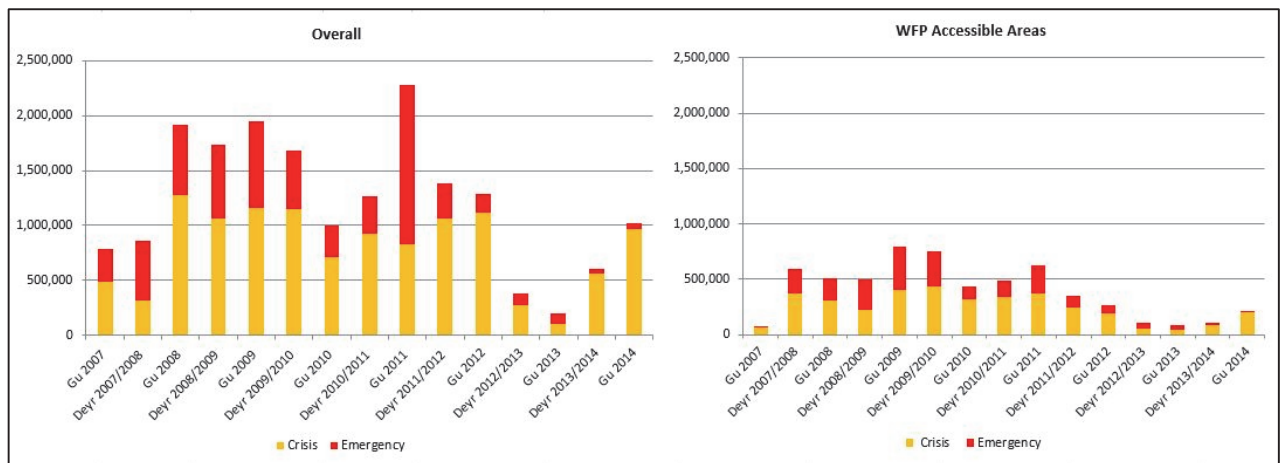
This trend analysis aims at answering the following questions:

- *What could be an estimate of the food insecure population in a normal or typical year?*  
This was done by taking the average of all food insecure people (people under crisis and emergency IPC classification) from the data set. The assumption is that this average will reflect those people that, at one point or another, will have been identified as food insecure in the last seven years, and will represent those people that are either always food insecure and/or recovering from shock(s) and with reduced coping in the event of a new shock.
- *What thresholds have the numbers of food insecure people reached in crisis years? How would this estimate be affected by a large-scale shock?*  
This was done by taking the average of the two highest emergency plus crisis peaks. The assumption is that this average will reflect the top range of the number of food insecure people in the event of a major crisis. When deducting the overall average (above) from these two highest peaks, the difference should reflect the additional number of people at risk of slipping into food insecurity in the event of a major shock.
- *What could be a core group of food insecure people in good or better years?*  
Similarly, the lowest numbers found from the assessments should indicate those people that are still food insecure in spite of what may be better conditions, and therefore represent the most food insecure group.

Overall, trends showed the following:

- The seven and a half-year average of affected populations amounts to approximately 1.3 million people, including 920,000 rural and 427,000 urban populations. Of these, around 585,000 people represent a core group, defined through the two lowest numbers of affected populations over the last seven years.
- The two highest emergency peaks (2009 and 2011) have an average of 2.4 million people.
- Thus, the difference between the average and emergency peaks amounts to around 979,000 people.

The following graph shows the numbers of affected populations over the last eight years by season, based on the findings of FSNAU’s seasonal assessments:



**Figure 2: Rural populations in Crisis and Emergency, 2007-2014**

Plotting these out, it is apparent that people have faced two major shocks in the last eight years – the 2009 and 2011 droughts – and that there has been insufficient time for the affected populations to recover between them. For WFP’s currently accessible areas<sup>4</sup> the average and emergency peaks are around 750,000 and 1.2 million people respectively thus having a difference of 450,000 people.<sup>5</sup>



Photo: WFP Somalia

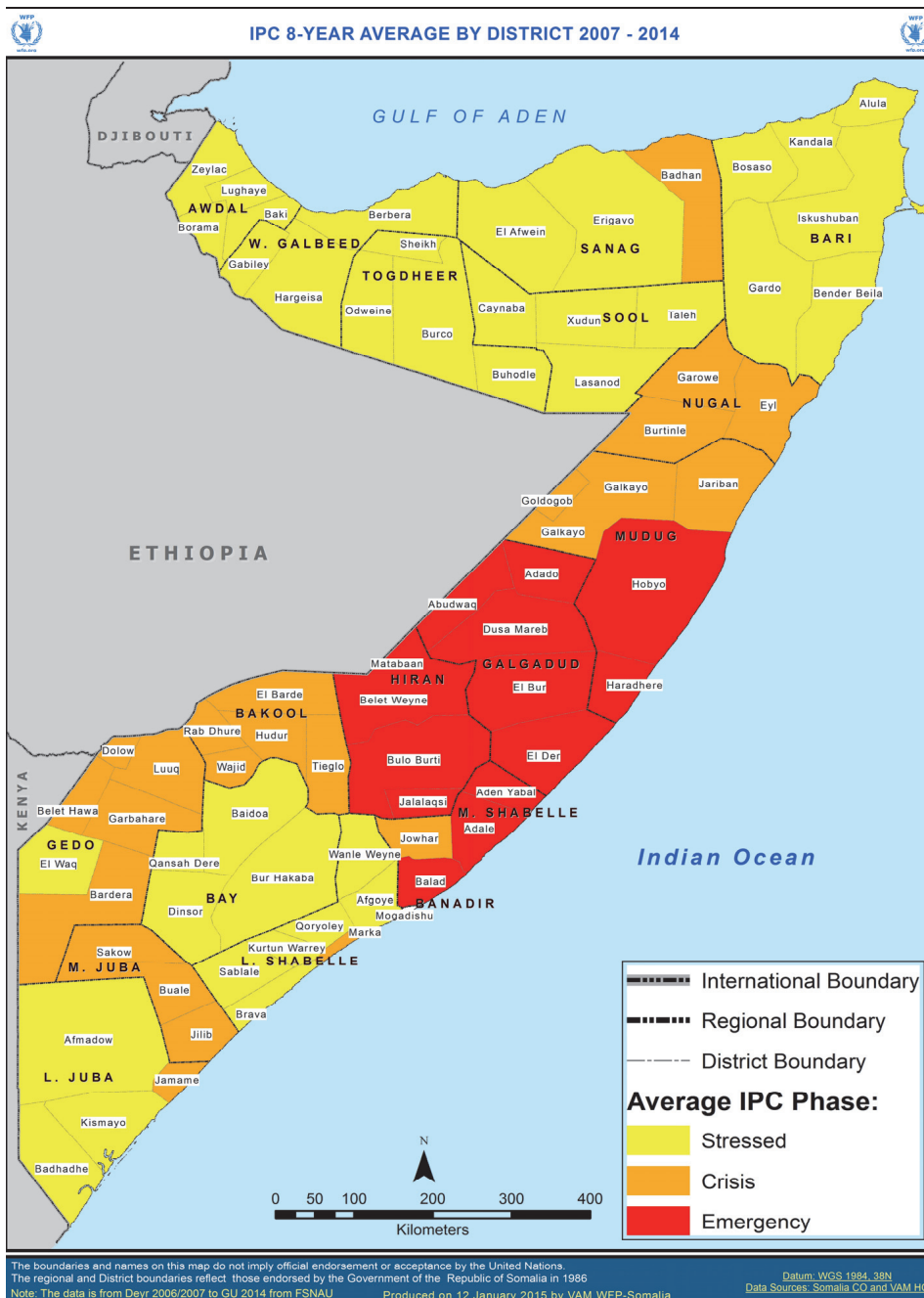
4 The accessible areas include northern Somalia (Somaliland and Puntland), parts of central and south Somalia, Mogadishu, as well as some areas on the Kenyan-Somali and Ethiopian-Somali borders. Areas under the control of Al-Shabaab have not been accessible since the ban imposed by the insurgents on WFP in January 2010. In 2014, allied military operations (Eagle, Indian Ocean, and Ocean View) expelled insurgents from areas in central and southern regions, but resulted in a blockage of roads and market disruptions in the main liberated towns. Access therefore continues to be restricted and highly dangerous for humanitarian partners.

5 The detailed breakdown of affected populations by season can be found in annex 3.

# 1. Food Security

The following section consists of a mapping exercise of different food security trends. Each trend was analysed in different steps, which are explained in the map description, in the format Process → Analysis → Action/Conclusion. The paragraphs on process explain the underlying steps used for creating the map. Secondly, the Analysis part describes the analytical approach employed to understand the map. Finally, the Action/Conclusion section describes the main conclusions that can be drawn from the mapping exercise.

## 1.1. Integrated Food Security Phase Classification (IPC) Map – 8-year average



### Process:

The average food security situation over the last eight years is mapped by district based on the IPC 2.0 methodology, to identify which livelihood types are most affected by high averages of food insecure populations. In order for a district to be classified in a specific phase, at least 20 per cent of households in that area have to be in that phase or worse (cf. figure 1).



### Analysis:

13 districts can be identified which, over the last seven years, had over 20 per cent of their population classified in Emergency. These are located in Hiran, Galgaduud, Mudug and Middle Shabelle regions of central Somalia. Another 17 districts across Somalia are classified in Crisis, while the rest of the country is Stressed.

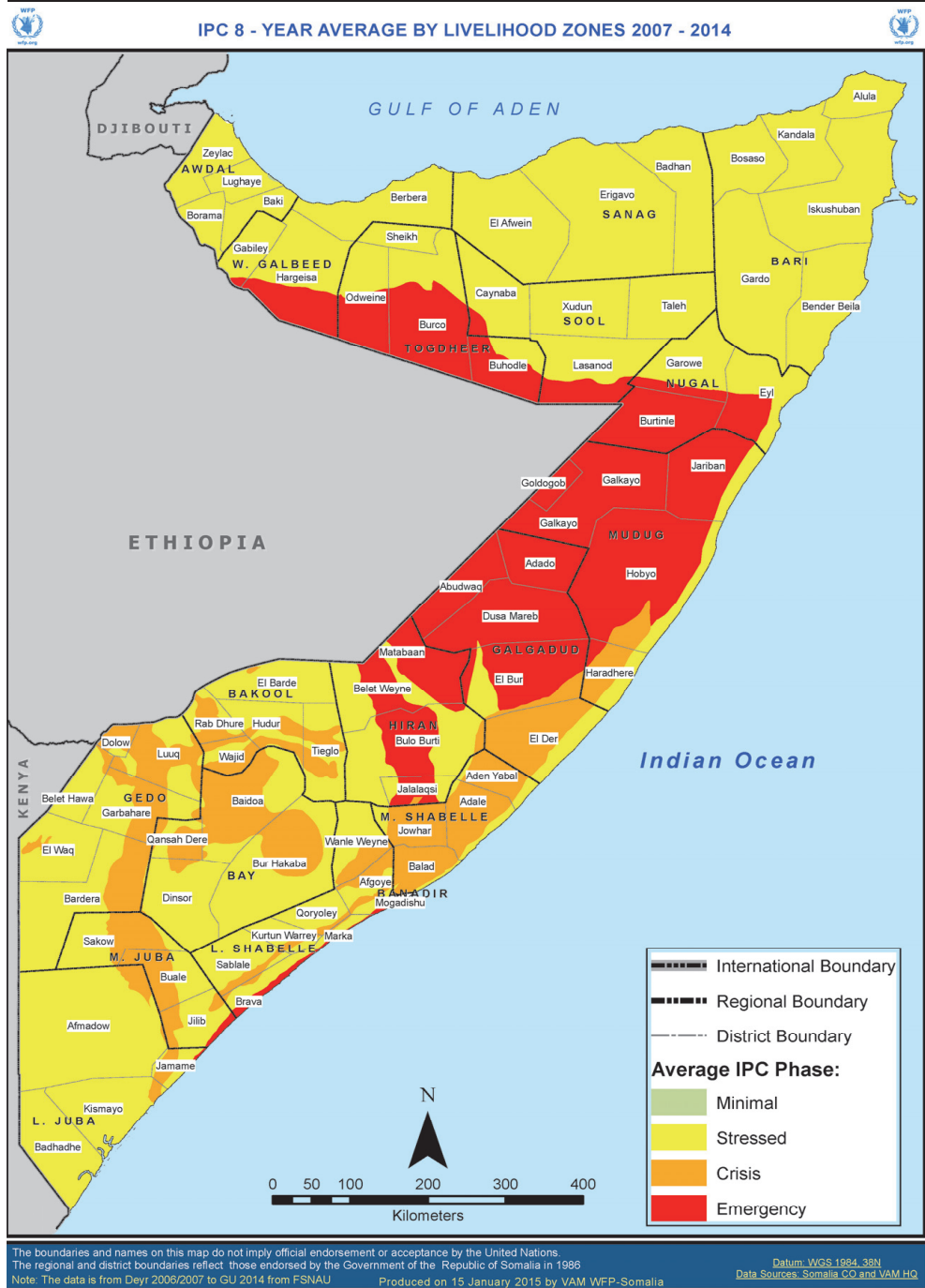


### Action/Conclusion:

This map highlights the high exposure to food insecurity of Somalia's central region, and particularly Hiran. While this map does not contain information on the recurrence of food insecurity, it highlights that central Somalia (Hiran, Galgaduud, southern Mudug and northern Middle Shabelle) are, on average, the most food insecure areas of the country.

Map 1: IPC seven-year average by district





**Map 2: IPC seven-year average by Livelihood zone**

## 1.2. Trends in Figures of Affected Populations

While the previous maps looked at the phase classification at district and livelihood level, the following maps will explore trends in figures of affected populations. The first set of maps will illustrate the average amount of people affected by food insecurity over the last fifteen seasons, both in absolute numbers and in percentages of the total population. These maps are useful to inform planning in a normal year. The second set of maps shows the number/percentages of people that – on top of the average amount of people affected each year – can fall into food insecurity in the event of a shock. These maps

### Process:

The average food security situation over the last eight years is mapped by livelihood zone based on the IPC 2.0 methodology, to identify which areas are most affected by high averages of food insecure populations. In order for a district to be classified in a specific phase, at least 20 per cent of households in that area have to be in that phase or worse (cf. figure 1).



### Analysis:

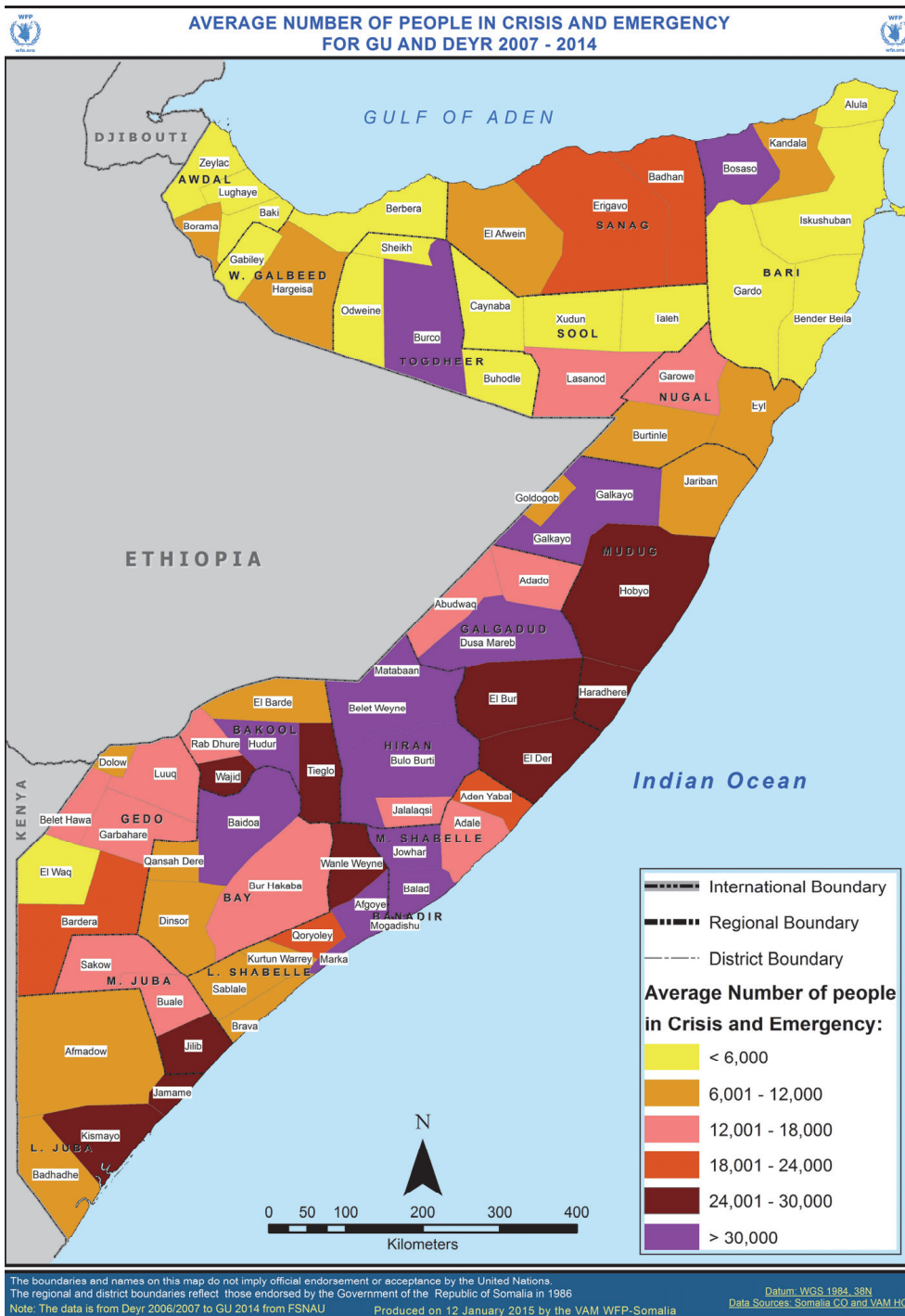
The most affected livelihood zones include pastoralists in central Somalia and in the coastal areas of the northeast, as well as agro-pastoralists in Hiran, riverine communities along the Juba river and the Cowpea Belt livelihood zone. Other LHZ affected by high average levels of food insecurity include agro-pastoralists and pastoralists in southern Somalia, and pastoralists in the northeast (Sool Plateau, Nugal Valley, East Golis).



### Action/Conclusion:

While no clear pattern can be identified, this map provides a different picture than map 1. Particularly, it highlights how the riverine communities along the Juba river and in Hiran are highly food insecure, which was not highlighted in the map by district. On the other hand, agro-pastoralists in Bay, pastoralists along the Kenyan border and populations in northwestern Somalia are, on average, more food secure.

are important for emergency preparedness. Finally, the two sets of maps will be combined to indicate the maximum amount/percentage of people affected by food insecurity in a bad year or in case of a shock.



**Process:**

The number of people in Crisis and Emergency (IPC Phases 3 & 4) for the past eight years is combined and the average number by district calculated.



**Analysis:**

There are 11 districts in which the average number of affected people exceeds 30,000. These are located mainly in the southern and central parts of the country, as well as in Bari and Togdheer regions in the north.



**Action/Conclusion:**

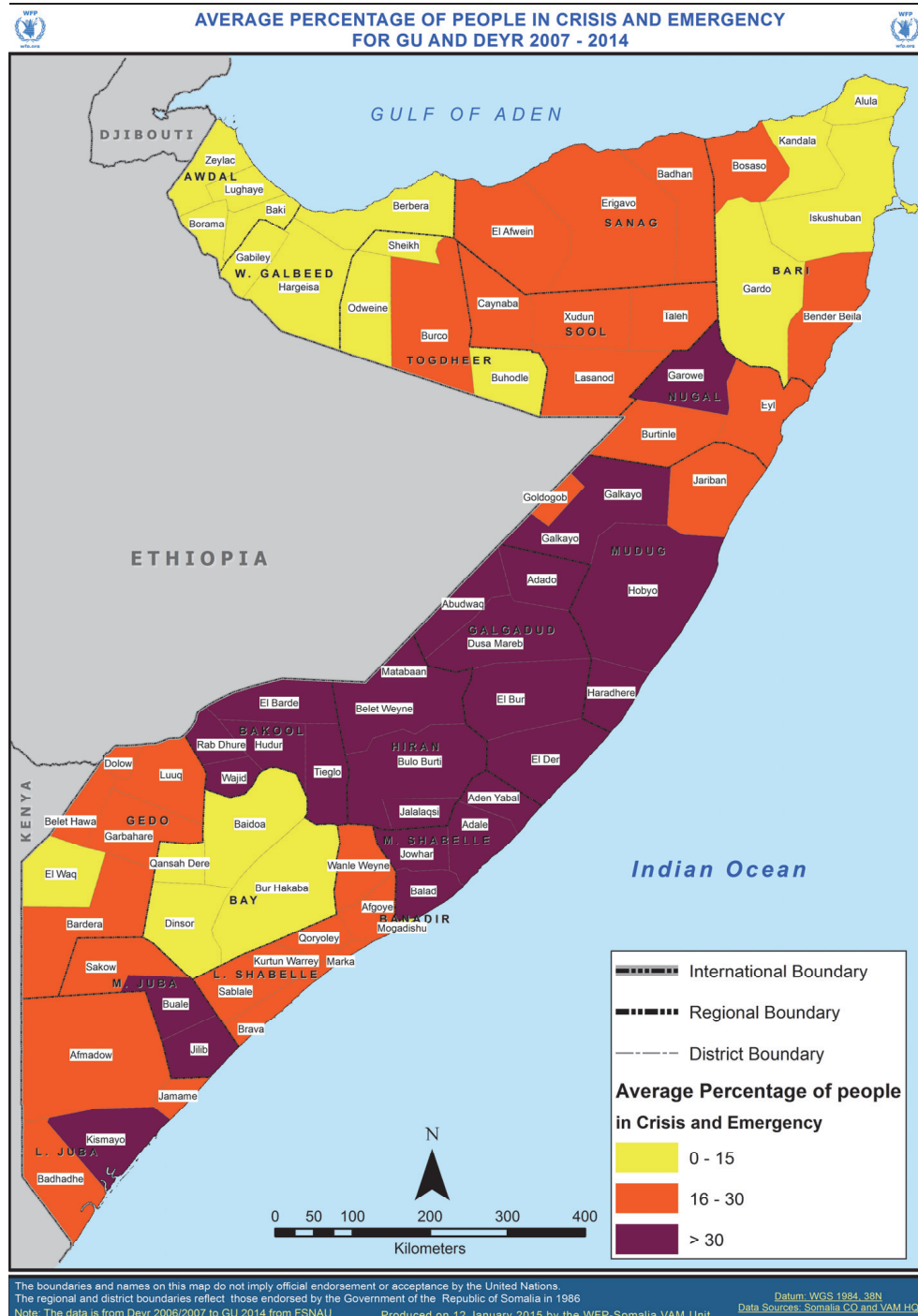
The map provides an overview of the range of people that are affected by food insecurity in an average year. This information is particularly relevant for informing response decisions in relation to the average number of people in need of food assistance.

**Map 3: Average number of people in Crisis and Emergency**

Understanding the proportion that food insecure people represent in an area is important. Ten thousand food insecure people in a population of 40,000 people have different implications than 20,000 people, as the proportion affects the communities' ability to absorb and support food insecurity in their midst (i.e. the higher the proportion the



less kinship support can be assumed). It also influences considerations of targeting approaches within the communities. The next map shows the average percentage of food insecure populations over the past eight years, i.e. people classified in Crisis or Emergency. Findings were categorised considering what they could mean in the area or for a community. For example, <15% implies that three out of 20 people are or could become food insecure; 16%- 30% implies two to three out of five people, whilst >30% is one or more out of every three people.



**Map 4: Average percentage of people in Crisis and Emergency**

**Process:**

The average number of people in Crisis and Emergency over the past eight years is expressed in percentage out of the total population.

↓

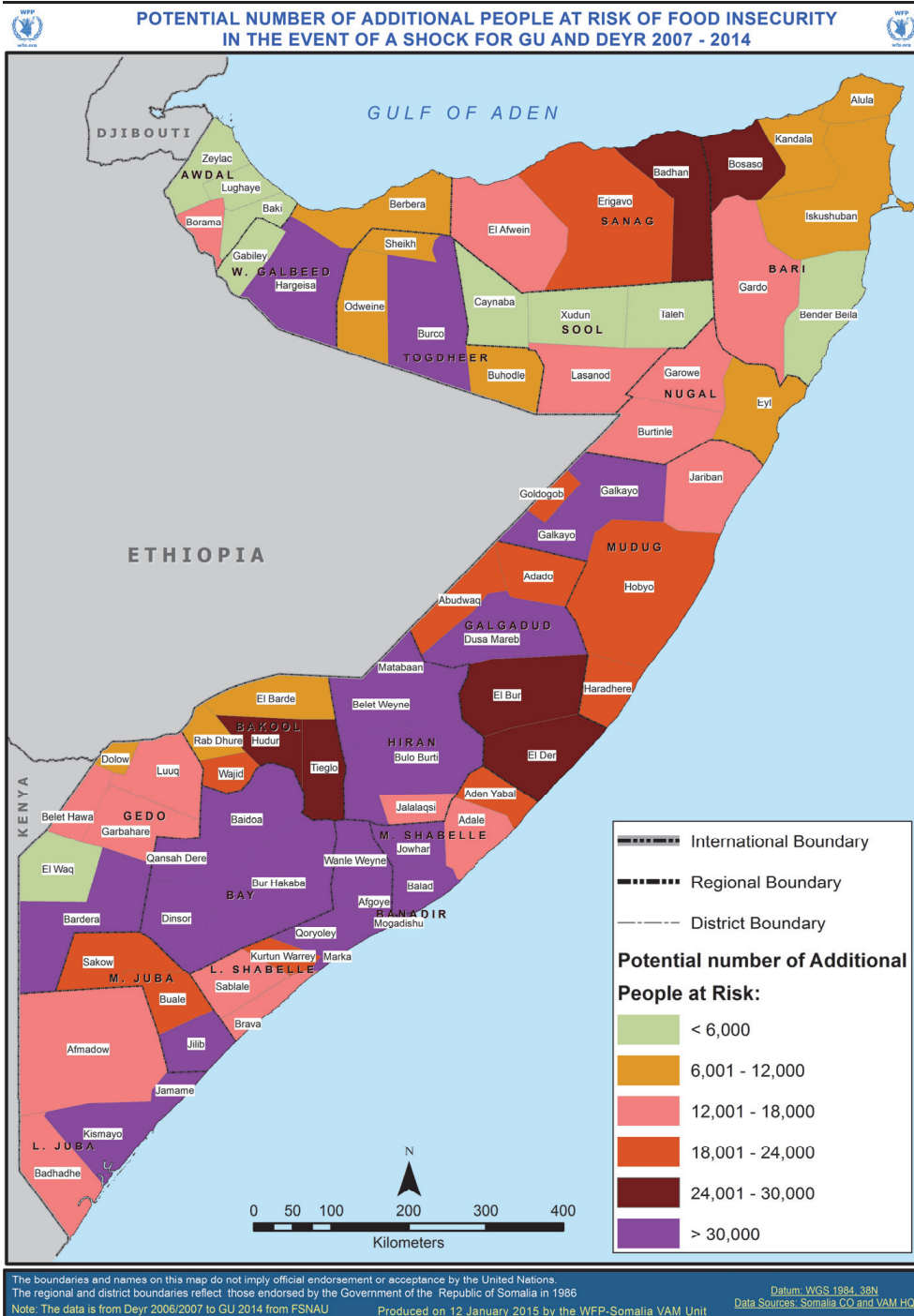
**Analysis:**

The majority of districts with a proportion of food insecure populations above 16 per cent are located in central Somalia and in Bakool, Gedo, Lower Shabelle and the Juba regions of southern Somalia. Moreover, some parts of northern Somalia also have high proportions of food insecure populations, namely Sanaag, Sool Plateau, Nugal Valley, parts of Bari and Togdheer regions, as well as Banderbeyla district.

↓

**Action/Conclusion:**

The proportion of the population affected is important as it provides information about the scale of food insecurity within a district. For instance, targeting must be different if the concentration of food insecure people is very high, as opposed to a scattered food insecure population.



**Map 5: Potential number of additional people at risk of food insecurity in the event of a shock**

**Process:**

This map shows the additional number of people that are likely to fall into food insecurity in the event of a shock. This was calculated by deducting the number of persistently food insecure people (cf. map 3) from the average of the two highest peaks of populations in Crisis and Emergency.



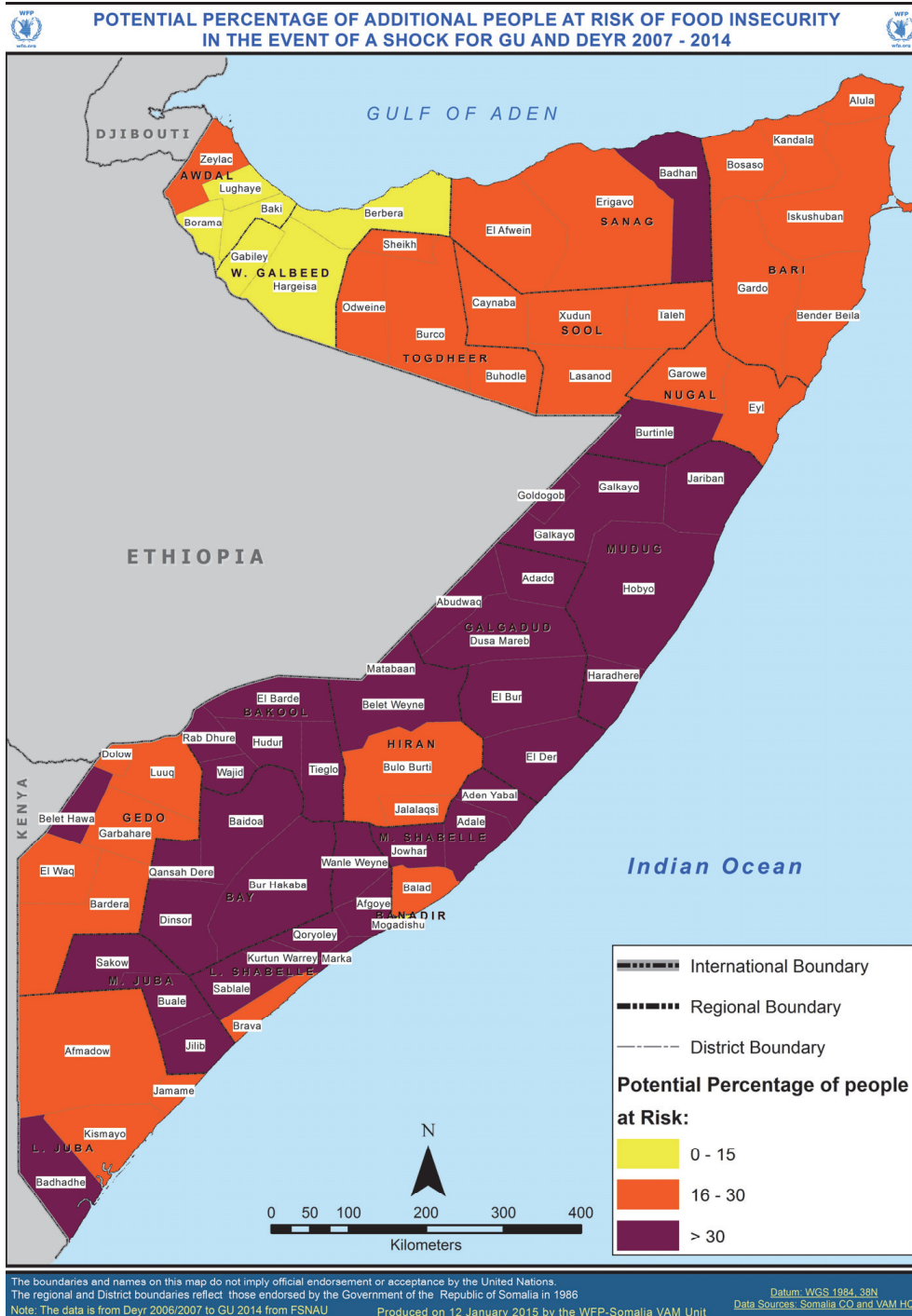
**Analysis:**

No clear patterns can be identified, although it seems that in the south, figures of populations at risk are higher than in the north, particularly in Bay region. Some areas in northwestern Somalia also have significant populations at risk of falling into food insecurity, particularly Burao and Hargeisa districts, while the rest of northern Somalia has low figures of people at risk.



**Action/  
Conclusion:**

The mapping of populations at risk is particularly important for emergency preparedness, as it helps to identify areas with high numbers of people in need of immediate assistance in the case of a sudden onset emergency, or if early warning indicators suggest a developing shock.



**Map 6: Potential percentage of additional people at risk of food insecurity in the event of a shock**

**Process:**

The process for the creation of this map is the same as for map 5, but the additional people at risk of falling into food insecurity are mapped in percentage of the total district population.



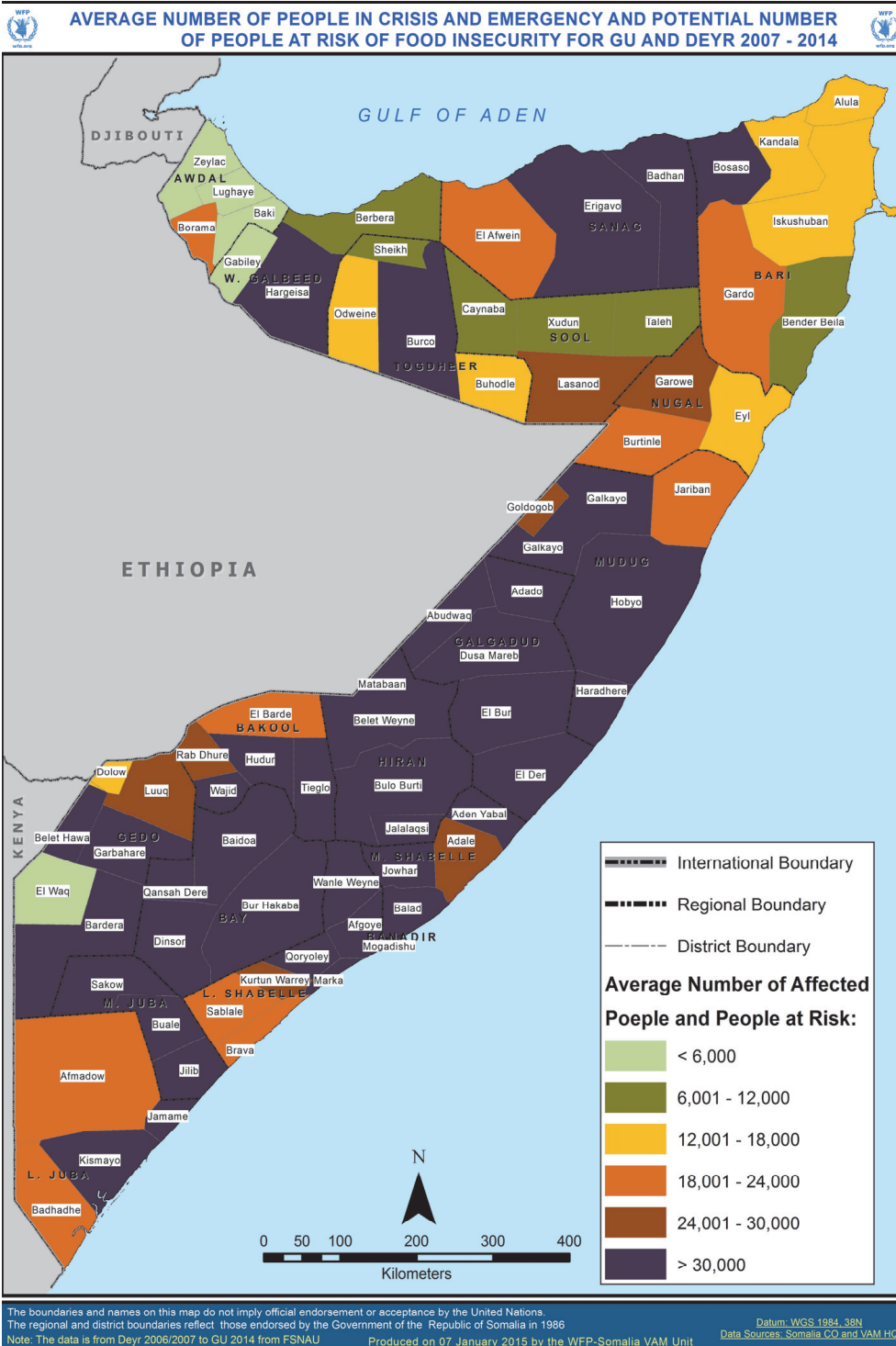
**Analysis:**

Conversely to map 5, the mapping of the potential percentage of people at risk of falling into food insecurity shows clear patterns, as southern Somali has much higher proportions of its populations at risk compared to the northern part of the country. In Bay and parts of Middle and Lower Juba and Middle and Lower Shabelle, over 30 per cent of the population are at risk of becoming food insecure in the event of a shock.



**Action/Conclusion:**

This map helps understand the scale of food insecurity in a district in a bad year, or in case of a shock. The higher the proportion of additional people affected by food insecurity, the higher the concentration of food insecure populations. This information can inform the type of emergency intervention needed if early warning indicators suggest a developing shock.



**Process:**

This map is the combination of maps 3 and 5. The figures of people in need and at risk have been summed up and mapped out.



**Analysis:**

The only districts with low numbers of people in need and at risk are located in the northern part of the country (Zeylac, Baki, Lughayay, Gabbiley). Most of the southern and central parts of the country have high average figures of affected populations and populations at risk.

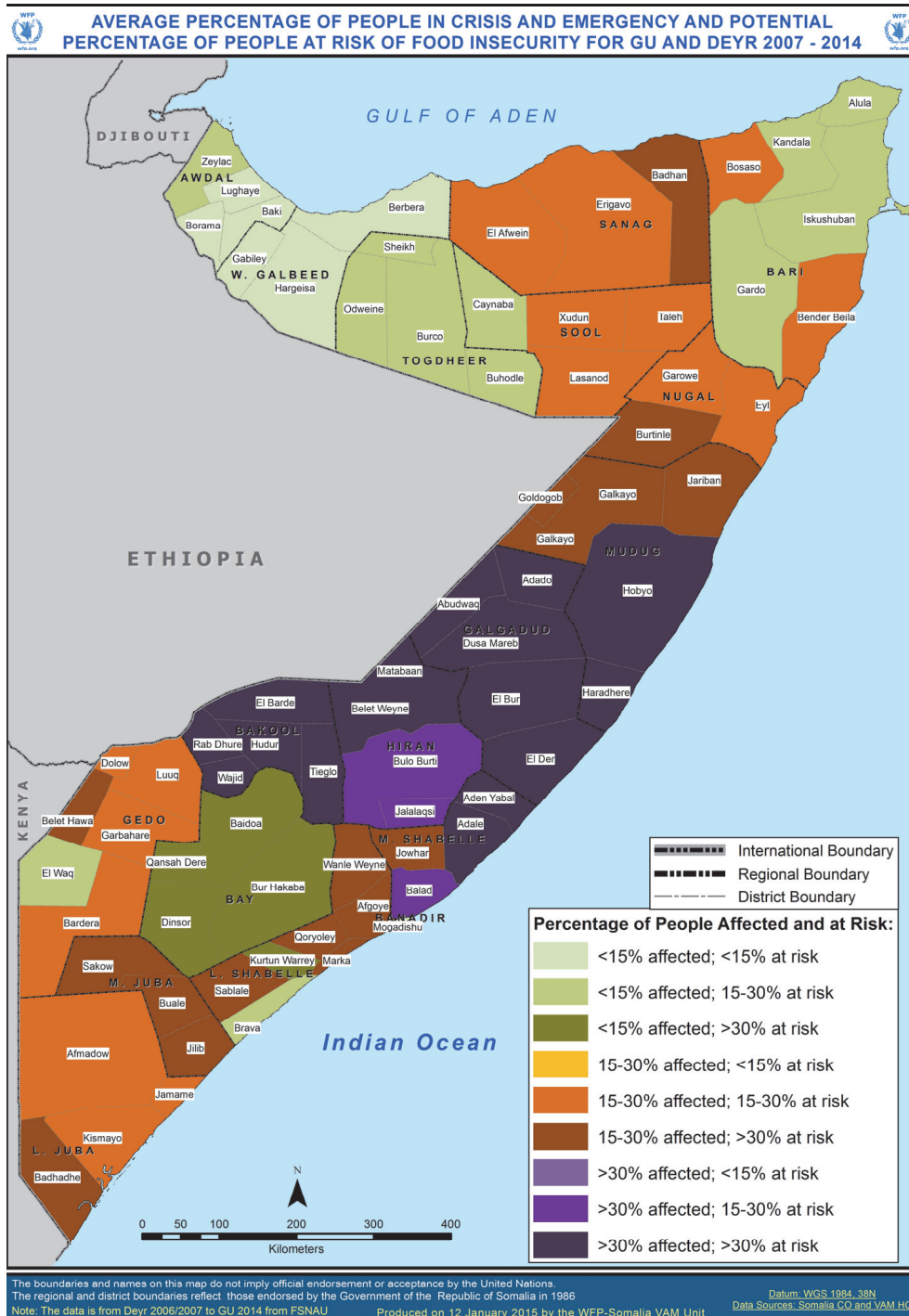


**Action/  
Conclusion:**

This map informs programming decisions in a bad year with the absolute numbers of people affected by food insecurity. This information can be used for planning and contingency purposes.

**Map 7: Average number of people in Crisis and Emergency and potential number of people at risk of food insecurity**





**Process:**  
This map is the combination of map 4 with map 6. It illustrates the relative proportions of the average percentage of affected populations and the percentage of people at risk to each other.

**Analysis:**  
The map suggests that most districts with high percentages of people affected by food insecurity and of people at risk of becoming food insecure are located in the central and southern parts of the country, particularly in southern Galgaduud, Hirran, Bakool, Middle and Lower Juba. In the north, the same would apply to southern Nugal.

**Action/Conclusion:**  
Similarly to the previous map, this map shows the percentage of people affected by food insecurity in a bad year. Districts with a high percentage of people affected and at risk can be expected to have a high concentration of food insecure populations, which requires different targeting methods from districts with a scattered food insecure population.

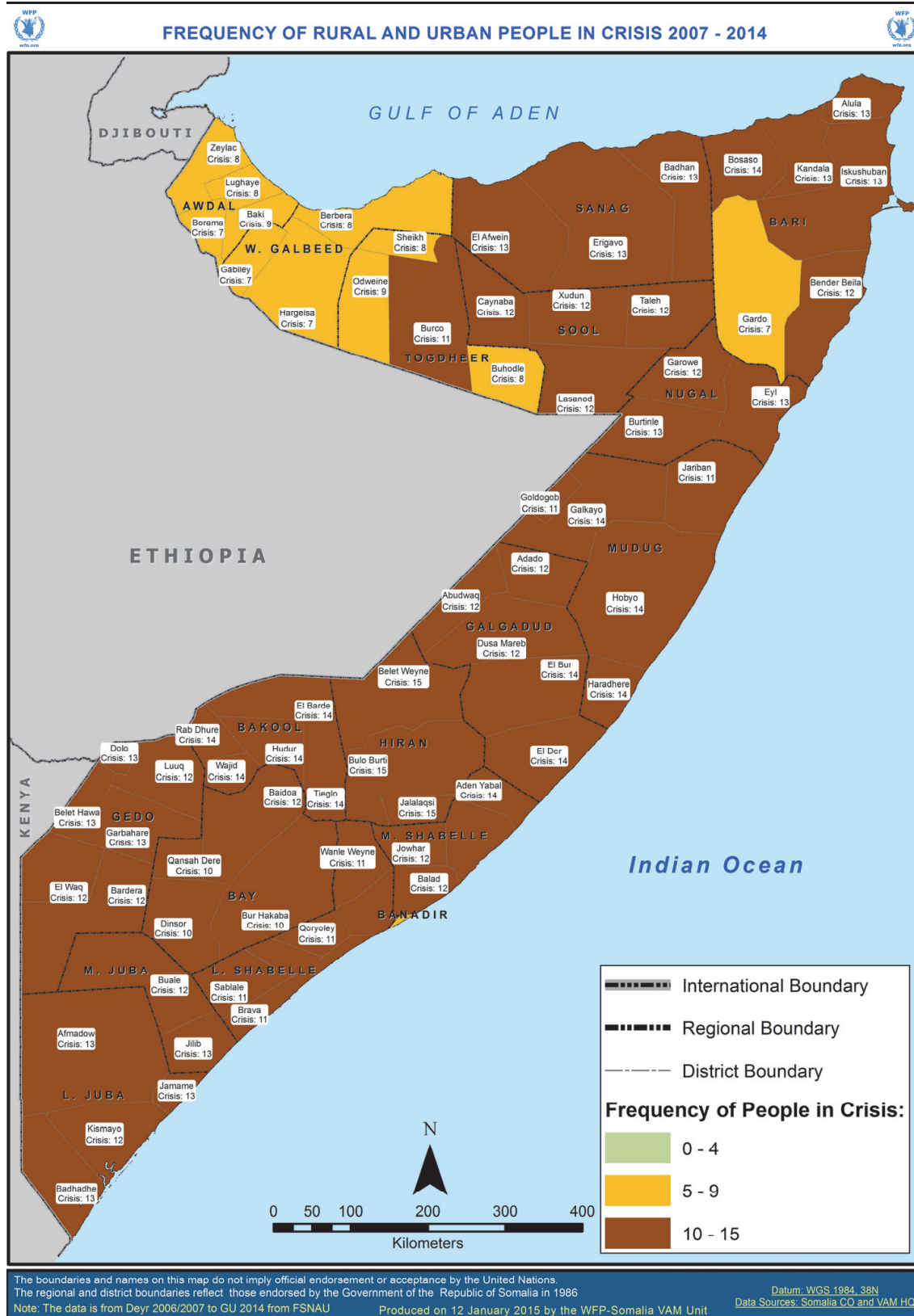
**Map 8: Average percentage of people in Crisis and Emergency and potential percentage of people at risk of food insecurity**

### 1.3. People in Crisis and Emergency

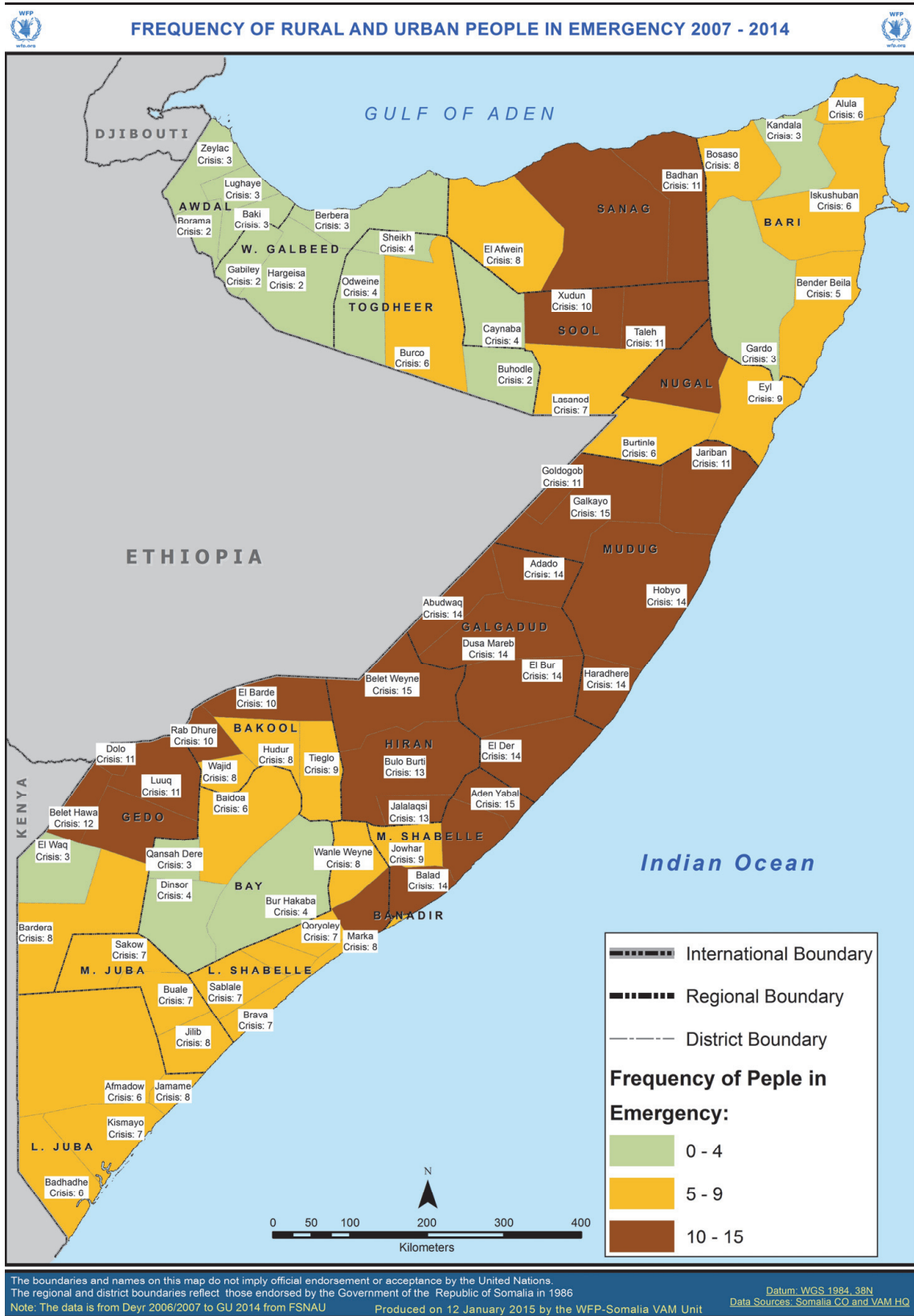
The frequency of Crisis and Emergency classification is important to identify which parts of the country are the most affected by recurrent food insecurity, and which, instead, have been more food secure over the last eight years. First, the frequency of Crisis and Emergency classifications are mapped, separately, for both the country as a whole and then for rural areas only, which shall be at the centre of this analysis. These maps will then be combined, and the process for their creation explained. It is important to stress that these maps are not based on the IPC methodology in the sense that the 20 per cent



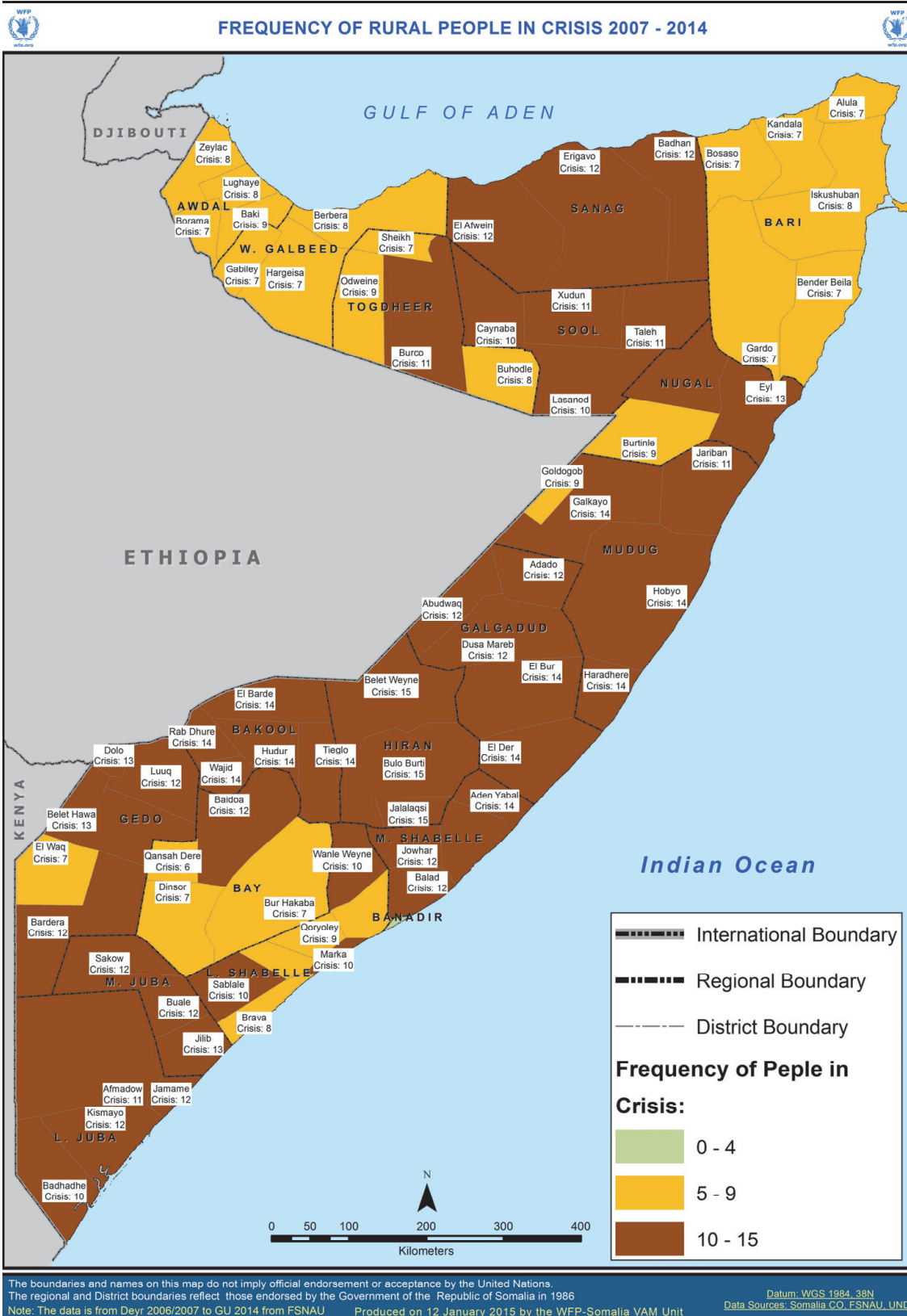
rule was not applied to 'classify' an area. Instead, an area was defined as being in Crisis or Emergency if during the analysis period, at least one person in that area was found to be in that respective phase.



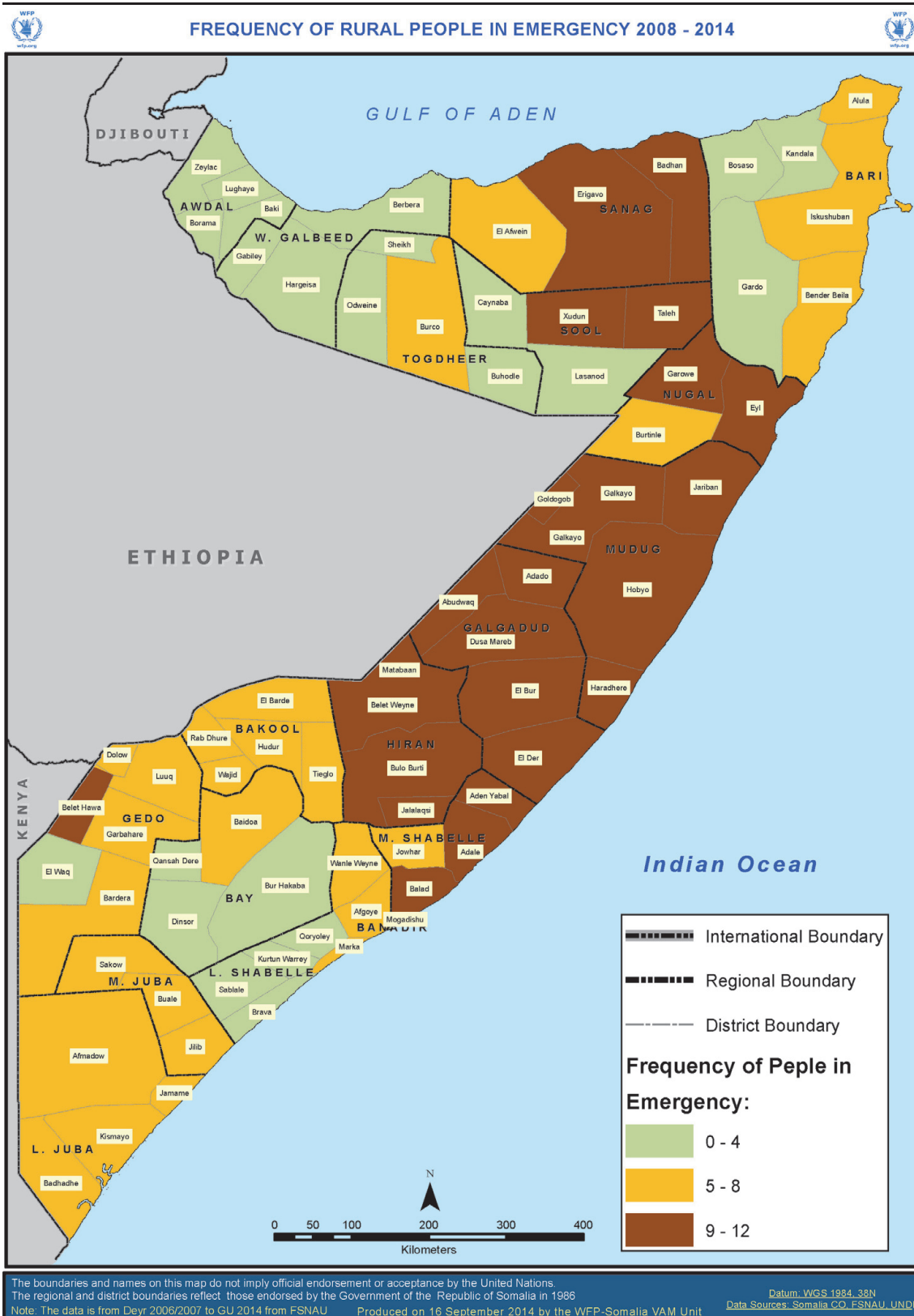
**Map 9: Frequency of rural and urban people in Crisis**



**Map 10: Frequency of rural and urban people in Emergency**

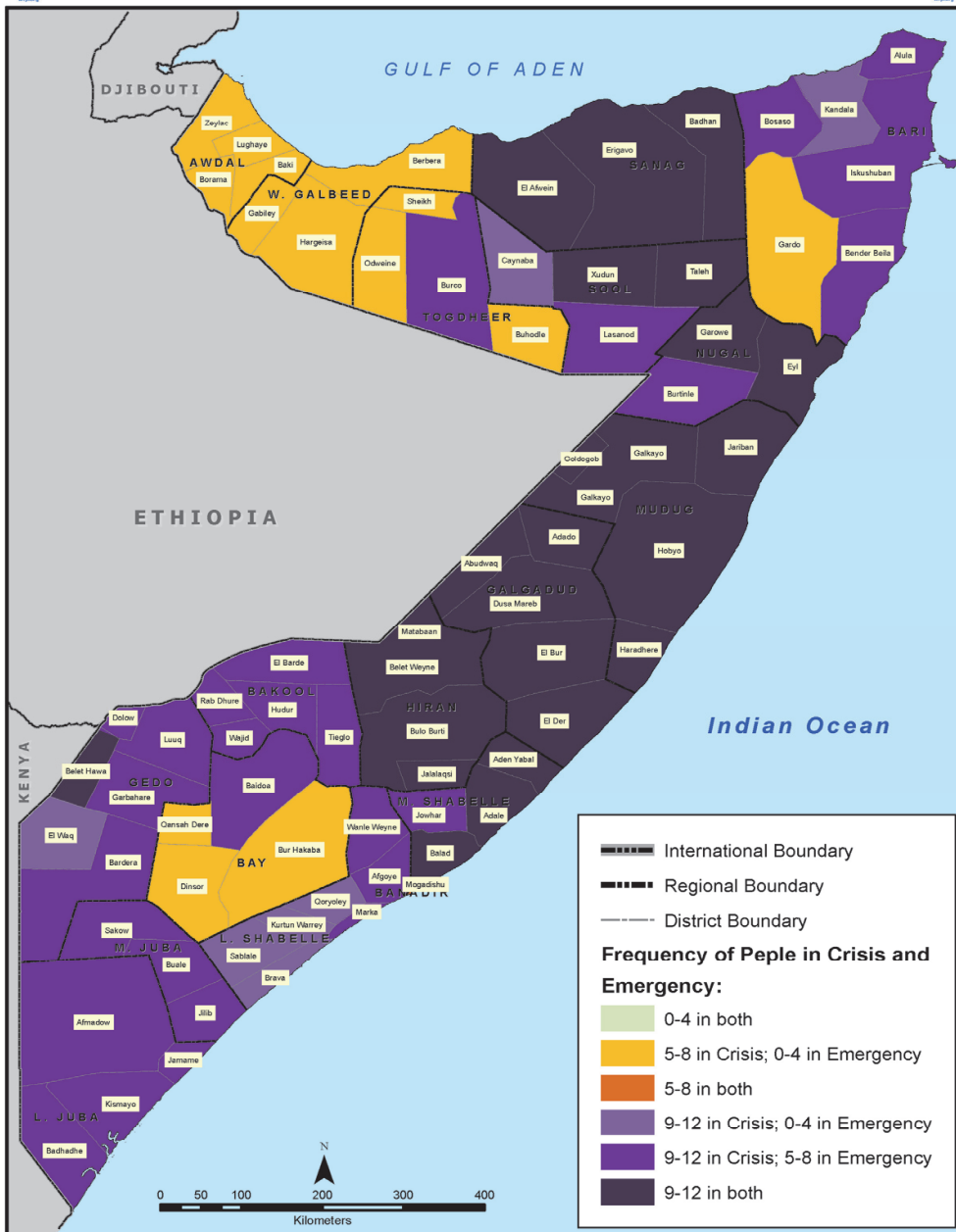


**Map 11: Frequency of rural people in Crisis**



**Map 12: Frequency of rural people in Emergency**





The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.  
 The regional and district boundaries reflect those endorsed by the Government of the Republic of Somalia in 1986.  
 Note: The data is from Deyr 2006/2007 to GU 2014 from FSNAU. Produced on 16 September 2014 by the WFP-Somalia VAM Unit. Datum: WGS 1984\_38N. Data Source: Somalia CO, FSNAU, UNDP.

**Map 13: Frequency of rural and urban people in Crisis and Emergency**

**Process:**

Based on the two seasonal analyses conducted by FSNAU and partners each year, the number of times that populations have been classified in Crisis (map 9), Emergency (Map 10) and both (Map 13) between 2007 and 2012 are mapped.



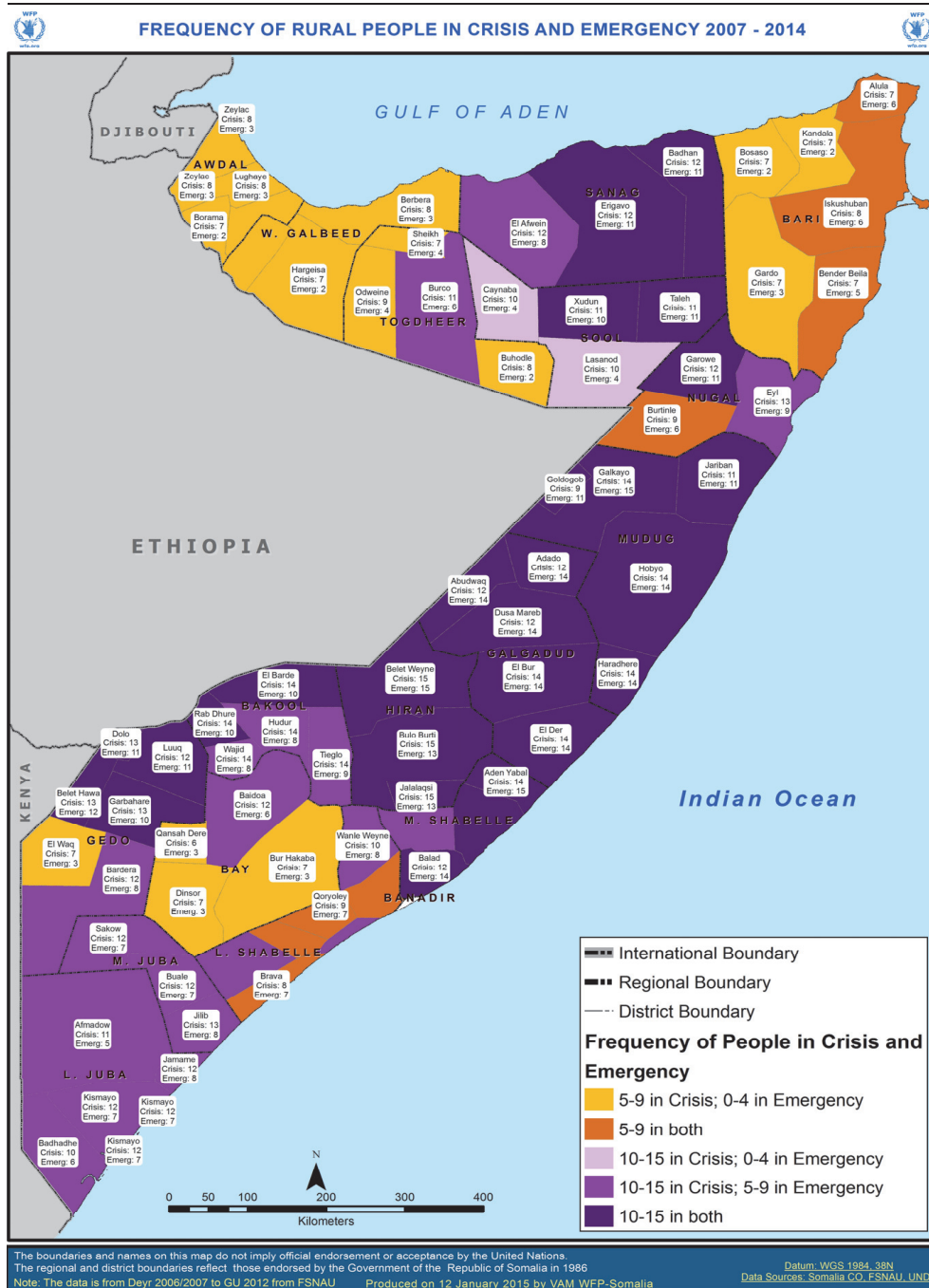
**Analysis:**

The area most frequently classified in Crisis and/or Emergency is central Somalia, as well as Bakool and parts of Gedo region in the south. On the other hand, most of the northwest has been less frequently found to have people in Crisis and/or Emergency.



**Action/Conclusion:**

The frequency of Crisis and Emergency classification is an indicator for the recurrence, persistence and severity of food insecurity. Programming needs to take this into account, in the sense that programme design in an area affected by recurrent food insecurity must be different than in relatively food secure areas.



**Map 14: Frequency of rural people in Crisis and Emergency, 2007-2012**

Maps 13 and 14 suggest that there are areas where people experience food insecurity every year, whilst others could become food insecure as the result of a shock or when conditions deteriorate. Although this does not show the magnitude of food insecurity that people have faced, it contributes to an understanding of where food insecurity is recurring and where it is less frequent. It can be used to consider the amount of times people have faced food insecurity and how often they may need to use distress coping strategies. This also shows the low level of resilience of food insecure people<sup>6</sup>.

<sup>6</sup> It is important to stress that the areas most affected by recurrent food insecurity (central Somalia) have experienced a significant improvement over the last three seasons (cf. Annex 4: Progression of the Food Security Situation, 2007-2014 for more information). However these recent improvement have not yet been sustained to influence the 7 year analysis.

**Process:**

The process here is the same as for map 13, but includes the rural population (cf. maps 11 and 12). The categories were defined according to the following rationales: 7-10 crisis & 7-10 times emergency represents 4 to 5 years out of 5; 4-6 crisis & 4-6 emergency times represents 2 to 3 years out of 5; 1-2 times represents 1 year out of 5.



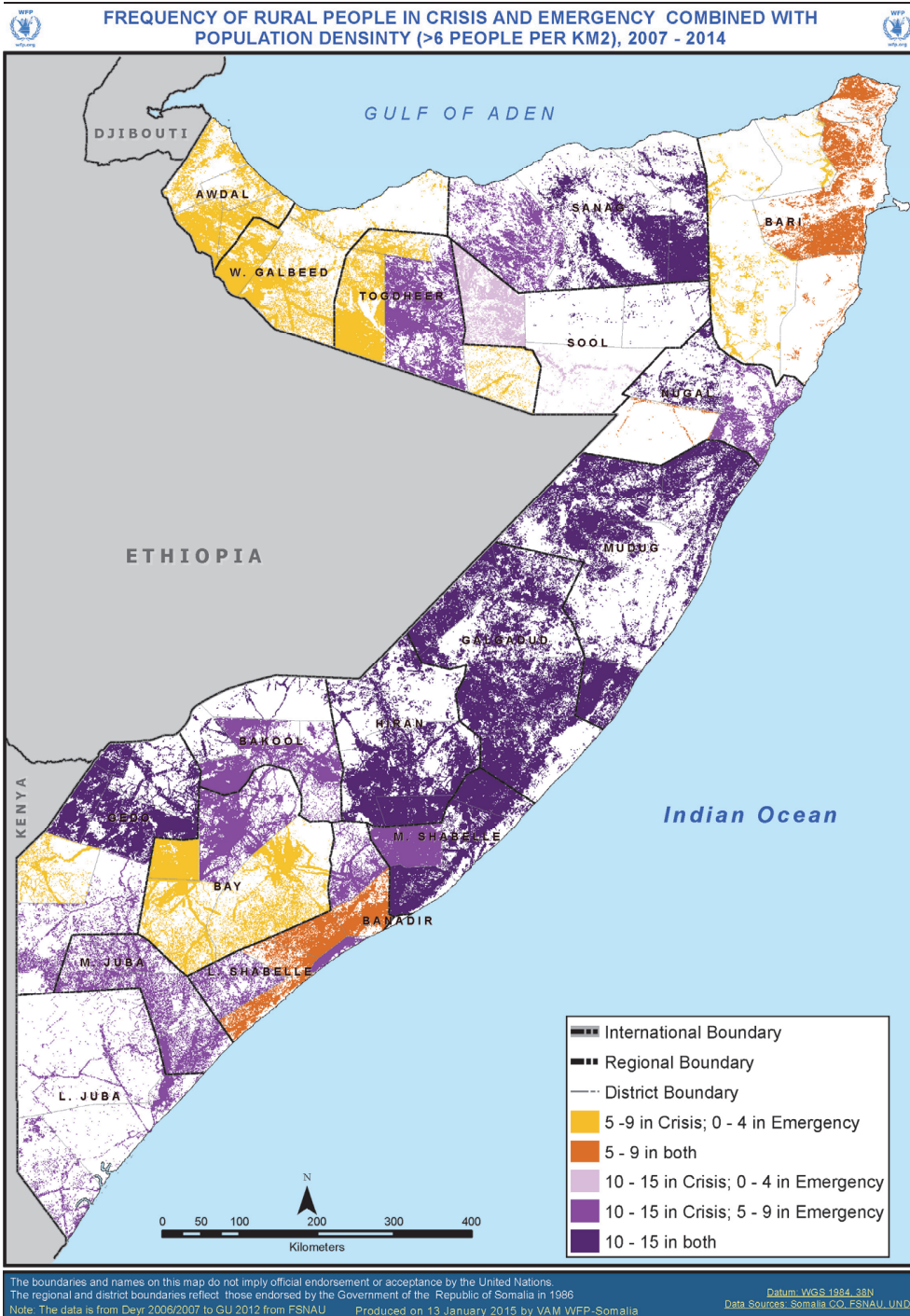
**Analysis:**

The map shows a similar situation to the overall map (map 13), with the central parts of the country being the most affected. However, it is worth noting that some districts (particularly in Bay and the northeast) seem to be less affected by recurrent food insecurity, if only the rural population is considered.



**Action/Conclusion:**

Pastoralist areas in central and southern Somalia are particularly affected by recurrent food insecurity. It can be assumed that the resilience of these populations has been severely affected over the last few years. The differences between map 13 and 14 (Bay and northeast) suggest that in these parts of the country, recurrent food insecurity might affect mainly urban populations.



**Map 15: Frequency of rural people in Crisis and Emergency combined with population density (>6 pax/km²)**

**Process:**

The recurrence of food insecurity for rural populations (map 14) is illustrated in relation to the population density. A filter showing a relatively low population density (>6 people/km2) is applied.



**Analysis:**

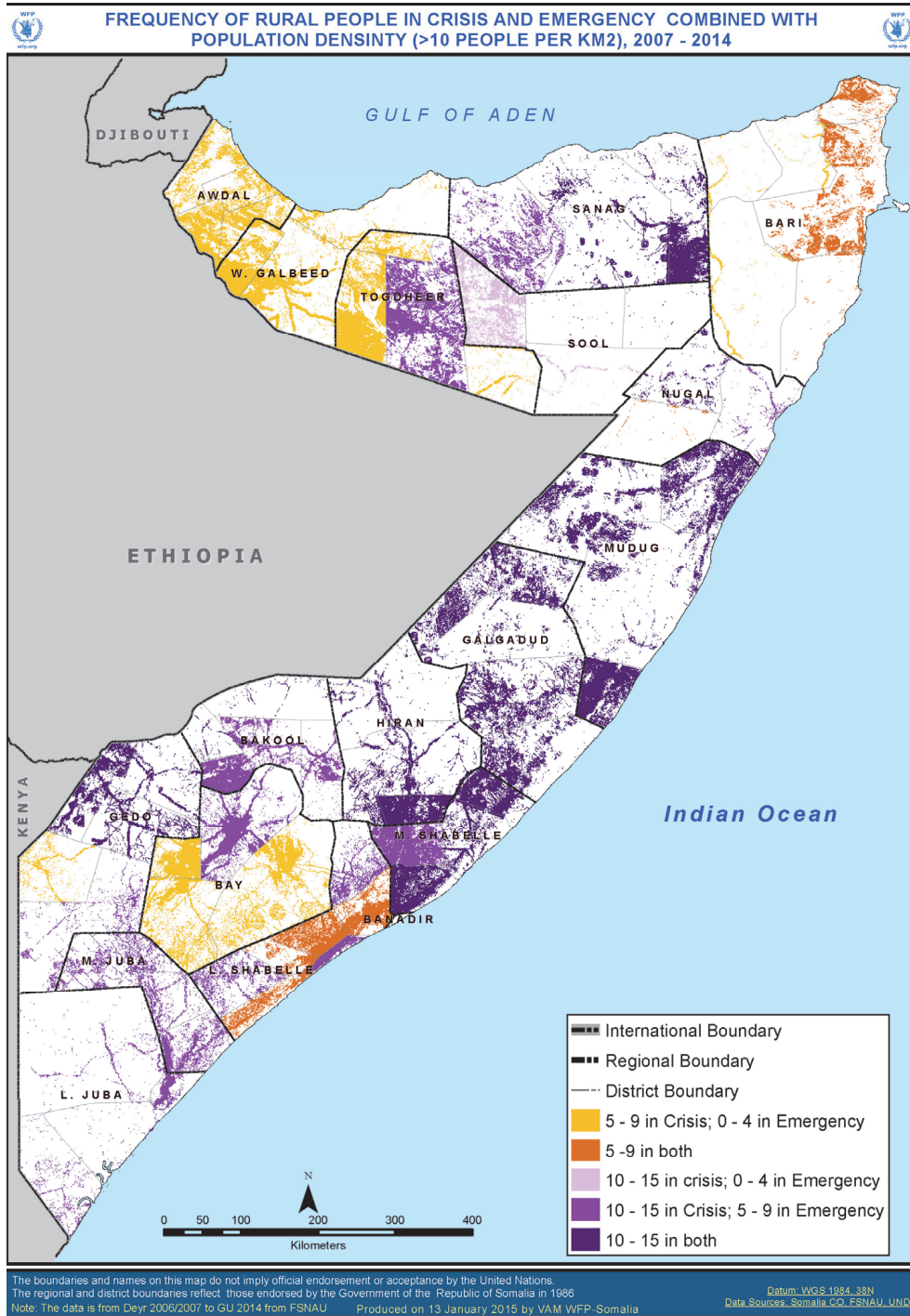
The application of the first filter already highlights which areas are more densely populated and more frequently affected by recurrent food insecurity. These include central and parts of southern Somalia, while the northern parts of the country are not only less densely populated, but also more food secure.



**Action/Conclusion:**

This map narrows targeting and shows where the population is within the most food insecure areas. Central Somalia has a high population density and is recurrently food insecure. Parts of the south, including Lower Juba, have a low population density. Sanaag and parts of Togdheer in the north also have a high population density combined with relatively high recurrence of food insecurity.





**Map 16: Frequency of rural people in Crisis and Emergency combined with population density (>10 pax/km<sup>2</sup>)**

**Process:**

The recurrence of food insecurity for rural populations (map 14) is illustrated in relation to the population density. A filter showing a medium population density (>10 people/km<sup>2</sup>) is applied.



**Analysis:**

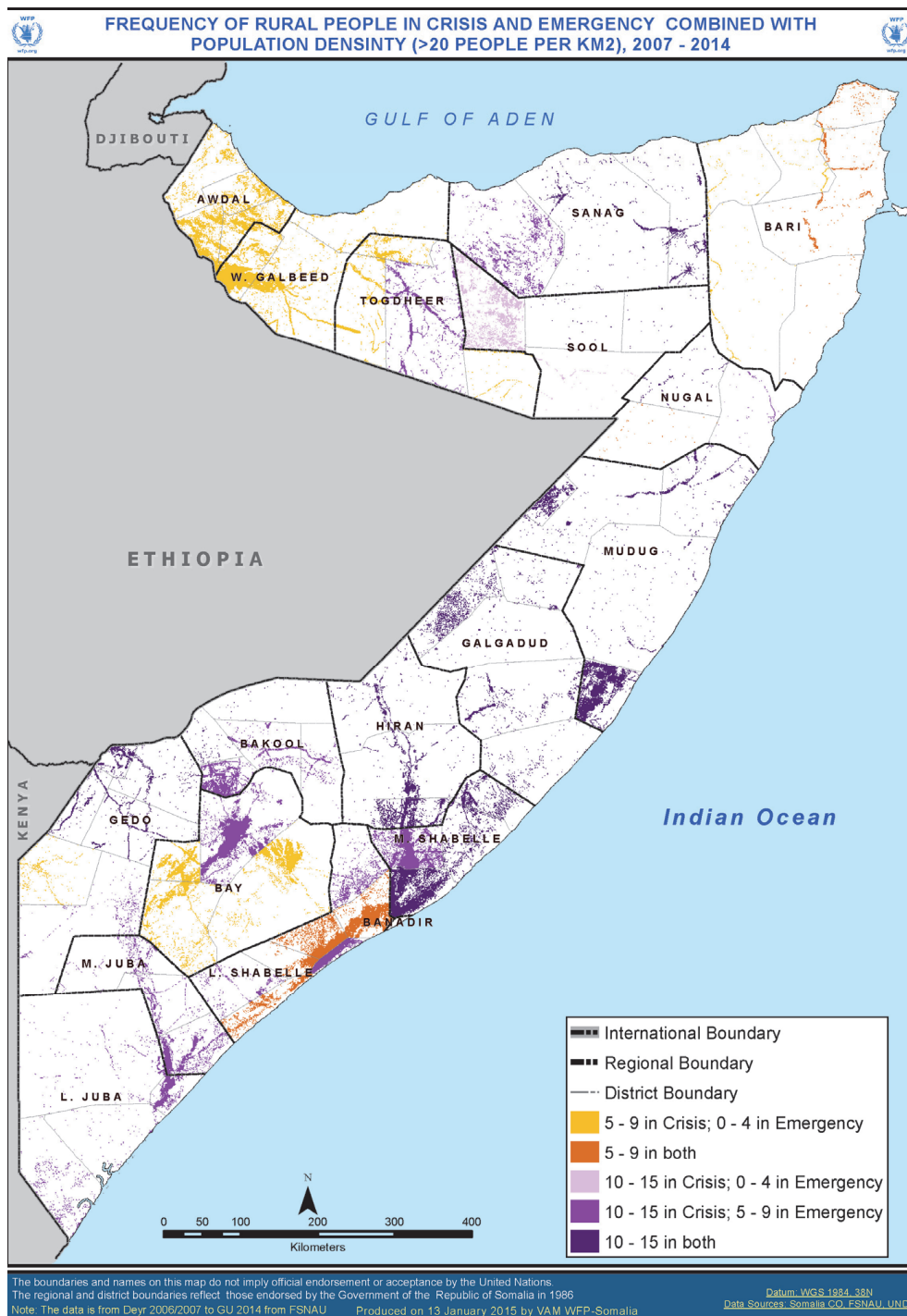
The application of the second filter indicates which areas are more densely populated and more frequently affected by recurrent food insecurity. Findings are similar to those from map 15, with the densely populated and recurrently food insecure areas being located mainly in the southern and central parts of the country.



**Action/Conclusion:**

Compared to the previous map, targeting can be narrowed down even further. Areas with recurrent food insecurity and high population density include parts of central Somalia, Bay, Bakool, and the border areas of Gedo. Moreover, the coastal areas of Lower and Middle Shabelle also have a high population density and are hit by recurrent food insecurity, as well as some parts of northern Somalia.





**Process:**

The recurrence of food insecurity for rural populations (map 14) is illustrated in relation to the population density. A filter showing a high population density (>20 people/km<sup>2</sup>) is applied.



**Analysis:**

The application of the higher filter shows only the most densely populated areas. In Middle Shabelle and parts of the south and centre of the country, these coincide with recurrent food insecurity.

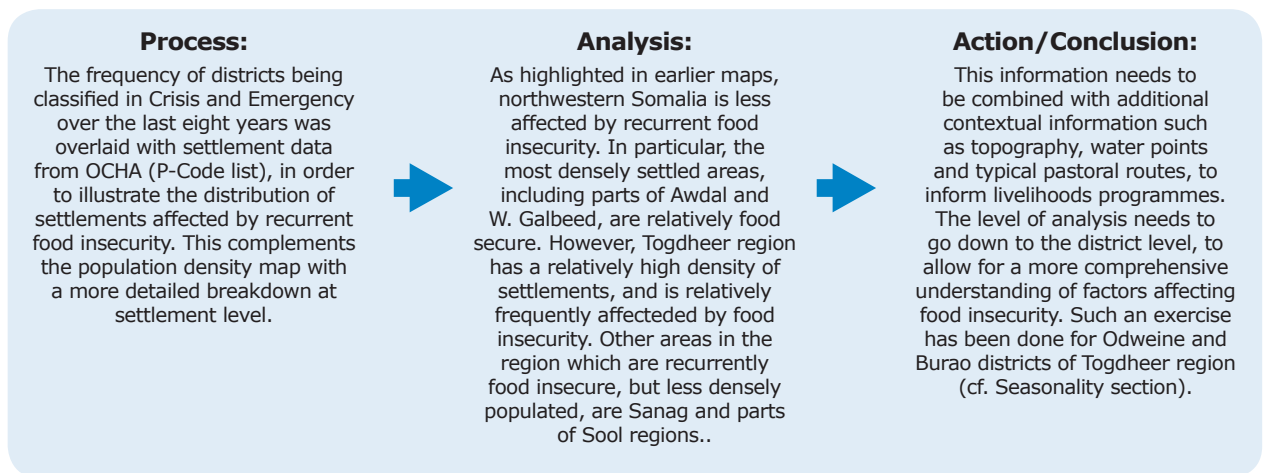
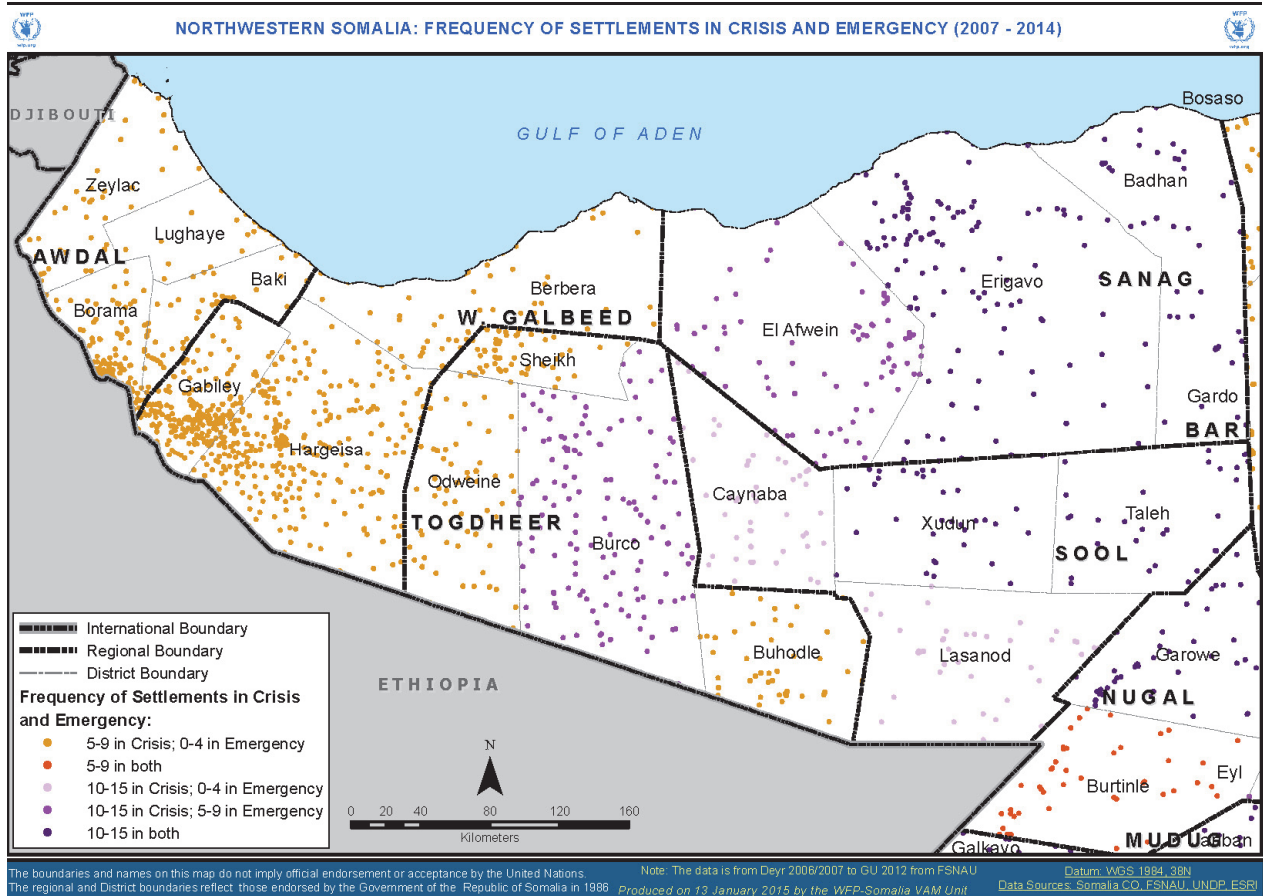


**Action/Conclusion:**

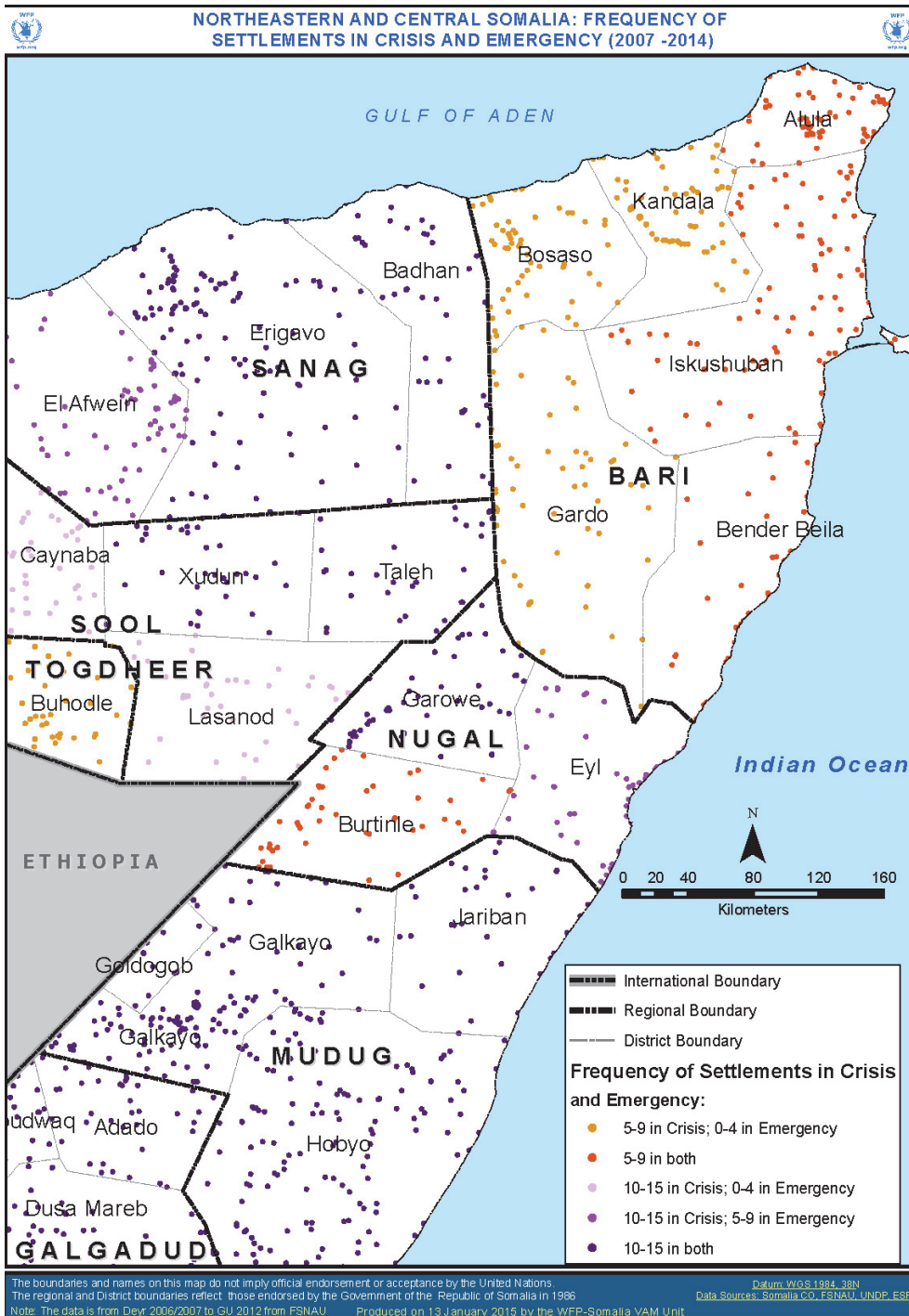
A high population density was used as a filter for this map. It shows that the most populated areas which are also affected by recurrent food insecurity are the coastal and riverine areas of Middle Shabelle, as well as urban areas in southern and central Somalia.

**Map 17: Frequency of rural people in Crisis and Emergency combined with population density (>20 pax/km<sup>2</sup>)**

Note: The LANDSCAN dataset is a modelling of population density using population figures, administrative boundaries, land cover and other spatial data, coastline modelling and satellite imagery. The dataset is in raster format (1 km<sup>2</sup>), with every raster being linked to the number of people living in that area. To create the maps above, only the pixels with the respective population densities were extracted. While the dataset is reliable for understanding the variation of population density across the country, it cannot give information about the exact number of people per district. It has to be pointed out that ultimately, it is also dependent on the data quality, which in the Somali case is partly flawed due to the unreliability of population numbers. For instance, Harardhere district appears to have a high population density, which might be due to the fact that the 2005 UNDP population estimates indicate a high population figure (65,000 people) which is comparable to that of Hobyo (67,000), notwithstanding a much lower district size. For more information, please see <http://www.ornl.gov/sci/landscan/>



**Map 18: Frequency of settlements in Crisis and Emergency (NW Somalia)**



**Map 19: Frequency of settlements in Crisis and Emergency (NE and central Somalia)**

**Process:**

The frequency of districts being classified in Crisis and Emergency over the last eight years was overlaid with settlement data from OCHA (P-Code list), in order to illustrate the distribution of settlements affected by recurrent food insecurity. This complements the population density map with a more detailed breakdown at settlement level.



**Analysis:**

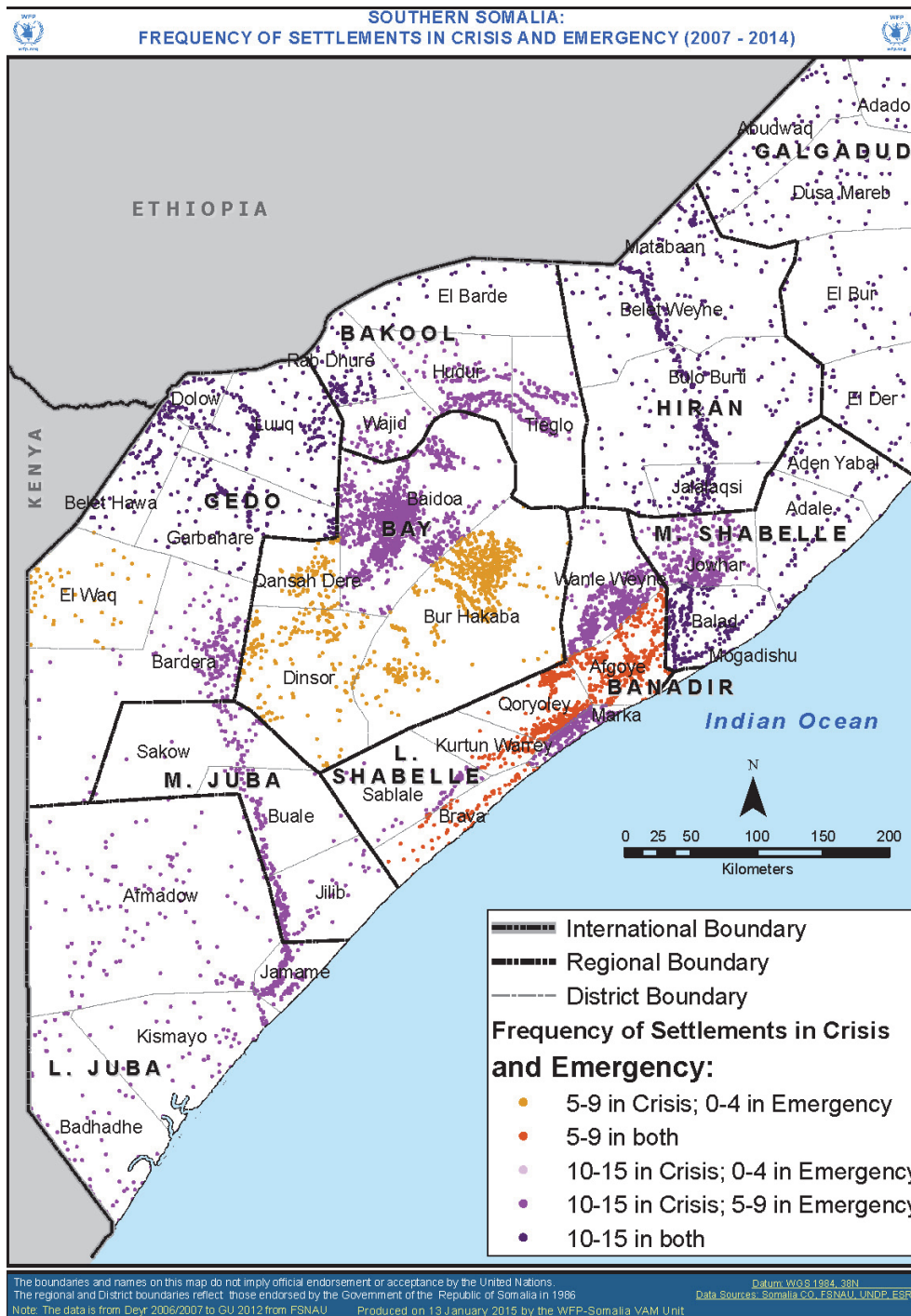
The map of central and northeastern Somalia shows mixed trends. Generally, the settlement density in Puntland is relatively low, with the exception of Bari region which is however less frequently affected by food insecurity in rural areas. Central Somalia, although having a low density of settlements due to its pastoralist character, is characterized by a high recurrence of food insecurity over the last five years.



**Action/ Conclusion:**

This information needs to be combined with additional contextual information such as topography, water points and typical pastoral routes, to inform livelihoods programmes. The level of analysis needs to go down to the district level, to allow for a more comprehensive understanding of factors affecting food insecurity. Such an exercise has been done for Odweine and Burao districts of Togdheer region (cf. Seasonality section).





**Map 20: Frequency of settlements in Crisis and Emergency (Southern Somalia)**

**Process:**

The frequency of districts being classified in Crisis and Emergency over the last eight years was overlaid with settlement data from OCHA (P-Code list), in order to illustrate the distribution of settlements affected by recurrent food insecurity. This complements the population density map with a more detailed breakdown at settlement level.



**Analysis:**

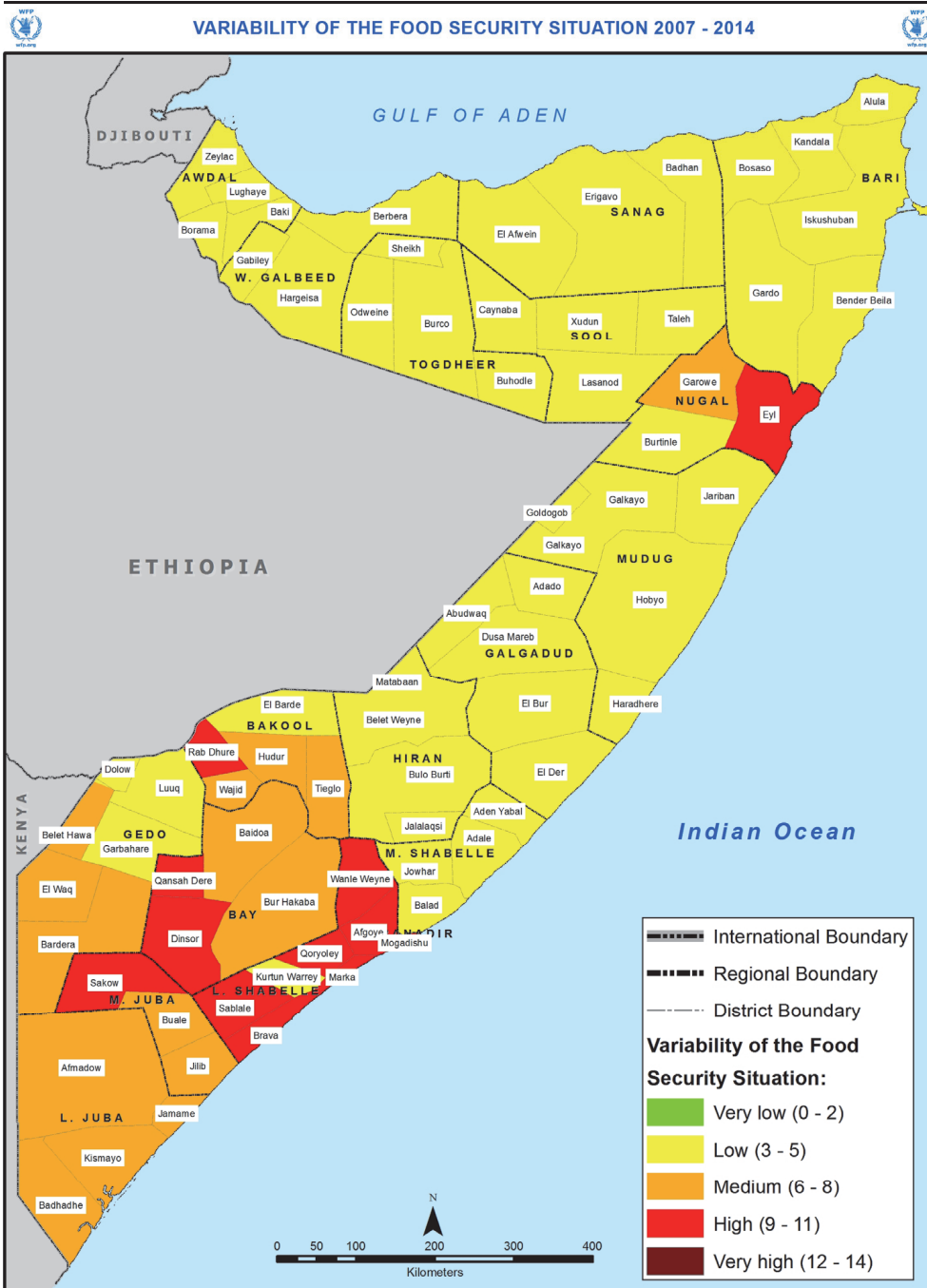
Southern Somalia has several areas which combine a high density of settlements and recurrent food insecurity. This applies particularly to riverine areas along the Juba and the Shabelle rivers, e.g. in Hiran, Middle and Lower Shabelle, Gedo and Middle Juba region. Agro-pastoral areas of Bay and Bakool also have a high density of settlements, but are less frequently affected by food insecurity. Pastoral areas along the Kenyan border are more food secure.



**Action/Conclusion:**

This information needs to be combined with additional contextual information such as topography, water points and typical pastoral routes, to inform livelihoods programmes. The level of analysis needs to go down to the district level, to allow for a more comprehensive understanding of factors affecting food insecurity. Such an exercise has been done for Odweine and Burao districts of Togdheer region (cf. Seasonality section).





The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations. The regional and District boundaries reflect those endorsed by the Government of the Republic of Somalia in 1986. Note: The data is from Deyr 2006/2007 to GU 2014 from FSNAU. Produced on 14 October 2014 by the WFP-Somalia YAM Unit. Datum: WGS 1984\_38N. Data Sources: Somalia CO, FSNAU, UNDP.

**Map 21: Variability of the food security situation**

**Process:**

The magnitude of changes in the food security situation over the past eight years was mapped. Each change in IPC phase was counted (e.g. if an area changed from Stressed to Emergency, this accounted for a '2').



**Analysis:**

The areas with the smallest variability of the food security situation are located in central and northern Somalia. While the former is the area where food security has been the most severe and recurrent over the analyzed period, the latter is generally more food secure. Southern Somalia has a moderate variability of the food security situation, although some areas (Gedo, L. Shabelle) have experienced pronounced changes in food security.



**Action/Conclusion:**

The map illustrates areas which over the last five years have been recurrently food insecure, but where the situation has not changed much over time, such as central Somalia. Programme design needs to take into account the probability of changes in the food security situation, which is more pronounced in areas with a high variability.

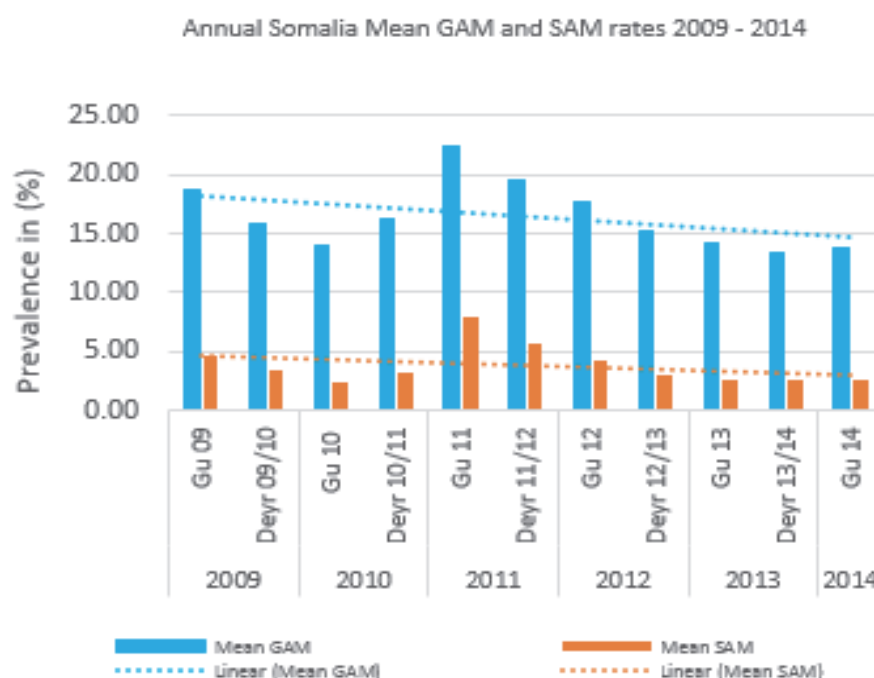
## 2. Nutrition

The following section analyses trends in the levels of acute malnutrition, as well as immediate and underlying factors of Somalia's nutrition situation. Firstly, the trends over the analysed period will be analysed, based on the findings from the seasonal FSNAU analyses. Specific attention will then be given to the evolution of the nutrition situation amongst IDPs, followed by a discussion on the link between food security and malnutrition. Then, the quality of the diet will be analysed, as well as the prevalence of mortality and morbidity, which contribute to and result from acute malnutrition.

### 2.1. Trends in Nutrition Indicators for Rural and Urban Populations

Nutrition surveys conducted in the 1980s already indicated the chronic nature of the nutrition emergency in Somalia, particularly in the south<sup>7</sup>. Since 2000, the FSNAU Technical Series Reports published twice a year have documented the evolution of the nutrition situation in the country in a systematic manner<sup>8</sup>.

The prevalence of Global Acute Malnutrition (GAM) measured as the proportion of children 6-59 months with a weight-for-height below-2-z-score (WHO Growth Standards) is used as the key indicator to drive the phase classification. The series of maps presented in figure 2 are thus indicative of the deterioration of levels of acute malnutrition throughout the country, and particularly in southern Somalia.



**Figure 3: Trends in mean prevalence of GAM/SAM, 2009 - 2014**

7 Cambrezy, C., Nutrition Surveys in Somalia 1980-1996, Nairobi, Kenya, 1997: FSNAU: <http://www.fsnau.org/downloads/Historical-Nutrition-Trends-Somalia-1980-1996.pdf>.

8 FSNAU, Technical Series, 2004.

From 2009 onward, the nutrition crisis has spread to nearly all regions of southern and central Somalia. GAM prevalence exceeded 20 per cent in parts of Bakool and Gedo regions during the Gu 2008 season and has never receded since then. Moreover, very critical levels of GAM have spread to most regions west of the Shabelle river, affecting both pastoral and farming communities and have shown only small and short term improvements during the rather good Gu 2010 rainy season in Lower Juba (camel holder pastoralists) and the Shabelle regions (irrigated maize and other cash crops).

Northern Somalia has also experienced a significant deterioration of the prevalence of GAM, though rarely to levels seen in the south. Most importantly, an increased seasonal variability in the phase classification with a tendency towards deterioration has been observed over the last couple of years.

An analysis of the mean prevalence of GAM and SAM since 2007 (Figure 3) reveals that the mean GAM prevalence has consistently remained above the 15 per cent emergency threshold throughout the period, with the exception of the Gu 2010 season. The projected linear trend also highlights the deterioration over the same period, from approximately 17 per cent to nearly 20 per cent.

In the past five years, there have been two periods of elevated GAM and SAM prevalence: between the Gu 2008 and the Gu 2009 seasons and during the Gu 2011 season, which was marked by the famine declaration in southern Somalia. These peaks correspond to two major food security shocks: one external shock, namely the 2008 soaring fuel and food prices in international markets; the second one internal with a severe drought compounded by conflict and access restrictions for humanitarian actors in southern Somalia.

The relatively low number of seasonal surveys conducted prior to 2009 does, however, affect the reliability of the analysis before 2009.

Zone	Livelihood	Deyr 2009-2010			GU 2010			Deyr 2010-2011			Gu 2011			Deyr 2011-2012			GU 2012			Deyr 2012-2013			GU 2013			Deyr 2013-2014			GU 2014							
		GAM	SAM	CDR	GAM	SAM	CDR	GAM	SAM	CDR	GAM	SAM	CDR	GAM	SAM	CDR	GAM	SAM	CDR	GAM	SAM	CDR	GAM	SAM	CDR	GAM	SAM	CDR								
South Central	Bay Agropastoral	21.7	6.9	0.57				55	23.8	1.09	30	7		20.4	6.9	1.4	18.7	2	0.8	22.6	6	0.29	19.6	5.1	0.2	17.1	3.7	0.5								
	Bakool Pastoral							55.9	20.4					26.2	5.7	0.31	24.5	2	0.18				16.5	2.3	0.17	24.8	6.3	0.4								
	N Gedo pastoral	20	3.5	0.54	16.3	3.7		26.4	4.4	0.44	23.8	5.9	1.18				28.4	6.2	0.59	15.6	1.8	0.63	18.8	5	0.4	14.1	1.4	0.76	20.7	1	0.5					
	N Gedo Agropastoral	18.2	2.6		21.7	5.6		25.3	6.5	0.34	51.9	13.3	1.67							13.6	2.1	1.45	16.6	5	1.18	12.1	2.7	0.9	14.9	0.2	0.8					
	N Gedo riverine	16.5	4.2		15.9	2.4		26.7	6	0.22	48.1	25.2	1.62				22	6.1	0.78	15.5	3.8	0.67	15.2	2.7	0.6	13.6	2.5	0.79	19.3	3.1	0.7					
	Beletweyne district																16.8	3.3		24.9	11.1	0.2	20.2	4.4	0.23	16.4	3.6	1.7	15	3.5	0.3					
	Maraabid district																17.5	3.5		24.6	7.4	0.99	10	1.8	0.37	12.6	2.9	0.24	22.2	5.1	0.7					
	Shabelle riverine	11.6	4.2	0.61							28.7	14.2	5.33																							
	Shabelle agropastoral	12.5	3.5	0.33							40.6	20.9	4.21																			18.8	5.4	0.7		
	Hawd central	20.27	5.3	0.35	15.3	3.9		13	2.9	0.3	14.4	3.8	0.91	18.6	5.5	0.49	11.2	1.8	0.38	7.1	1.9	0.37	10.6	2.1	0.36	13.2	2.4	0.26	17.3	4.6	0.5					
	Addun central	20.2	4.6	0.33	22.8	7.1		11	2.5	0.71	17.8	4.1	0.56	12.1	2.8	0.32	14.5	2.4	0.48	12.3	3.1	0.13	8	1	0.36	8.9	1.6	0.25	9.7	2.4	0.22					
	<b>Median for south central</b>																																17.3	3.5	0.5	
North east	E golis	8.1	0.3		12.8	0.9		11.1	2.1	0.13	12.7	1.1	0.98	15.2	3.8	0.26	13.6	2.6	0.11	13.5	3.4	0.07	16.7	3.6	0.28	10.5	2.1	0.33	15.8	2.8	0.24					
	Nugal valley	8.8	1.9		8.2	1.05		10.3	1	0.53	23.2	6.7	0.34	16.3	5.2	0.48				12.5	2.4	0.13	11.3	1.3	0.13	14.5	2.3	0.13	7.9	0.3	0.15					
	sool plateau	8.1	1.2		6	0.6		8.3	1.6	0.45	15.9	4	0.39	11.6	3.4	0.48				8.4	0.9	0.12	10.8	1.5	0.04	8.6	0.5	0.19	12	2.2	0.11					
	Coonal Dheer	6.9	2		10.8	2.2		12.5	2.8	0.38	17.4	4.2	0.78	12.2	3.1		12.8	3.5		10.2	1.5	0.19	10.8	1.7	0.11	11.8	1.2	0.04				12.35	2.15	0.13		
	<b>Median for NE</b>																																	10.4	2.6	0.34
North west	NW Agropastoral				8.8	0.3		10.4	0.8	0.16	11.5	0.6	0.23	10.1	2.6	0.05	13.8	0.9																		
	W Golis/Guban	8.3	0.6		13.8	2.3		10.4	1.6	0.9	22	5	0.77				21.7	5.5		17.3	3.7	0.2	14.9	2	0.07									15.8	3	0.24
	sool plateau	8.1	1.2		6	0.6		8.3	1.6	0.45	15.9	4	0.39	11.6	3.4	0.48				8.4	0.9	0.12	10.8	1.5	0.04	8.6	0.5	0.19	12	2.2	0.06					
	E Golis (N/W)	8.1	0.3		12.8	0.9		11.1	2.1	0.13	12.7	1.1	0.98	15.2	3.8	0.26	13.9	4.1	0.11	13.5	3.4	0.07	14.4	1.7	0.16	10.5	2.1	0.33	9	0.4	0.07					
	Nugal valley	8.8	1.9		8.2	1.05		10.3	1	0.53	23.2	6.7	0.34	16.3	5.2	0.19				12.5	2.4	0.13	11.3	1.3	0.13	14.5	2.3	0.13	7.9	0.3	0.15					
	Hawd NW	16.1	2.9	0.59	13	1.65		10.1	1.8	0.3	6.2	0.3	0.35				16.7	4.2		14.4	1.9	0.37	14.4	1.7	0.28	13.2	2.4	0.26	7.6	0.42	0.14					
<b>Median for NW</b>																																	9.7	1.31	0.14	
<b>Overall median</b>																																	14.9	2.6	0.2	

Figure 4: GAM, SAM and CDR rates in Somalia, 2009 - 2014

## 2.2. Trends in Nutrition Indicators for Internally Displaced Persons (IDPs)

The intensification of the conflict and the increased frequency of dry spells in farming regions of southern Somalia between 2008 and 2012 have led to unprecedented levels of displacement towards neighbouring Kenya and Ethiopia, as well as towards Mogadishu and major urban centres in central and northern Somalia. Growing numbers of destitute families have gathered mainly around urban centres in Galkayo, Baidoa, Garowe, Bossaso, Burao, Hargeisa and Berbera in search of assistance or livelihood opportunities. Peri-urban IDP settlements are often poorly planned and living conditions are extremely precarious. Frequently, IDPs also suffer from stigmatisation by host communities, which limits their access to the labour market and to basic services.

In spite of significant food, health, nutrition and WASH interventions over the past five years, the mean GAM prevalence in all IDP settlements has remained above 14 per cent, with the exception of Hargeisa which recorded a rate of 12.1 per cent. Dolow recorded the highest rate with 21.1 per cent. (Figure 5).

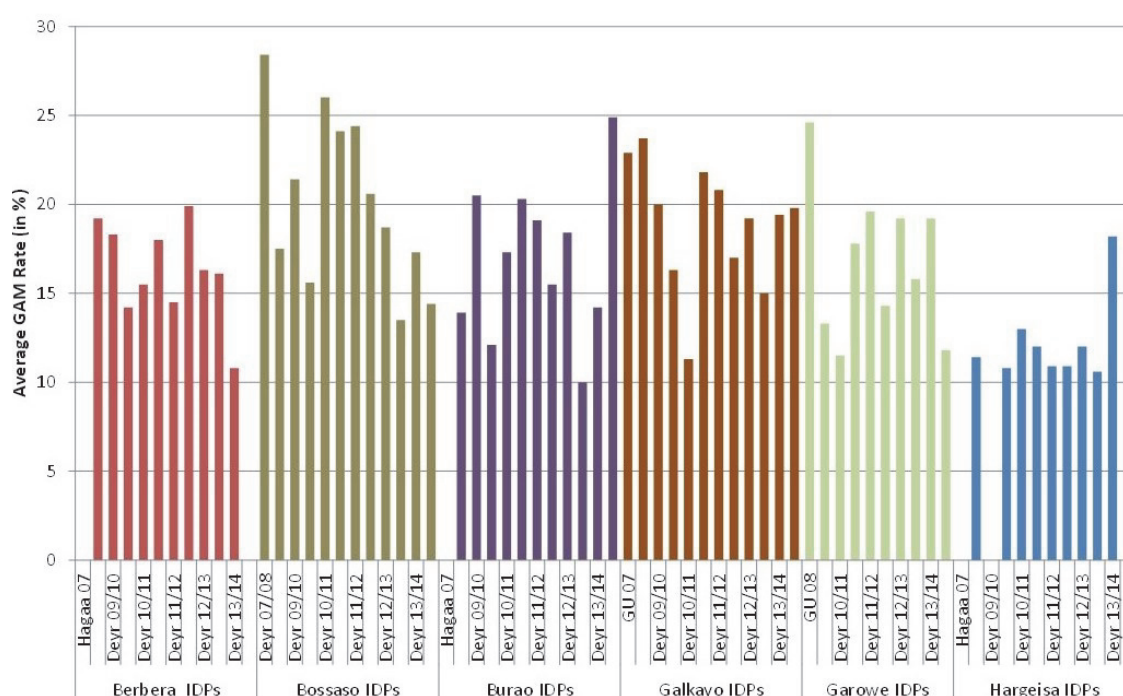


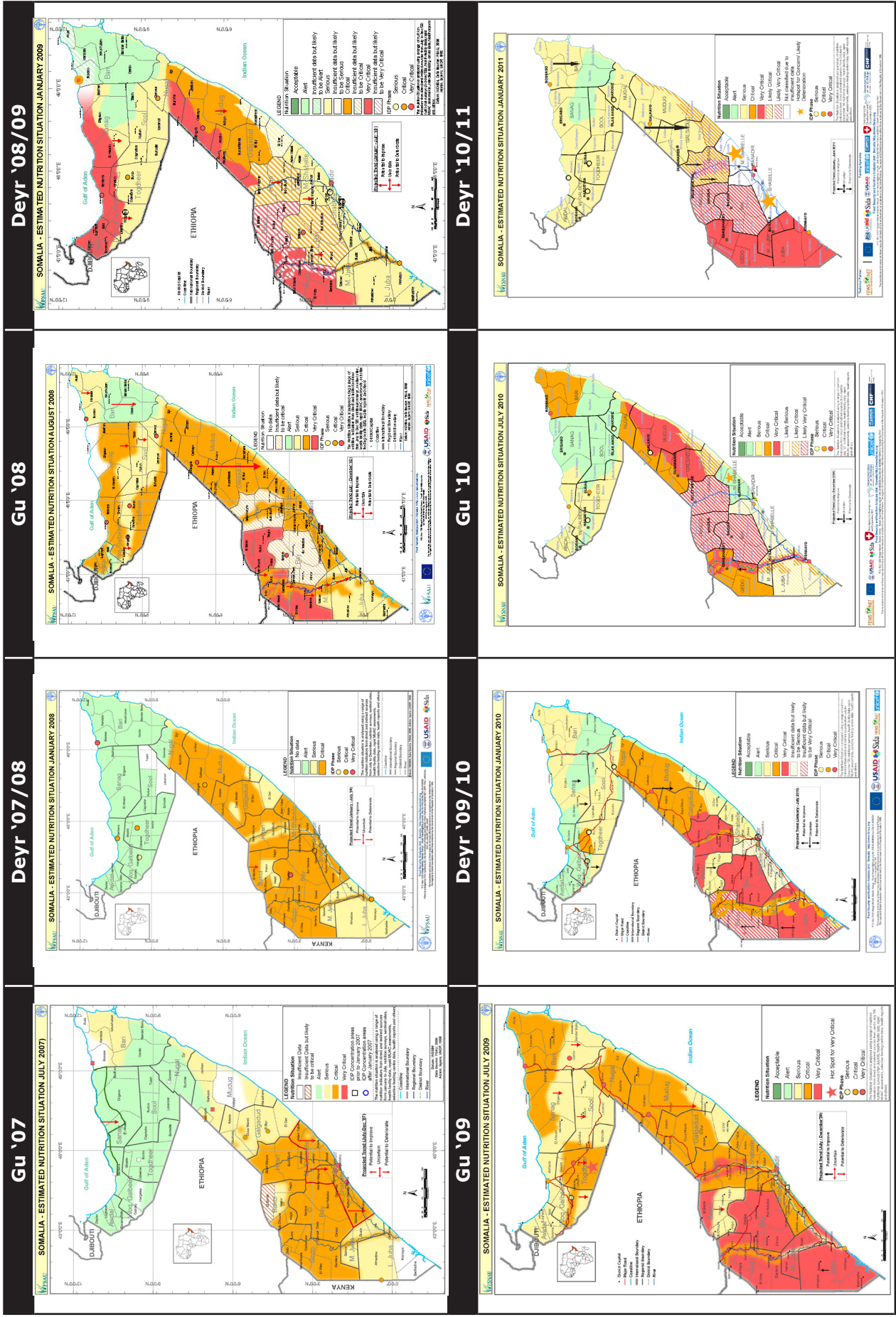
Figure 5: Trends in Nutrition for IDPs 2007 - 2014

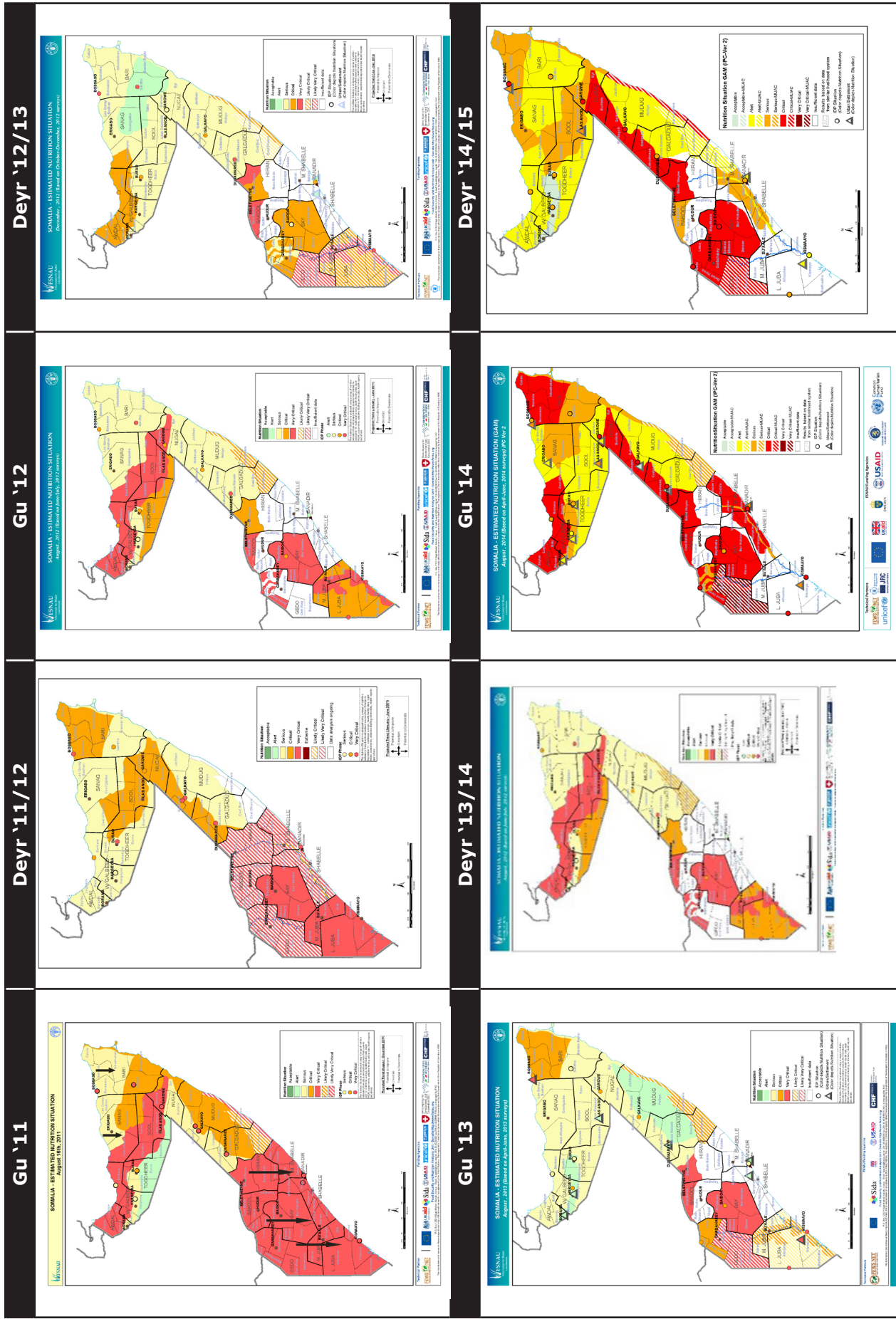
In Bossaso and Galkayo, the two cities with the largest concentration of IDPs, the median GAM rate has been standing at (17.5.8 per cent) and (19.2 per cent) respectively over the last six years.



The figure below shows how the nutrition situation gradually deteriorated in Somalia between 2007 and 2014.

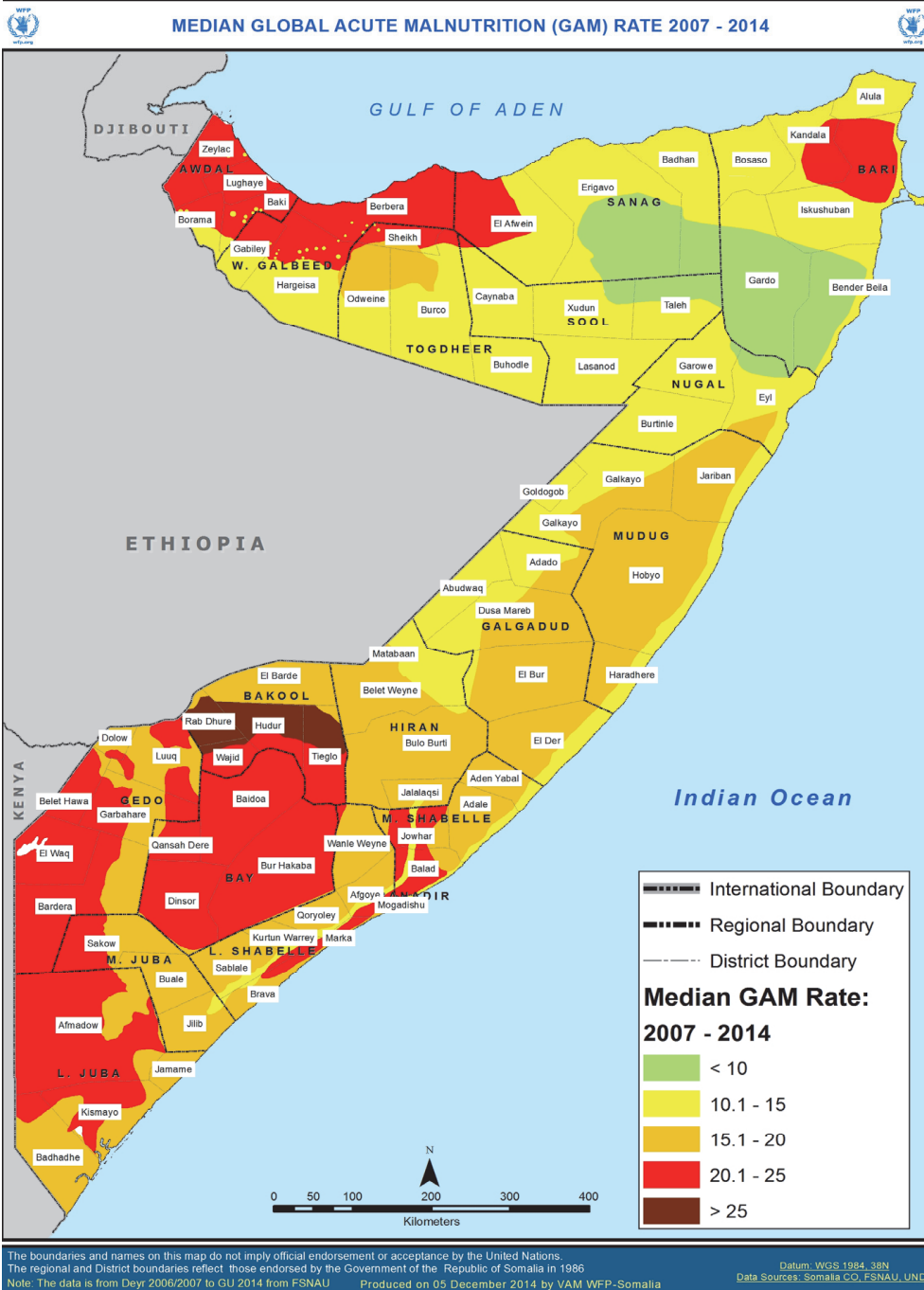
PROGRESSION OF NUTRITION SITUATION (2007 – 2014)





**Figure 6: Progression of nutrition situation in Somalia 2007 - 2014**  
 Note: For higher resolution versions of the maps above, please visit the FSNAL website (<http://www.fsnau.org/products/maps/nutrition-situation-maps>).





Map 22: Median GAM rate

### 2.3. Malnutrition and Food Insecurity

The relationship between food security and nutrition is not well characterised in Somalia. At national level, rising levels of food insecurity as revealed by the number of people in Crisis or Emergency (IPC Phases 3 and 4) are mirrored by increased median prevalence of GAM (Figure 7). The two peaks in GAM levels correspond to the 2008 food and fuel price crisis and the 2011 famine in southern Somalia. At the macro level, nutrition outcomes are thus responsive to changes in the food security situation both in case of deterioration or improvements.

**Process:**

The median GAM rate between 2007 and 2012 was calculated and mapped by livelihood zone, after being classified into: Acceptable (0-10%); Serious (10-15%); Critical (15-20%); Very Critical (20-30%); Extreme (>30%).



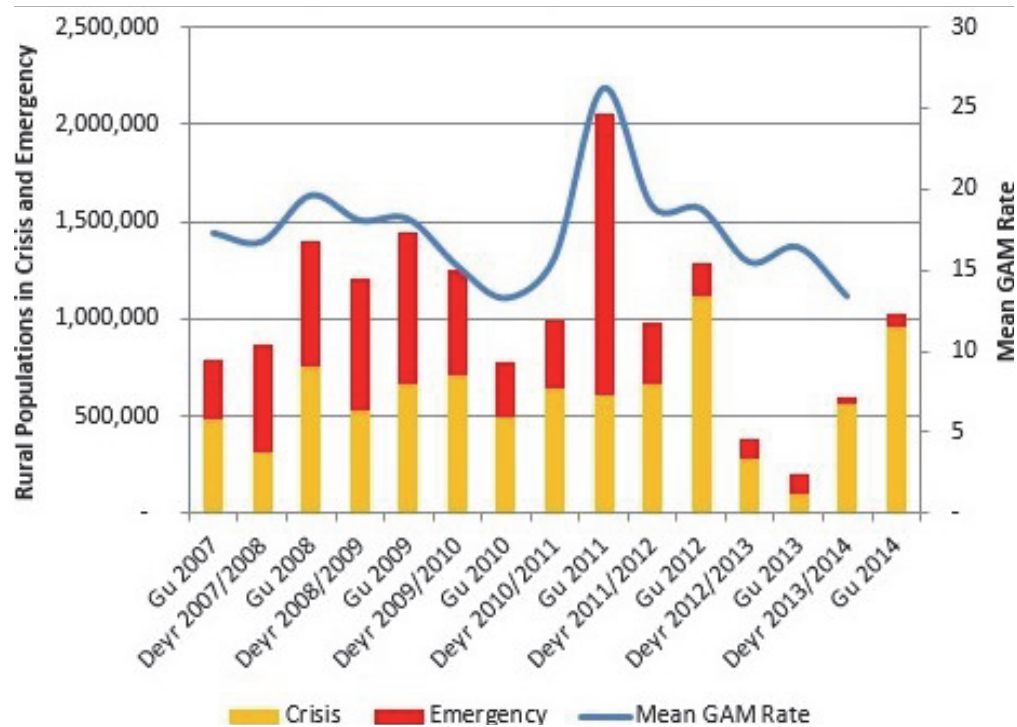
**Analysis:**

The map illustrates how most parts of southern Somalia have median GAM rates above 20 per cent, the worst being Bay region with a median rate of over 30 per cent. On the other hand, the nutrition situation is less extreme along the Shabelle river. In central and northern Somalia, GAM rates are lower, although some livelihood zones such as the Hawd of central and coastal areas in the north are also affected by GAM rates above the emergency threshold.



**Action/Conclusion:**

The analysis results indicate that the epicentre of Somalia's nutrition crisis is located in the south. Although the analysis includes survey results from the Gu 2011 famine season, which might skew the distribution of data points, it has to be stressed that only marginal differences exist in terms of GAM rates between the different livelihood zones in the south. It generally seems difficult to establish a correlation between livelihood and malnutrition.



**Figure 7: Food insecure populations and mean GAM rate, 2007-2014**

The nutrition situation is a multidimensional factor influenced by food security and other socioeconomic and cultural practices of a population. The nutrition outcomes per area or livelihood have not shown any direct relations with the food security. However, country-wide, food security and nutrition follow similar trends, meaning they reach peak in similar periods.

Since the last famine, the median GAM rate remained country-wide below the critical level of 15 per cent. With regard to severe acute malnutrition (SAM), the SAM rate of the majority of livelihoods and groups is below 2.5 per cent, the critical SAM level. The median GAM rate which was above the critical GAM rate of 15 per cent now stands at 12 per cent. Less than a third of resident livelihood populations have surpassed the critical threshold while among IDPs, five out of 13 IDPs settlements have crossed the critical nutrition threshold<sup>9</sup>.

It was noted that after the year 2012, critical levels of GAM prevalence were observed only among rural livelihoods of the south and central regions and IDPs of south and central and northeast regions. Over the last few seasons none of the resident populations or IDPs of northwest region have reached or surpassed the critical level of GAM of 15 per cent. In the Deyr 2014/15 season, the median GAM and SAM rates were 15.3 per cent and 3.3 per cent in the south and central regions, respectively. On the other hand, in the northeast and northwest regions, the median GAM and SAM rates were 12.9 per cent and 2.2 per cent, and 9.1 per cent and 1.1 per cent, respectively. The malnutrition status of south and central Somalia is more complex compared to northern regions. It is influenced by high intensity of conflict, continued displacements, restrictions of movements and goods due to clan and religious insurgency, and low availability and poor quality of health services.

9 FSNAU Post Deyr February, 2015.



In northern Somalia, where health services improved to some extent over the year and some basic services are restored, I different ethology of the malnutrition situation and its roots can be observed. Therefore, food insecurity may not be the main contributor of chronically high levels of observed malnutrition in the south. Food security had a compounding effect on the nutrition situation due to the synergistic relationship of food insecurity, health and care.

Poor dietary diversity coupled with the continued poor condition of the social and care environment and poor access to basic services, negatively affects the social fabric of the communities. As multi-dimensional crises deepen, food insecurity could have an impact on the acute malnutrition.

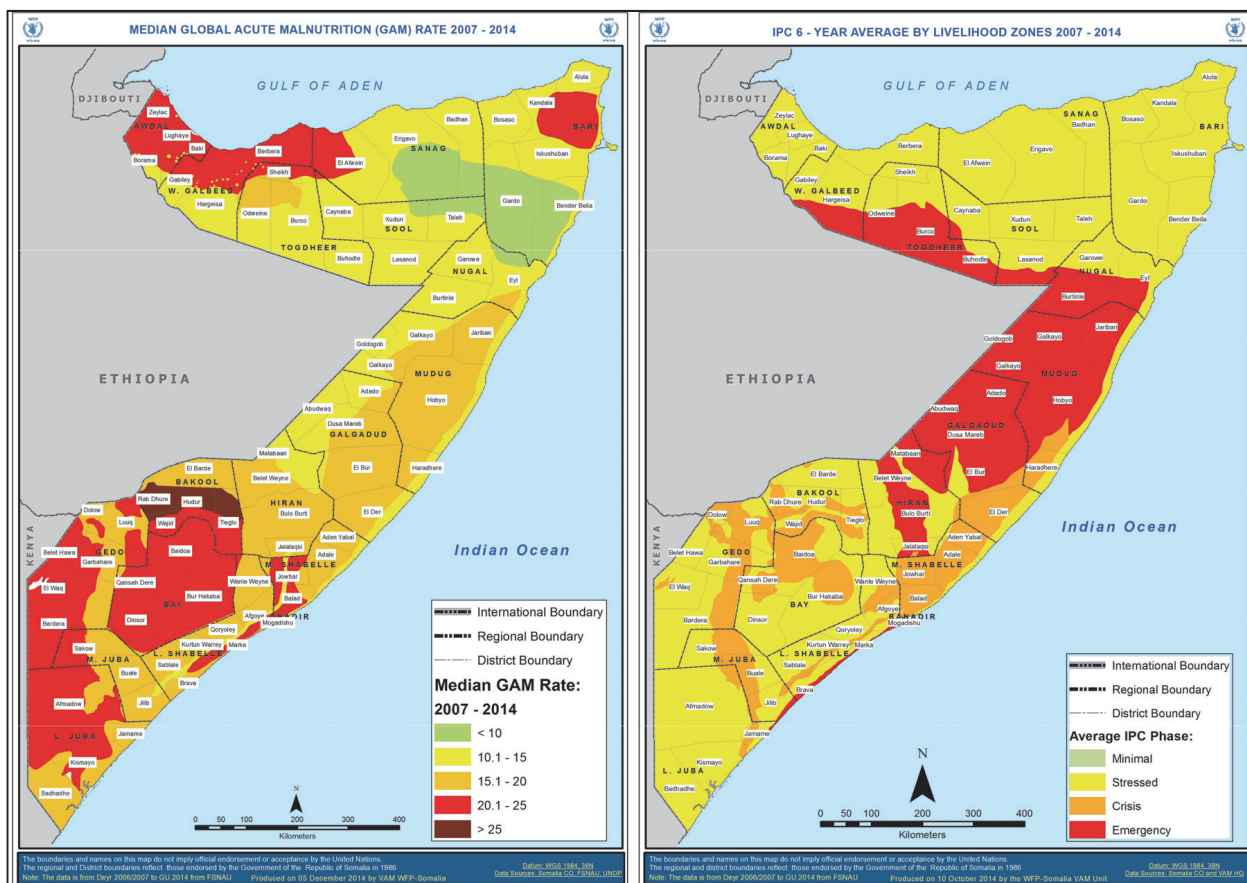
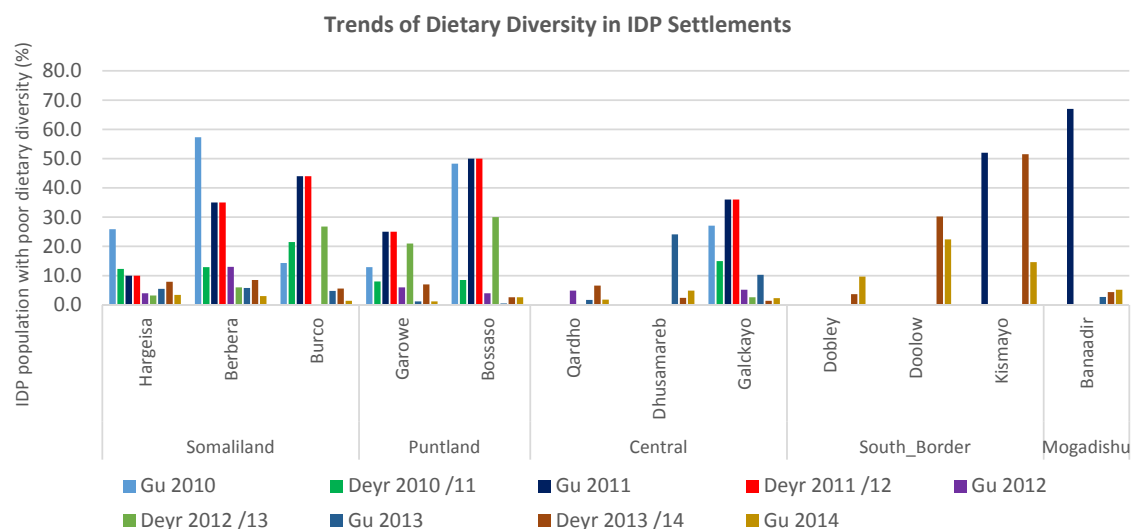


Figure 8: Median GAM rate and prevalence of food insecurity by livelihood zone

## 2.4. Diet Quality in Somalia

The Food Utilisation in Somalia study conducted by FSNAU in 2002 revealed that for all livelihood types (riverine, pastorals, agro-pastorals, and urban) even 'outside of times of particular food stress, [consumption patterns] provide the minimum requirements or less than the minimum requirements for a household'.<sup>10</sup> This was the case for energy, protein, fat, iron, and vitamin A and C requirements. The inability of households to meet their minimum energy requirements was more evident in the lowest wealth groups and during times of food stress. Micronutrient deficit diets were particularly noted among agro-pastoralists and riverine communities. The study concluded that although some nutrient

10 FSAU/FAO, Food Utilisation in Somalia, 2002.



**Figure 9a: Trends of Dietary Diversity in IDP Settlements 2010-2014 (Source: FSNAU)**

bioavailability may have been affected by preparation techniques, attention should be given primarily to availability and access to nutritious foods. Although no similar study has been conducted since 2002, it is unlikely that the situation has changed given the overall deterioration of the humanitarian situation in the country over the last twelve years. Although this is not included in the study, the poor diet quality of IDPs in Somalia is also linked to the precarious conditions they live in and the severe change in consumption patterns. Pastoralists and agro-pastoralists are used to a diet high in animal proteins which become unreachable once IDPs move to settlements in urban areas forcing them to switch to a cheaper, carbohydrate-based diet.

Diet quality is generally measured through Household Dietary Diversity (HHDD) as a proxy indicator. Household dietary diversity is calculated based on the number of different food groups consumed by the household during a reference time period of twenty four hours. There is poor dietary diversity when households consume less than four food groups. FSNAU introduced HHDD only in 2010, and since then the coverage has been uneven for urban and IDP settlements. There is no information for rural areas/livelihoods. As figure 9a shows, the proportion of households consuming less than four food groups by the time of the assessment has improved significantly since 2010, and 2011 presented alarming values. In 2012, the results started to improve. However, Doolow and Kismayo continue to show high values. There is no data for those cities before late 2013. Similarly, data is not available for rural populations. In the case of urban populations, FSNAU produced information only for three seasons, from the Deyr season of 2010 to the Gu season of 2012, making a trend analysis impossible.

#### **2.4.1. Somaliland**

In 2008, WFP conducted a Household Food Security and Vulnerability Assessment in Somaliland, to be used as reference for localised food security assessments and to inform programming. With regard to dietary diversity, the assessment results show that, overall, the prevalence of poor food consumption in Somaliland was around 20 per cent, while almost 70 per cent of the assessed population had a good FCS.<sup>11</sup> In Awdal and Togdheer

11 WFP, Somaliland Food Security & Vulnerability Assessment, October 2008.

regions, approximately 25 per cent of the assessed households had poor food consumption profiles. It has to be highlighted though that in Awdal, 60 per cent of people with a poor FCS were located in the West Golis Livelihood Zone. As this specific livelihood zone was found to have the lowest food consumption scores in the region, this may explain why such a high percentage of people with a poor FCS were identified in a generally food secure area. Sool Plateau also had a notably higher percentage of households with poor dietary diversity (around 30 per cent).

#### **2.4.2. Puntland**

A baseline study conducted in Puntland in April 2007 highlighted significant differences between the regions. In Bari, more than 40 per cent of the assessed households had very poor food consumption profiles, and in Sool almost 50 per cent of respondents had poor or very poor food consumption profiles.<sup>12</sup> In addition, the assessment results highlight that within the very poor consumption profile, the sub-group with the lowest protein intake (no pulses or animal proteins, except for milk drunk once a week only) was found in Sool, while sub-groups with higher protein intake but low sugar and oil intake were found in Bari. In Mudug and Nugal regions, between 70-75 per cent of the assessed population had either good or fairly good consumption profiles.<sup>13</sup>

#### **2.4.3. Central Somalia**

Although approximately 65 per cent of the population in central Somalia were found to have an adequate food consumption profile, according to a WFP Food Security and Vulnerability Assessment carried out in January 2011, there were fairly large differences across districts. The biggest differences were found between Dhusamareb, Adado and Hobyo district, with the latter two districts scoring much better, with only 1 per cent and 4 per cent of households with a poor FCS respectively, against 30 per cent in Dhusamareb. The most likely explanation for this divergence is that milk consumption in Dhusamareb was significantly lower. The frequency of pulse consumption was also an important contributing factor for households having a high FCS. Together with Dhusamareb, Abduwaq and Mataban districts were also found to have high proportions of people with poor dietary diversity (24 and 25 per cent respectively). In terms of livelihood zones, the Addun livelihood zone was found to be slightly better off, with only five per cent of households having a poor and around 71 per cent having a good FCS. In the Hawd livelihood zone, only 63 per cent of households had good food consumption, while the proportion of the population with a poor FCS was significantly higher at 19 per cent.<sup>14</sup>

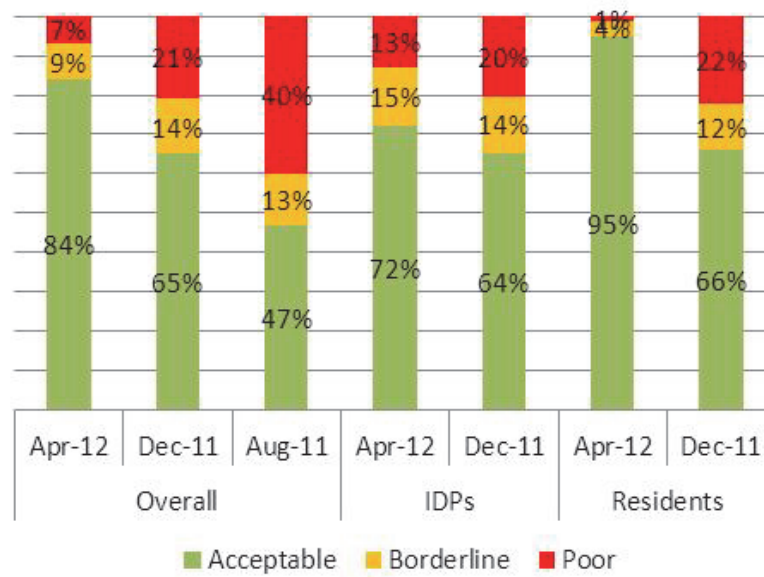
#### **2.4.4. Mogadishu**

The analysis of the FCS in Mogadishu shows that 84 per cent of the population had acceptable levels of food consumption in April 2012. Only 7 per cent were found to have a poor FCS, and around 9 per cent had a borderline FCS. In terms of residency status, IDPs were considerably more affected by poor food consumption. While 13 and 15 per cent of IDPs have a poor or borderline food consumption profile, respectively, this only applies to one and four per cent of residents. Nearly all resident households (95 per cent) interviewed as part of the survey had a good food consumption, against 72 per cent of IDPs.

12 It has to be pointed out that a different methodology was used during the assessment. Five food consumption profiles were defined, namely 'very poor', 'poor', 'average', 'fairly good' and 'good'.

13 WFP, Puntland Food Security & Vulnerability Assessment, April 2007.

14 WFP, Central Somalia Food Security & Vulnerability Assessment, January 2011.



**Figure 9: FCS in Mogadishu**

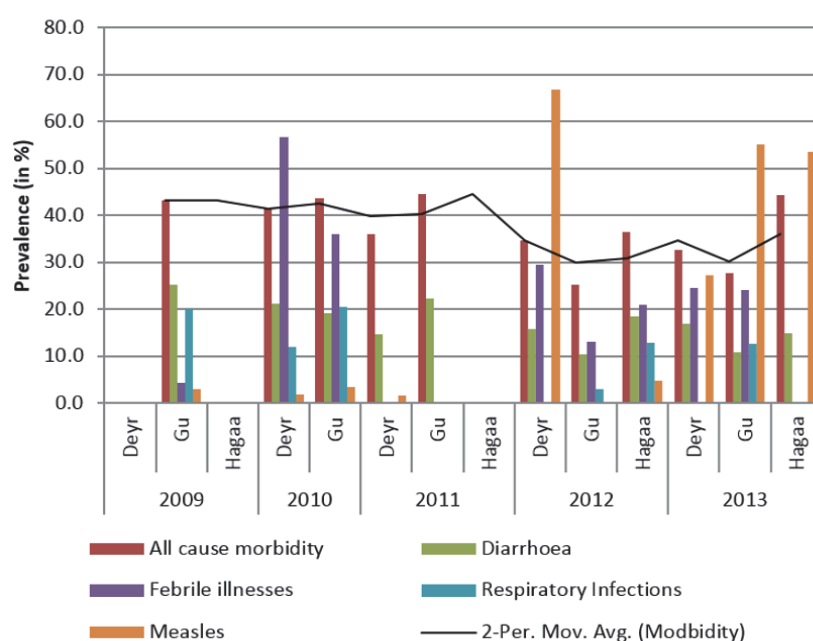
In a historical perspective, the comparison of the data from April 2012 with data from previous assessments (December 2011 and August 2011) shows that the situation has improved over the last year, as figure 6 shows. The proportion of people with a good food consumption increased from 40 per cent in August 2011 to 65 per cent in December 2011 to 84 per cent in 2014. On the other hand, the proportion of households with a poor FCS dropped considerably, from 47 per cent in August 2011 to 21 per cent in December 2011, to seven per cent in April 2012. While this evolution certainly represents a positive and encouraging trend, a more detailed analysis of results suggests that the situation has only notably improved for residents (66 to 95 per cent with good FCS, against 64 to 72 per cent amongst IDPs). Moreover, inequalities between IDPs and residents seem to have been exacerbated: while the December 2011 analysis indicated that the situation of IDPs and residents was comparable, residents now seem to be far better off in terms of food consumption than IDPs. This has been further exacerbated by the recent wave of displacements which resulted from the joint TFG/AMISOM military offensive in south and central Somalia.

A large proportion of IDPs in Kismayo, Baidoa and Dolow consumed less than four food groups, majority of which were Women Dependent Households (WDHs). WDHs constitute the majority of households with poor to borderline food consumption, particularly at Dolow settlement (FSNAU Post Deyr, 2014). Even among the IDPs of various settlements across the country, the dietary diversity has slightly improved with the exception of Dolow and Qardho where over 40 per cent and 20 per cent of IDP households, respectively, had poor to borderline food consumption. Latest tracking EFSA assessment report indicates that the number of households with low and medium level of dietary consumption have increased from 46 per cent during baseline 2013 to 54 per cent in 2015. However, the increase is not significant. The situation is therefore still difficult even after consecutive support and interventions implemented by the humanitarian community (WFP Tracking EFSA Dolow, March 2015).



## 2.5. Morbidity and Mortality

The under-five mortality in Somalia has recently been revised upwards to 200 per 1,000 live births<sup>17</sup> from the 2006 MICS survey which reported a rate of 135 per 1,000 live births, making Somalia one of the worst places in the world to be a child. Approximately one third of deaths occur during the first month of life (neonatal deaths), predominantly caused by birth complications and neonatal infections. The high neonatal mortality is – at least partly – due to the very low uptake of pre- and post-natal health care services. Ninety per cent of deliveries take place at home, without professionally skilled attendance or mandatory follow-up at health care units.



**Figure 11: Seasonal trends in morbidity, 2009-2014 (Source: FSNAU)**

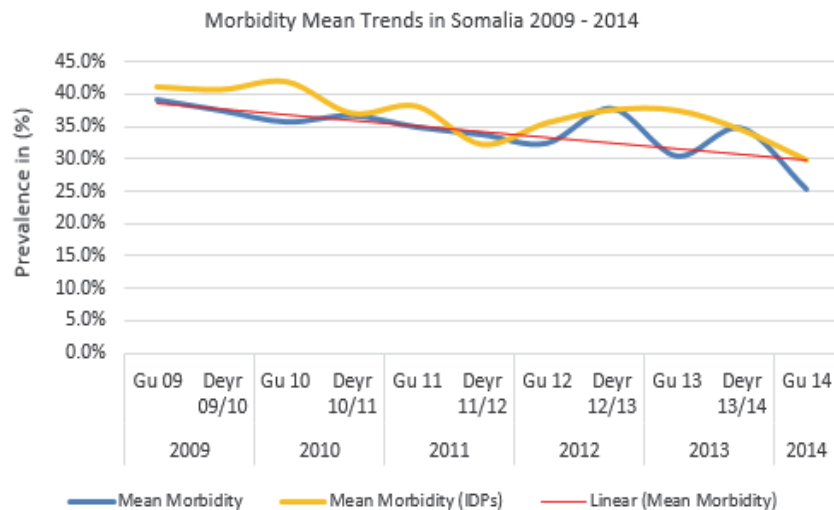
During the remaining infancy and childhood, infections are the primary cause of deaths. Pneumonia and diarrhoea each contribute to around 20 to 25 per cent of all cases of under-five mortality. Measles, albeit decreasing due to vaccination campaigns, still accounts for five per cent of under-five deaths, while the prevalence and mortality from malaria and HIV/AIDS are lower than elsewhere in sub-Saharan Africa.

Earlier studies, such as the 2011 WHO study 'Child health in Somalia', have revealed a high disease burden amongst Somali children, with malnutrition being over-represented amongst the sick. Morbidity patterns largely correspond to the main causes of child mortality, as data indicates that children under five attend health care facilities for respiratory infections, followed by diarrhoea, intestinal problems, skin conditions, eye infections and anaemia.

Morbidity is the main contributing factor that affects nutrition trends in Somalia. This is due to the complex environment of insecurity, lack of basic social services, and high levels of food insecurity. Morbidity is associated with a high malnutrition rate across livelihoods

15 Source: WHO, 'Child Health in Somalia: Situation Analysis', December 2011.

and administrative zones. Among both host and IDP populations, the morbidity rate was sustained above 30 per cent over the five years as indicated by the morbidity mean trends chart. Before the 2011 famine, the morbidities were higher among IDPs as compared to the resident population. For instance, in the year 2010, both during Gu and Deyr seasons, the mean morbidity of resident populations and IDPs was around 40 per cent. Due to the aftermath of the Deyr Famine of 2011, the morbidity of both populations increased substantially until Deyr 2013/14. After Deyr 2013/14, morbidity levels declined among both groups, with the host population reaching a mean morbidity rate below 30 per cent.



**Figure 12: Annual trends in mean morbidity, 2009-2014 (Source: FSNAU)**

The trend is expected to remain moderate due to increased humanitarian interventions including activities aiming at addressing poor water and sanitation conditions. The morbidity is a challenge especially among IDPs in the country. A majority of IDPs are concentrated in the south and central regions of Somalia. The average morbidity level among the IDPs was at 40 per cent during the 2011 Deyr Season when the famine condition prevailed in the southern regions of the country. The trend prevailed until late Deyr 2013/14 when the morbidity rate started declining. During the following Gu season, the morbidity of all IDPs stood at an average of 30 per cent and below. An exception being the morbidity level of Baidoa IDPs for which the morbidity level stood above 30 per cent. Morbidity rates in Baidoa and Bay districts are common and all nutrition surveys conducted in the region saw GAM levels at the highest in the country. The main attributed factor for the poor nutrition situation of the region was morbidity. This is mainly due to poor water and sanitation conditions with the majority of water sources in Bay region being water catchments.

Although there is a body of evidence on the synergistic relationship between infection and malnutrition, the relationship between mean morbidity levels and mean/median levels of acute malnutrition at population level is difficult to determine. As illustrated in Figure 11 the overall morbidity tended to decrease over the period 2009-2012 whereas the median prevalence of acute malnutrition tended to increase (Figure 7). The seasonal analysis provides a slightly different picture with clearly identifiable disease-specific morbidity patterns that can be explained by weather patterns and/or the disruption of access to basic services in parts of the country. The analysis would benefit from a geographical breakdown to look at specific relationships in famine areas affected by extremely high

GAM prevalence in 2011 which at the moment tend to be diluted in the averaging of morbidity at national level.

In the context of Somalia, mortality is generally influenced by a combination of poor sanitation conditions coupled with poor feeding conditions due to drought or other man made disasters. The mortality rate in somalia is influenced by the season. Across south and central regions of Somalia, one would expect the highest rates of mortality during the rainy seasons of Gu and Deyr. During Deyr 2011, the population of Shabelle and parts of Banadir region had the highest rates of mortalities. These were mainly due to drought-related migrations from the South, especially Bay region. On their way to Mogadishu, these people were exposed to the poor water quality and sanitation of the Shabelle river.

Pervasive morbidity due to a lack of access and utilisation of basic health and water services certainly contributes to persistently high levels of acute malnutrition in Somalia. However in normal times (an average year), variations in morbidity patterns do not relate to variations in the prevalence of acute malnutrition. Disease outbreaks do not impact significantly on the nutrition situation of populations in a short period of time given the low attack rate of most common diseases in a scattered population. The impact of outbreaks in densely populated IDP settlements and urban environments would require further analysis but would be constrained by data quality and availability.

Death rates represented in figure 11 show a clear relationship with GAM prevalence at time of famine (2011) but patterns are less clear otherwise. The exponential relationship between the risk of mortality and the severity of malnutrition has been well documented. The methods used in Somalia to estimate the incidence of mortality are not sensitive enough to associate variability in death rates with the variability of the nutrition situation.

The mortality types of the Crude Death Rate and Under 5 Death Rate follow the same pattern and are influenced by the same factors. The two change according to seasons and other related factors that influence mortality.

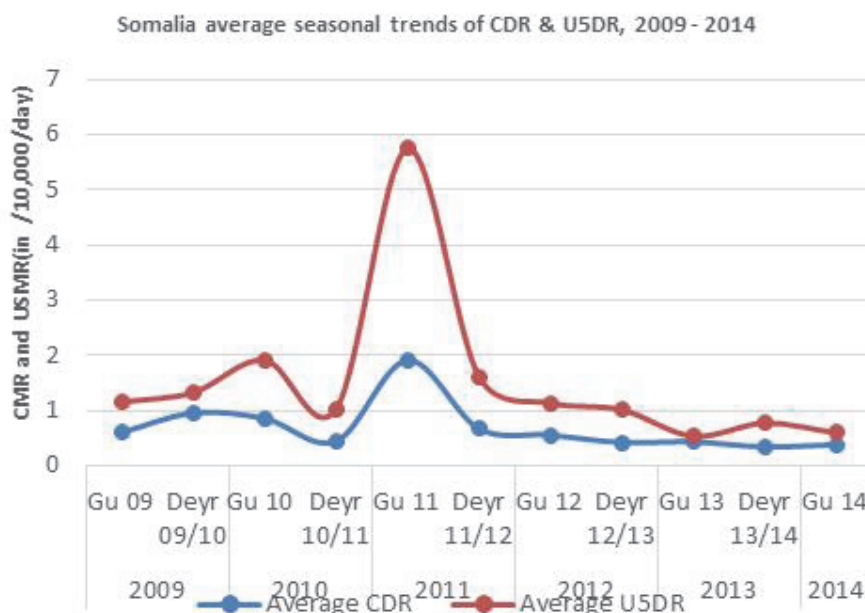
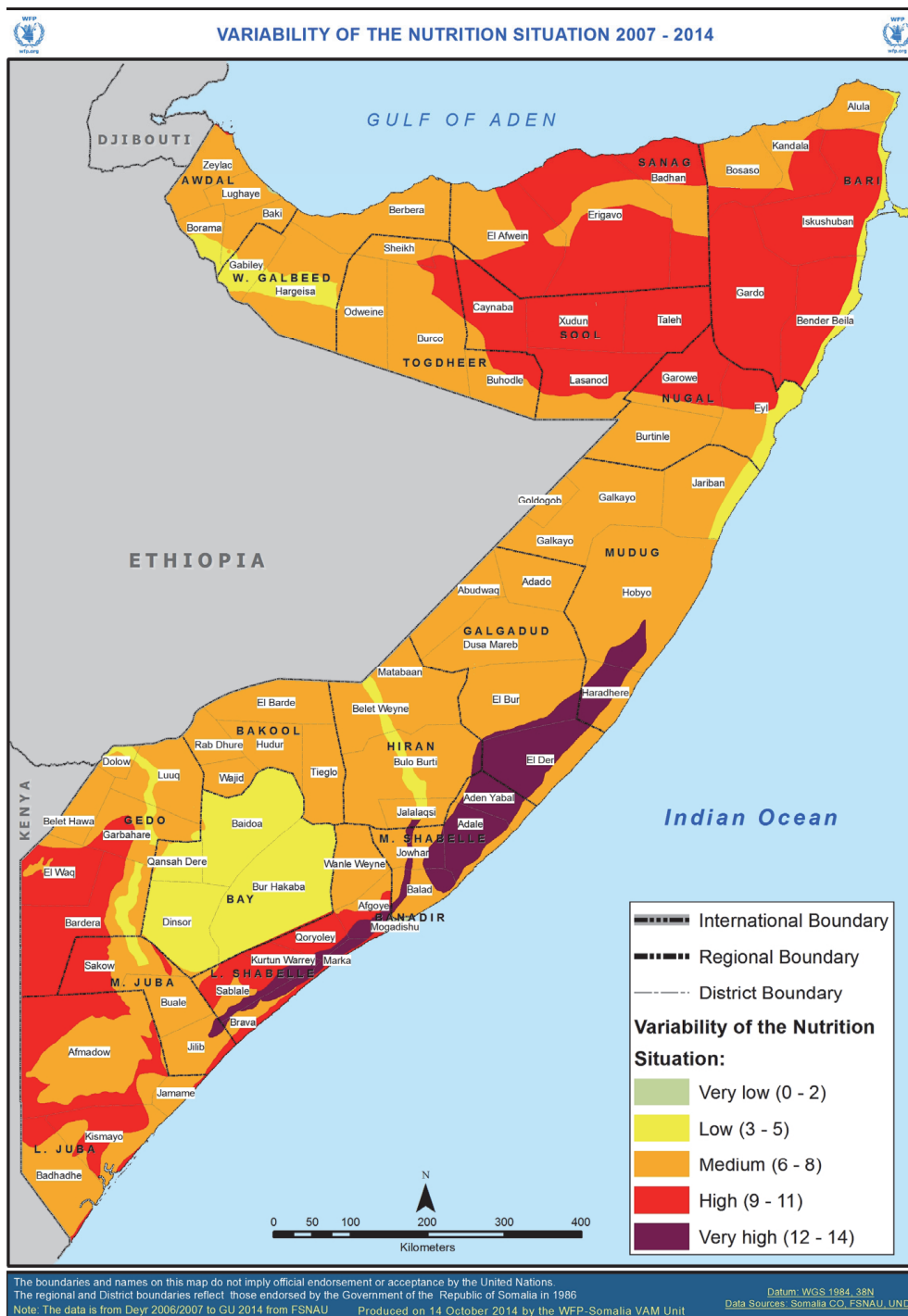


Figure 13: Crude and under-5 death rates, 2007-2014



**Map 23: Variability of the nutrition situation**

**Process:**

This map illustrates the variability of the nutrition situation, by summing up the number of times and amplitude of the change in the nutrition phase classification over the analyzed period. A low variation means that the nutrition situation has remained stable, independently of the actual classification.

A high variation means that it has changed often and/or worsened or improved significantly.



**Analysis:**

It appears that coastal areas of Somaliland have the highest variability in terms of the nutrition situation, while riverine areas in the south, as well as most of Gedo, Bay and Bakool regions have a relatively low variability of the nutrition situation.



**Action/Conclusion:**

If compared to the previous map, this map suggests that livelihoods affected by persistently high GAM rates do not match those with a high variability. This is an important element which allows to plan for seasonal interventions tackling acute malnutrition as a short-term phenomenon, as opposed to programmes that address chronically high levels of malnutrition in other areas.





Photo: WFP Somalia

Nomad with camels near FFA reservoir Sheerbi, Puntland

The variability displayed by some pastoral communities of northern Somalia and agro-pastoral communities of southern Somalia is an expression of the vulnerability of these communities to nutrition and food security shocks, as well as their capacity to recover from these shocks. In the last two years, riverine areas along the Shabelle river moved to very high variability, as a result of combined shocks and slow recovery. The reasons behind this variability need to be investigated further and will vary from one livelihood system to another. However, in the northern regions median GAM rates are lower than for instance in southern Somalia, and structural factors (health infrastructures, social support, institutional capacity, etc.) may be somehow better than in other parts of the country, explaining in part the ability of these communities to recover from shocks. Pastoralists cope with seasonal and other shocks principally through migration. The migration patterns and how they affect the structure of families must be characterised better in order to apprehend the pathways through which food insecurity impacts on the nutritional status of children.

## 3. Shocks

Three recurrent shocks affect livelihoods in Somalia: drought, floods and conflict. These affects are being elaborated in the following sections

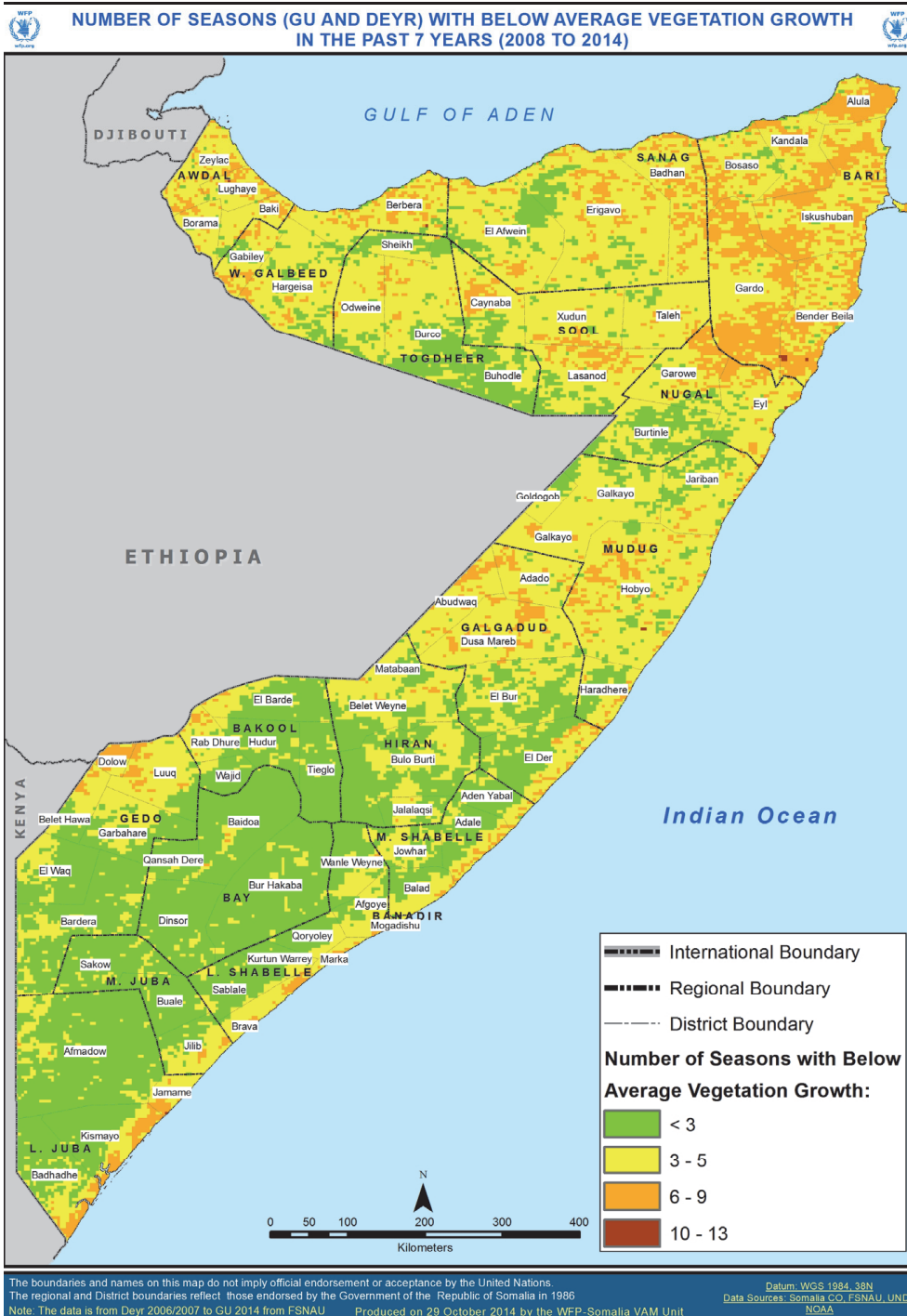
### 3.1. Drought

Due to the arid and semi-arid climatic conditions the effects of drought (Meteorological, Agricultural and Hydrological)<sup>16</sup> are wide-spread. In the context of Somalia, the meteorological drought is the most frequent.

- **Meteorological drought:** this type of drought is influenced by the weather and occurs when there is a prolonged period of below average precipitation, which creates a natural shortage of available water.
- **Agricultural drought:** this type of drought occurs when there is not enough moisture to support average crop production on farms or average grass production on range land. Although agricultural drought often occurs during dry, hot periods of low precipitation, it can also occur during periods of average precipitation when soil conditions or agricultural techniques require extra water.
- **Hydrological drought:** this type of drought occurs when water reserves in aquifers, lakes and reservoirs fall below an established statistical average. Again, hydrological drought can happen even during times of average or above average precipitation, if human demand for water is high and increased usage has lowered the water reserves.

No specific dataset in support of the three types of drought was available to indicate more localised areas where droughts have occurred over the last eight years, other than references to a number of regions and districts having been affected by drought. Thus, the NDVI was used as a proxy for analysing the recurrence of droughts. The vegetation performance mapping for each of the growing seasons (two per year) was conducted with the assumption that each time vegetation growth in a growing season was significantly below the longer-term average, it would indicate drought conditions.

<sup>16</sup> <http://saarc-sdmc.nic.in/pdf/drought.pdf>, A Socioeconomic drought correlates the supply and demand of goods and services with the three above-mentioned types of drought. When the supply of some goods or services such as water and electricity are weather dependent then drought may cause shortages in supply of these economic goods.



**Map 24: Number of seasons with below average vegetation growth in the past 7 years**

The reasons for recurrent below average vegetation growth might be attributed to generally low vegetation levels in the most affected areas (this means that below average vegetation growth in areas with nearly no vegetation might have a limited impact), and to changes in the inter-annual variability (year-by-year fluctuations becoming wider). The latter has profoundly different implications from the first and needs to be ascertained.

**Process:**

The number of times the seasonal vegetation growth was above the last 11 seasons was below the average of the same period that was mapped. The categories were chosen based on the recovery length between events, as follows: 1 below average season represents less than 1 year out of 5; 2-4 seasons represent 1-2 years out of 5 etc.



**Analysis:**

Areas where growing seasons have been below average for almost (if not) the entire time are concentrated in pastoral areas of central and northern Somalia, which for the former matches patterns of recurrent food insecurity. Parts of agro-pastoral areas in northern and central Somalia are also affected by a high frequency of below average growing seasons. It can be assumed that areas with a high number of below average growing seasons find it more difficult to recover.

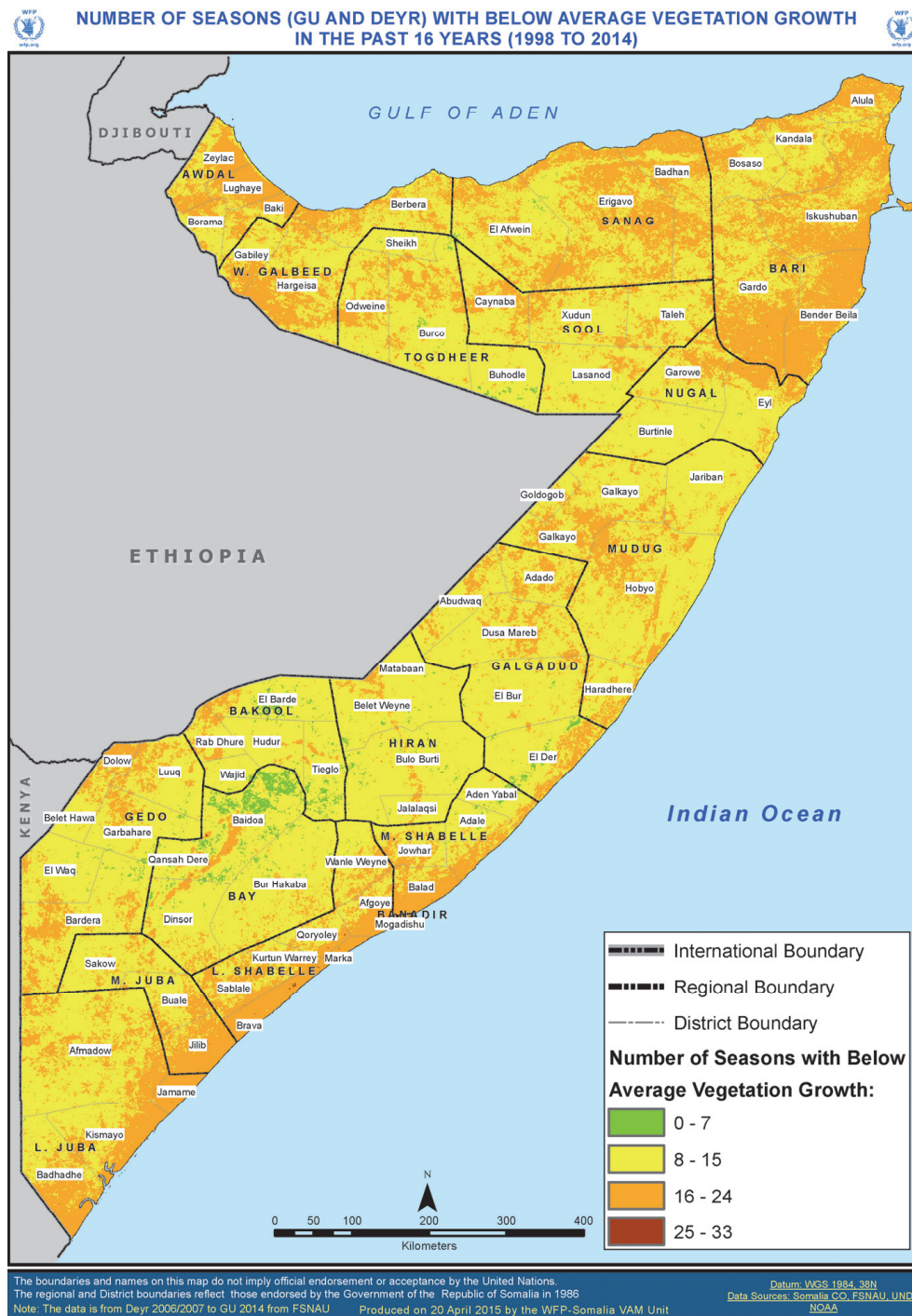


**Action/Conclusion:**

The information depicted in this map is important for programming purposes when linked to food security information. It allows for the identification of areas affected by recurrent below average vegetation growth/drought and food insecurity, and to establish in how far the two are linked.



Vegetation growth differs significantly depending on the area. For instance, agro-pastoral areas of southern Somalia experience much stronger vegetation growth season after season than pastoral areas in the north. To get a better understanding of the distribution of vegetation growth, the section on seasonality is helpful insofar as it includes the seasonal vegetation growth maps which were used to create the map above.



**Map 25: Number of seasons with below average vegetation growth in the past 16 years**

**Process:**

The process is comparable to the methodology employed in map 23. However, a longer timeframe, 14 years, was used to calculate the average and incidence of below average growing seasons.



**Analysis:**

Patterns can be compared to those of map 23. The recurrence of below-average growing seasons seems to be even stronger in Awdal region than over the last 5 years. Generally, frequent below average vegetation growth seems to affect mainly pastoral areas in central and northern Somalia, as well as the border areas of Gedo, Bakool and Lower Juba, and coastal areas of central and southern Somalia.



**Action/Conclusion:**

The information depicted in this map is important for programming purposes when linked to food security information. It allows for the identification of areas affected by recurrent below average vegetation growth/drought and food insecurity, and to establish in how far the two are linked. The timeframe used for this map being longer, it also allows to understand to what extent below average vegetation growth is a recent phenomenon.



### 3.2. Floods

Floods are the most prevalent forms of natural disasters along the Juba and Shabelle Rivers in southern Somalia, whereas flash floods are common occurrences along the intermittent streams in the northern part of the country. Both riverine and flash floods cause high numbers of casualties and economic impacts. As the population grows and urban development encroaches into traditional floodplain areas, in the riverine areas, and in towns of Garowe and Hargeisa, the potential for loss of life and property will rise in the coming years.<sup>17</sup>

**Process:**

The number of times the seasonal vegetation growth was above the last 11 seasons was below the average of the same period that was mapped. The categories were chosen based on the recovery length between events, as follows: 1 below average season represents less than 1 year out of 5; 2-4 seasons represent 1-2 years out of 5 etc.



**Analysis:**

Areas where growing seasons have been below average for almost (if not) the entire time are concentrated in pastoral areas of central and northern Somalia, which for the former matches patterns of recurrent food insecurity. Parts of agro-pastoral areas in northern and central Somalia are also affected by a high frequency of below average growing seasons. It can be assumed that areas with a high number of below average growing seasons find it more difficult to recover.



**Action/Conclusion:**

The information depicted in this map is important for programming purposes when linked to food security information. It allows for the identification of areas affected by recurrent below average vegetation growth/drought and food insecurity, and to establish in how far the two are linked.

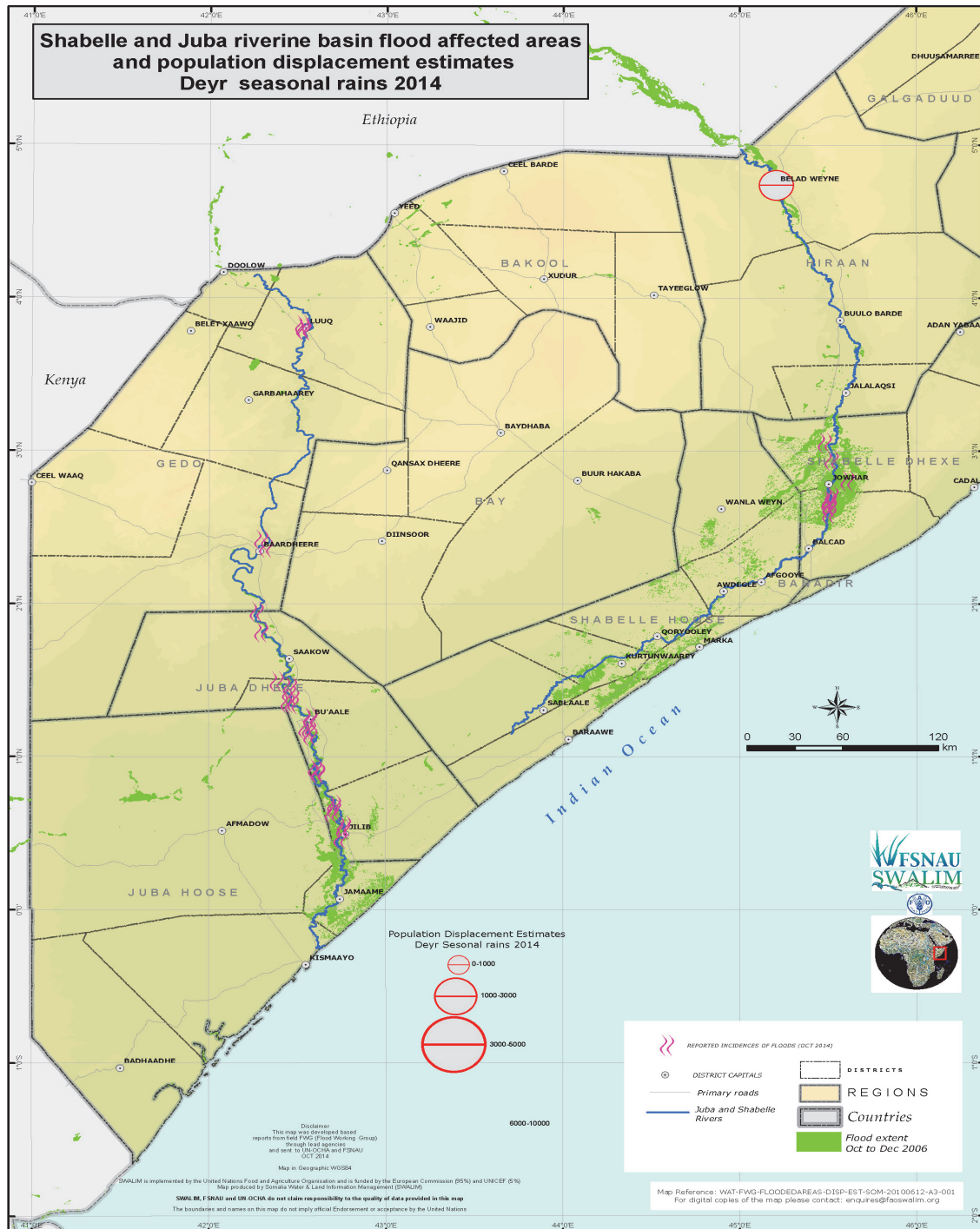


**Map 26: Flood frequency**

Note: The returning period is the likelihood of a flood occurring in 100 years. For instance, if the map shows a colour coding corresponding to '2-3', it means that the expected recurrence of a flood in this area is 2-3 in 100 years.

17 SWALIM, Improved Flood Forecasting and Early Warning in Somalia, June 2007.

Analysis conducted by SWALIM using a combination of tools identified all the critical points along the two rivers. This analysis has been very useful for early warning purposes, as the information allows identifying the critical areas and taking preventative action. Flood-prone areas near the Shabelle and Juba rivers are shown in the following map.



**Map 27: Shabelle and Juba riverine basin flood affected areas and population displacement estimates Deyr seasonal rains 2014**

### **3.3. Governance and Conflict**

Since the collapse of the central government in 1991, Somalia has experienced two decades of conflict which have contributed to food and livelihood insecurity in the country, seriously affecting the capacity of communities to cope with repeated shocks and natural disasters and limited humanitarian access to affected populations. The following section will analyse patterns of governance and conflict in Somalia and discuss their consequences on humanitarian access. Finally, clan structures, which remain one of the most important elements of social organisation in the country, will be explored.

#### ***3.3.1. Patterns of governance and conflict***

Since the establishment of the Federal Government of Somalia (FGS) in 2012, Somalia has experienced modest gains in security in southern and central parts of the country. In the northern parts, the self-declared Republic of Somaliland and the semi-autonomous Puntland State of Somalia have been able to ensure a modicum of stability. However, both administrations suffer from a lack of capacities and resources following decades of conflict. Regular conflicts in the disputed regions of Sool and Sanaag make access for humanitarian actors relatively challenging. Clashes between the Somaliland forces and separatist militias in Sool region have also resulted in displacements and access constraints, particularly in Buhodle and Las Anod districts.

Despite relative stability, the security situation in Puntland still remains tense with Government forces regularly fighting insurgents in the Galgala Mountains. Finally, although without activity reports during the last two years, piracy still represents a threat in the coastal areas of central Somalia and Puntland. The Puntland government has intensified its fight against piracy since early 2012, and – as a consequence of international anti-piracy operations along the Somali coast – piracy was pushed into the hinterland, generating new sources of insecurity.

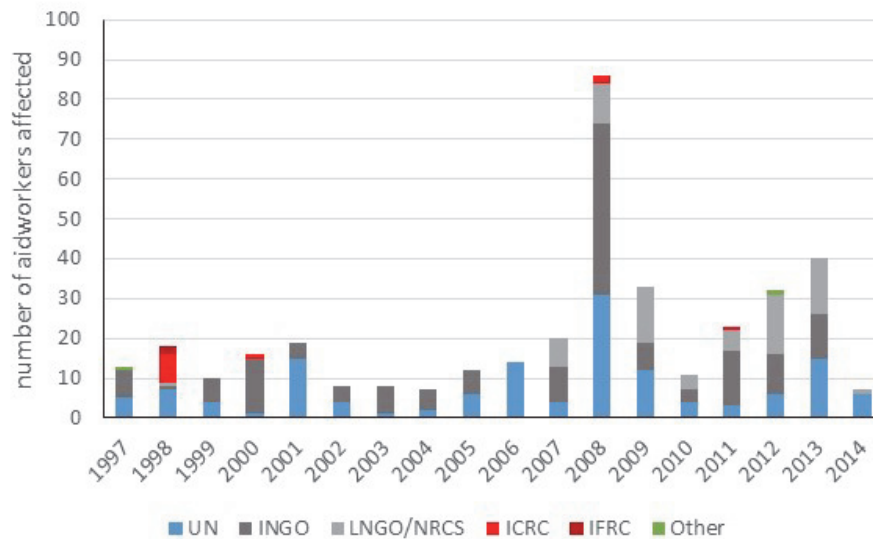
In the central and northern parts of the country, localised clan conflicts over land ownership and access to water and pasture areas regularly occur in rural areas. Intense fighting between pro- and anti-FGS factions is also on-going in Galgaduud region in central Somalia.

Conflict has been one of the key contributing factors to food and livelihood insecurity in the southern parts of the country and resulted in massive population displacements and restrictions on trade and market activities in some areas. 2013 and 2014 witnessed a substantial scale up of AMISOM forces in Somalia and the subsequent offensives (operations “Eagle” and “Indian Ocean”) succeeded in liberating swathes of territory in south and central Somalia from Al Shabaab. Since March 2014, intensive military offensives recovered key towns in Hiran, Bay, Bakool and Lower Shabelle. However, these offensives have so far not been able to restore access and break road blockades along main supply routes into the newly liberated towns. A major setback to the insurgency was the recovery of the important port of Barawe, situated between Kismayo and Mogadishu ports. Barawe, a former Al Shabaab stronghold was dedicated to the illegal export of charcoal, which was a main source of income for Al Shabaab. A new operation in the Juba regions was announced for 2015. Despite these gains, Al Shabaab continues to fight an asymmetrical war throughout southern and central Somalia and many rural areas remain under the group’s control. South and central Somalia have recently seen the emergence of Interim Regional Administrations (IRA), for example in Jubba, Galmudug and southwestern Somalia. These IRAs are a stepping stone towards a federalist state and are expected to stabilize the southern and central parts of the country.

Mogadishu has long been the epicentre of the Somali conflict and the security situation in the capital remains tense with Al Shabaab carrying out regular attacks on AMISOM, the FGS and the United Nations.

### 3.3.2. Humanitarian Access

One main consequence of conflict and insecurity is limited humanitarian access. This particularly applies to southern Somalia, due to the threat of Al Shabaab. WFP has not been present in Al Shabaab controlled areas since it pulled out of southern Somalia in early 2010. However, WFP managed to return to some newly accessible areas in 2014 to provide critical humanitarian assistance.



**Figure 14: Number of aid workers affected by security incidents in Somalia, 1997-2014<sup>18</sup>**

One of the main causes of limited humanitarian access can be attributed to direct attacks against the aid community. The exact number of attacks is difficult to quantify, as no comprehensive data exists on this subject. One of the most complete data bases is the Aid Worker Security Database, which records major incidents of violence against aid workers since 1997, and which has informed a variety of analyses, including by OCHA and research institutions such as the London-based Overseas Development Institute (ODI). The graph below shows the distribution of attacks against aid workers by type of organisation and year, from 1997 to 2014.<sup>19</sup> While it has to be stressed that the database is by no means comprehensive, some trends can be identified with regard to the targeting of the humanitarian community. The number of incidents experiences a peak in 2008, which corresponds to the expansion of Al Shabaab in southern and central Somalia. Incidents have decreased since then, which can also be attributed to increased security measures taken by humanitarian organisations, a reduced field presence of international staff and, for some organisations, the suspension or reduction of operations in Al Shabaab controlled areas. Incidents increased again in 2011, which might be related to the scale up of the humanitarian response following the famine declaration in July 2011.

<sup>18</sup> <https://aidworkersecurity.org/>.

<sup>19</sup> Incidents against aid workers recorded in the database and illustrated in the graph include wounding, killings and kidnappings of national and international staff members of the specified organisations. For an in-depth analysis on humanitarian space in Somalia, see Laura Hammond and Hannah Vaughan-Lee, Humanitarian Space in Somalia, HPG Working Paper, April 2012.



Following the ban imposed by Al Shabaab on WFP in the south in January 2010, nearly 20 more agencies have been expelled from Al Sheba-controlled areas, including UN agencies and the International Committee of the Red Cross (ICRC). This has limited humanitarian access to people in the south. Currently, WFP has access to Somaliland, Puntland, the central regions, and parts of southern Somalia (Kismayo, Mogadishu, Afgoye, Merka, Jowhar) as well as the Gedo region (Dolow, Luuq, El Berde, El Wak, Garbaharey) and areas in Bay and Bakool regions (Hudur, Wajid, Baidoa). Limited humanitarian access is likely to further exacerbate the food security and nutrition situation in the south, which is amongst the most affected parts of the country. Moreover, conflict continues to be a potential driver for population displacements, as people in crisis move to other parts of the country in search for assistance (pull factor).

### **3.3.3. Clan and Gender Dynamics<sup>20</sup>**

The clan is one of the major internal cultural divisions in the Somali society. Clan patterns largely correspond to the division between pastoralists – which make up the majority of the population – and communities relying on agriculture as a main income source, and result in two main clan families. The agro-pastoral clan confederations, the Rahanweyn and Digil, are of mixed origin and include elements from most other Somali clans, as well as from other population groups. They are based on the 'adoption or assimilation of foreign clansmen to a local clan core whose name and identity the immigrants assume, thus acquiring land rights.<sup>21</sup> These clans can be found mainly in the agro-pastoral areas of southern Somalia, particularly in the fertile area between the Shabelle and Juba rivers. Pastoralists can be divided into three main clans, the Darod, Hawiye and Dir – which also include the Isaq, one of the main clans in north-western Somalia. These groups provide the stereotype of Somali socio-political organisation and have a 'multi-functional lineage organisation, based on descent traced exclusively in the male line'.<sup>22</sup> In terms of geographical representation, the main Dir clans are primarily found in north-western Somalia, although an important sub-clan, the Bimal, are based around Merka in the south. Secondly, the Darod, which constitute the largest and most widely distributed clan, are based in the north-east (Puntland), the Ogaden region of Ethiopia, as well as in northern Kenya. Finally, the Hawiye are based in central Somalia, particularly in Hiran and Mudug regions, and constitute the main clan in Mogadishu. Moreover, the clan area stretches across the Shabelle river into the region occupied by the Rahanweyn and Digil, as well as across the Juba river and in northern Kenya.<sup>23</sup> In addition to these two main clan families, which are also known collectively as Sab (agro-pastoralists) and Samal (pastoralists), there are minority groups, which live outside the clan system. These main minority groups are the Bantus, which are mainly farmers living along the Juba and Shabelle rivers, and some smaller coastal groups such as the Banadiri. The Bantus are generally not considered to be ethnic Somalis and face major problems in accessing public services or governance structures.<sup>24</sup> Moreover, this minority group is often affected by food insecurity, as highlighted by a recent WFP Food Security Assessment in Kismayo.<sup>25</sup>

20 This section is largely drawn from Ioan Lewis, *Understanding Somalia and Somaliland*, Hurst & Co., London, 2008, particularly pp.3-16.

21 Lewis, *Understanding Somalia and Somaliland*, p. 4.

22 For more detailed overview of the clan distribution, cf. annex 5.

23 For a more detailed overview of the clan distribution, cf. annex 5.

24 Joakim Gundel, *Clans in Somalia*, ACCORD Lecture Report, December 2009, p. 16, <http://www.unhcr.org/refworld/pdfid/4b29f5e82.pdf>.

25 WFP Rapid Food Security and Nutrition Assessment Kismayo, November 2013.

During the clan wars waged by the Hawiye and Darod clans after the collapse of the government in 1991, Bantu groups – which had no clan affiliation and armed militias to defend themselves – were subject to persecutions and massacres.<sup>26</sup> More recently, efforts have been made to include minority groups in political processes, the most notable being the introduction of the 4.5 formula for political institutions, which allocates decision-making powers to the four main clans (4) and minority groups (.5).

In terms of gender dynamics, the Somali society is traditionally polygynous, and men often have more than one wife, particularly amongst pastoral nomads. Each wife and their children form a 'separate socio-economic unit with their own dwelling and small stock', normally sheep and goats. In agro-pastoral communities, land is divided into separate plots, or, in case of land scarcity, the harvest is divided amongst the wives. With regard to the division of labour, women are usually entrusted with the responsibility for small stock (sheep and goats), while male family members deal with grazing camels. The relative seniority of wives determines the distribution of the joint family income and in inheritance rights. Despite efforts to legally reform traditional customs in the 1970s, women rarely acquire or inherit the possession of camels as these are seen as male preserve.



26 Ioan Lewis, *Understanding Somalia and Somaliland*, p. 6.

## 4. Livelihoods<sup>27</sup>

The following section will analyse how land degradation might affect the different livelihoods in Somalia. First, the main livelihood zones will be presented broadly. Then, a mapping exercise of land cover zones is presented, followed by an analysis of land degradation and its possible impact on livelihoods in the country.

### 4.1. Livelihood zones

Broadly, the livelihoods found in Somalia are pastoralists, agro-pastoralists primarily practicing agriculture in marginal lands, and agrarian communities in riverine areas. For the sake of simplicity the following four categories of livelihoods can be identified in Somalia, namely:

- Pastoralists are found throughout all rural areas of Somalia, but predominate in the arid lands of Northern and Central Somalia, as well as along the Ethiopian and Kenyan borders.
- Agro-pastoralists are located mainly in inter-riverine regions of Bay, Bakool, western Hiran and eastern Gedo in Southern Somalia, but also found in certain areas of the Northern regions.
- Riverine farmers are defined as households whose domestic production is derived exclusively from farming and who do not maintain livestock holdings. They live along the banks of the Juba and Shabelle rivers.
- Some communities in the coastal areas also rely on fishing, although this is limited, as fish is usually not a preferred food amongst the Somali population. In terms of seasonality, fishing activities are limited to the monsoon season (July to October), which is associated with high seas.
- According to the 2005 UNDP population estimates, around 42 per cent of Somalis live in urban centres, although this number might vary in function of the seasonality, given that over 25 per cent of the population are classified as predominantly nomadic or semi-nomadic. The major urban centres are the capital Mogadishu, which accounts for around one third of the total urban population, as well as Hargeisa in Somaliland. Other important cities (with a population of over 40,000 people) are Borama, Burao, Berbera, Garowe and Bossaso, Galkayo, Baidoa, as well as the port cities of Kismayo and Merka in the south. Urban residents rely more on trade activities, although there is a very strong link between urban and rural populations.

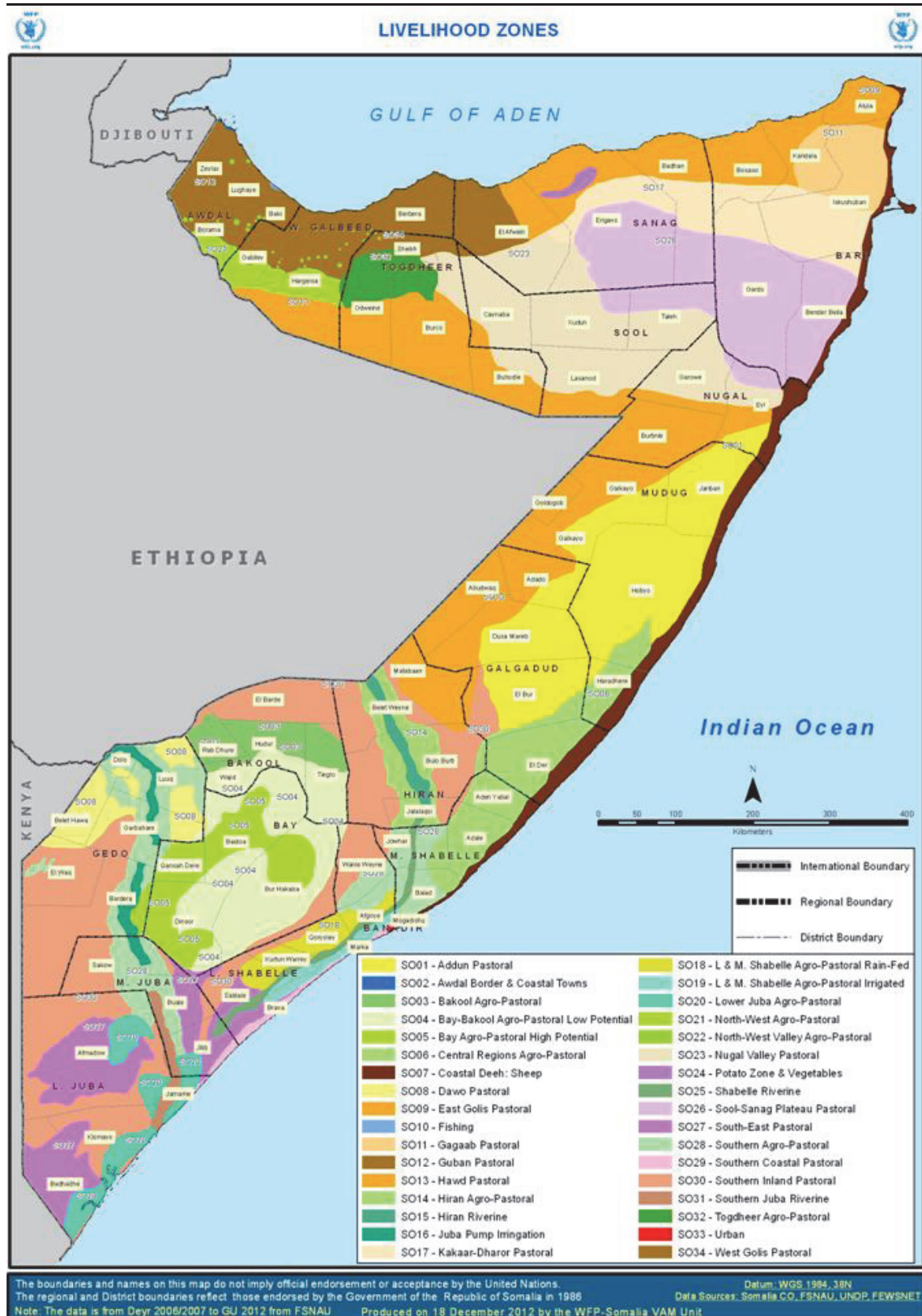
Two decades of conflict and humanitarian crises have generated one of the world's highest numbers of internally displaced persons. According to the latest UNHCR estimates, most IDPs (1.1 million in October 2014) live in Mogadishu and in the Afgoye corridor, where many people who have fled violence and droughts have settled over the last years. Other major IDP settlements can be found in Hargeisa, Bossaso, Galkayo and in Dolow on the border with Ethiopia. Moreover, significant IDP populations can also be found in Berbera and Dhusamareb. As different food security assessments by WFP and partners have highlighted, IDPs are a particularly vulnerable substratum of urban populations, and often have less access to services and social support structures.

The following two maps illustrate the livelihood zones and water points in Somalia. The first map reflects the discussion of livelihood zones above. There are two main agro-pastoral zones, one in southern Somalia in the area along and between the Juba and

<sup>27</sup> Sources: WFP, SWALIM, FEWS NET, UNDP.



Shabelle rivers, and the other one in northern Somalia (Togdheer, W. Galbeed and Awdal regions). The rest of the country is predominantly pastoralist. A new classification, with reduced number of livelihood zones, will be applied starting in June 2015.



Map 28: Livelihood zones



## 4.2. Land Cover

The following maps depict the different land cover zones within the country, as well as areas affected by below-average vegetation growth or land degradation.

### Process:

Based on SWALIM data, the distribution of the main land cover classes in the country was mapped.



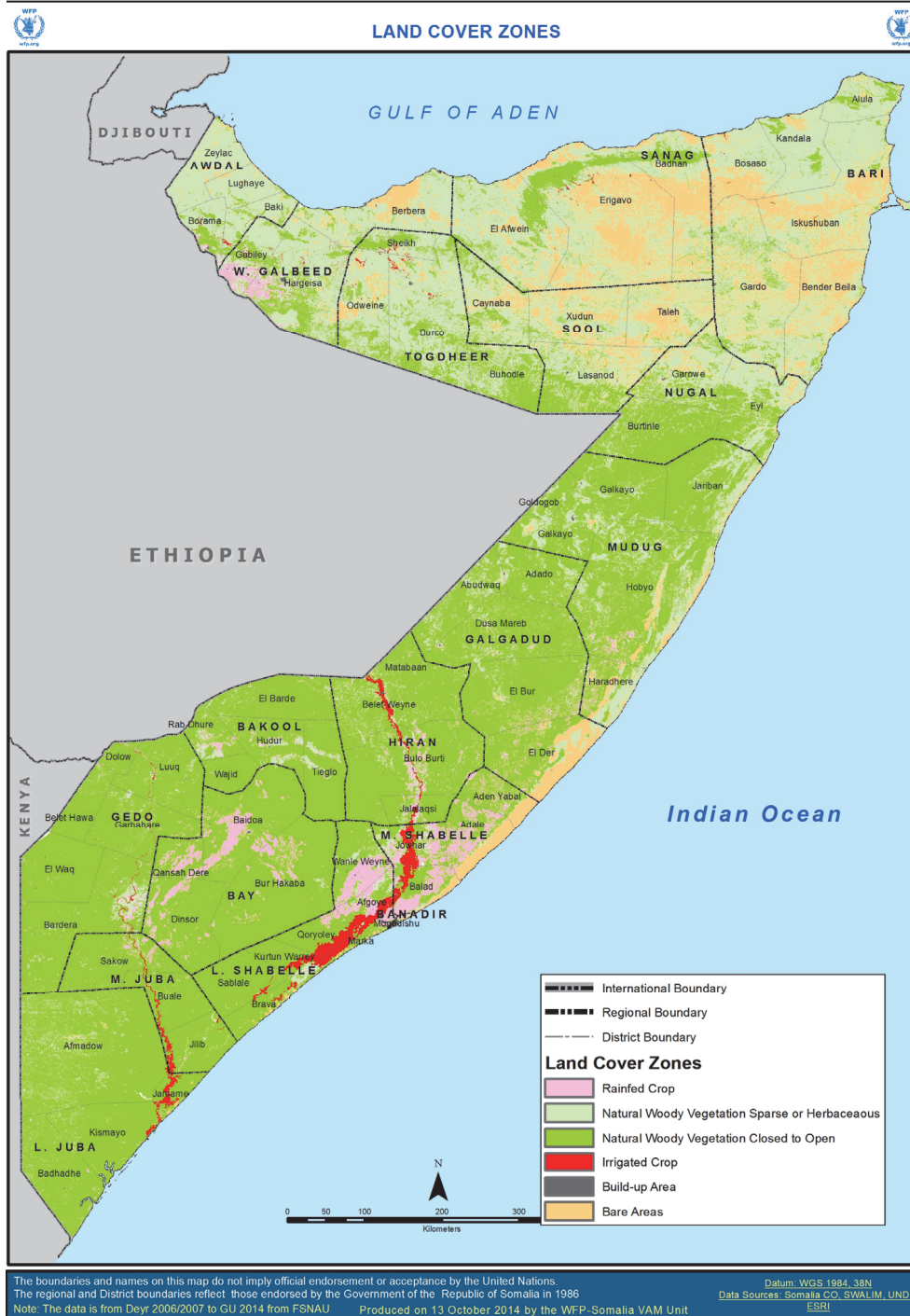
### Analysis:

The main agricultural and agro-pastoral areas are located in southern Somalia, where the rain concentration is higher during the two main rainy seasons. Moreover, parts of northern Somalia are also used for agricultural activities. The rest of the country, including central Somalia, most of northern Somalia and parts of the south, are predominantly areas for pastoral use.

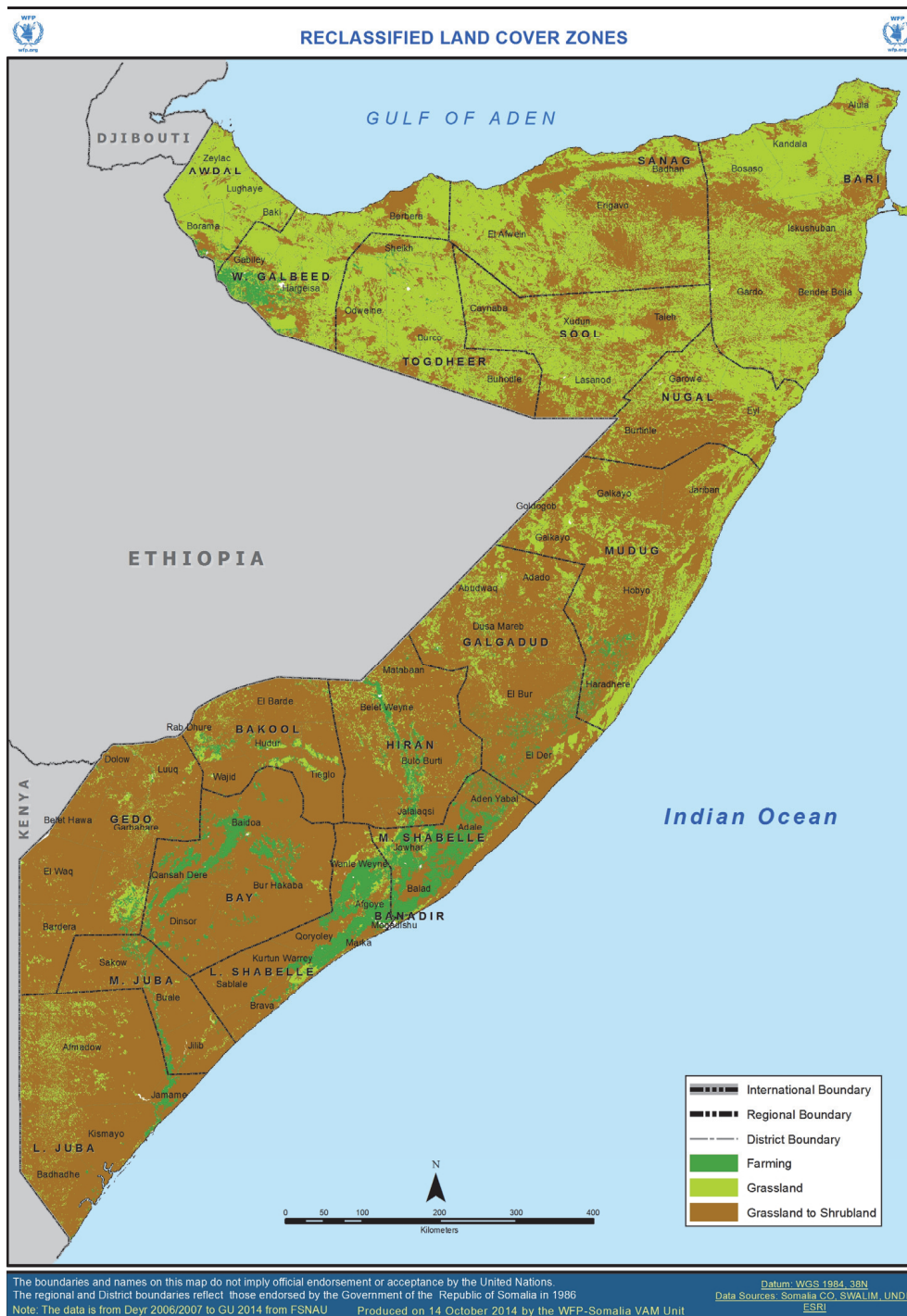


### Action/ Conclusion:

The main land uses for these livelihoods will be for grazing (pastoralists and agro-pastoralists) and for agriculture (agro-pastoralists and agrarian farmers).



Map 29: Land cover zones



**Map 30: Reclassified land cover zones**

**Process:**

For a better comprehension and visualisation of the land cover zones, the information from the previous map was grouped into the classes that differentiate the main livelihoods in Somalia. The data on land cover zones was reclassified into the four broad classes outlined below.



**Analysis:**

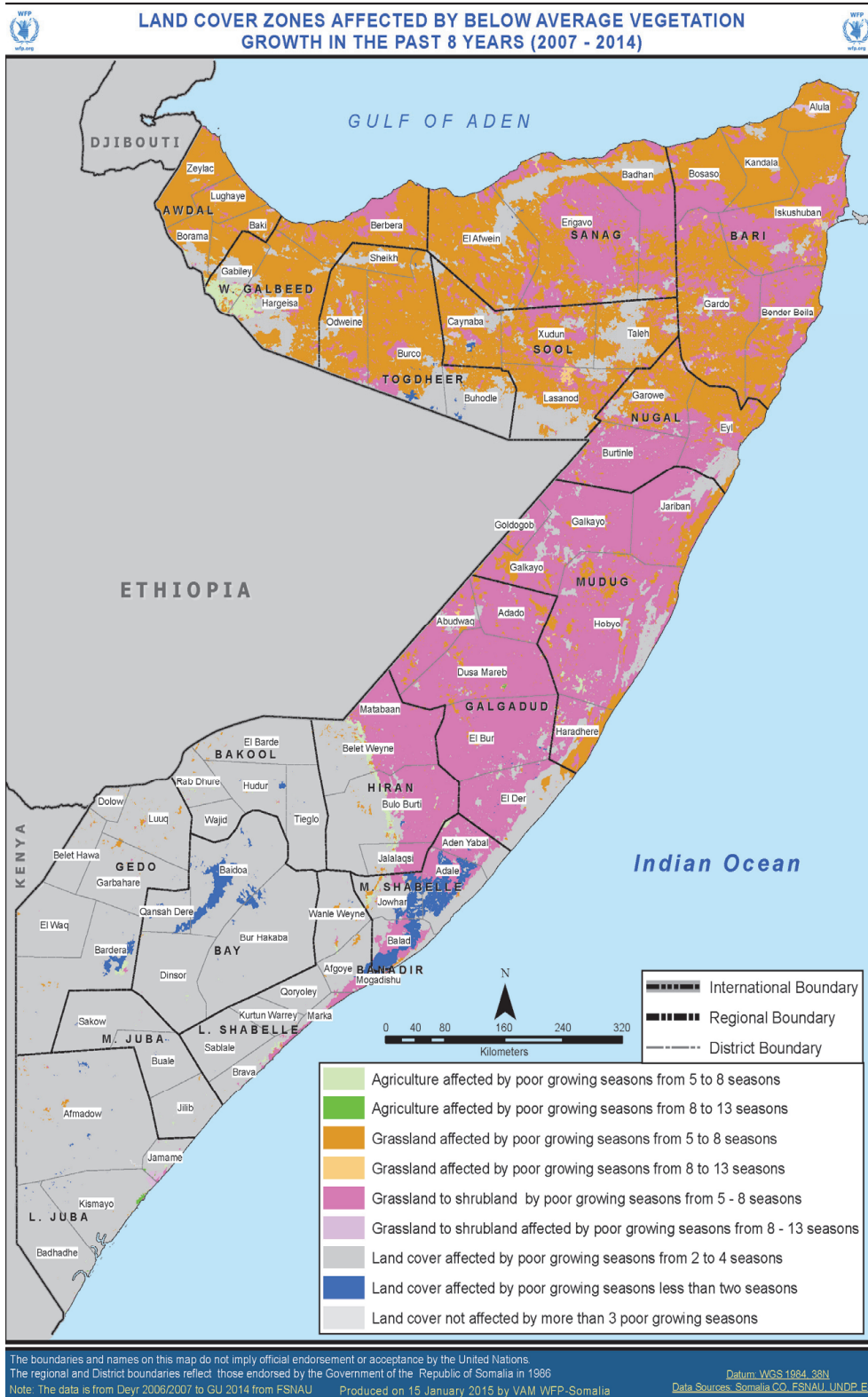
The main land cover types are: grasslands to shrublands for pastoralists with browsing livestock (camels and goats); grasslands for pastoralists with grazing livestock (cattle and sheep); agriculture: for farmers and agro-pastoralists.



**Action/Conclusion:**

Results closely match the livelihood zone profiles: pastoralists are mainly found in central and northern Somalia, as well as in parts of the south. Land cover zones for farming use can be found along the Shabelle and Juba rivers, in Bay, Bakool, and in the Cowpea Belt. There is one farming area in the north (northwest and Togdheer agro-pastoral livelihood zones) and one small pocket of farming lands in Sanaag, where potatoes and vegetables are cultivated.

### 4.3. Land Degradation



**Map 31: Land cover zones affected by below average vegetation growth in the past eight years**

**Process:**

The previous analyses of vegetation growth performance over the last eight years were applied to the reclassified land cover zones map to show which vegetation type – and hence livelihoods – would have been affected by poor growing seasons in the past eight years.



**Analysis:**

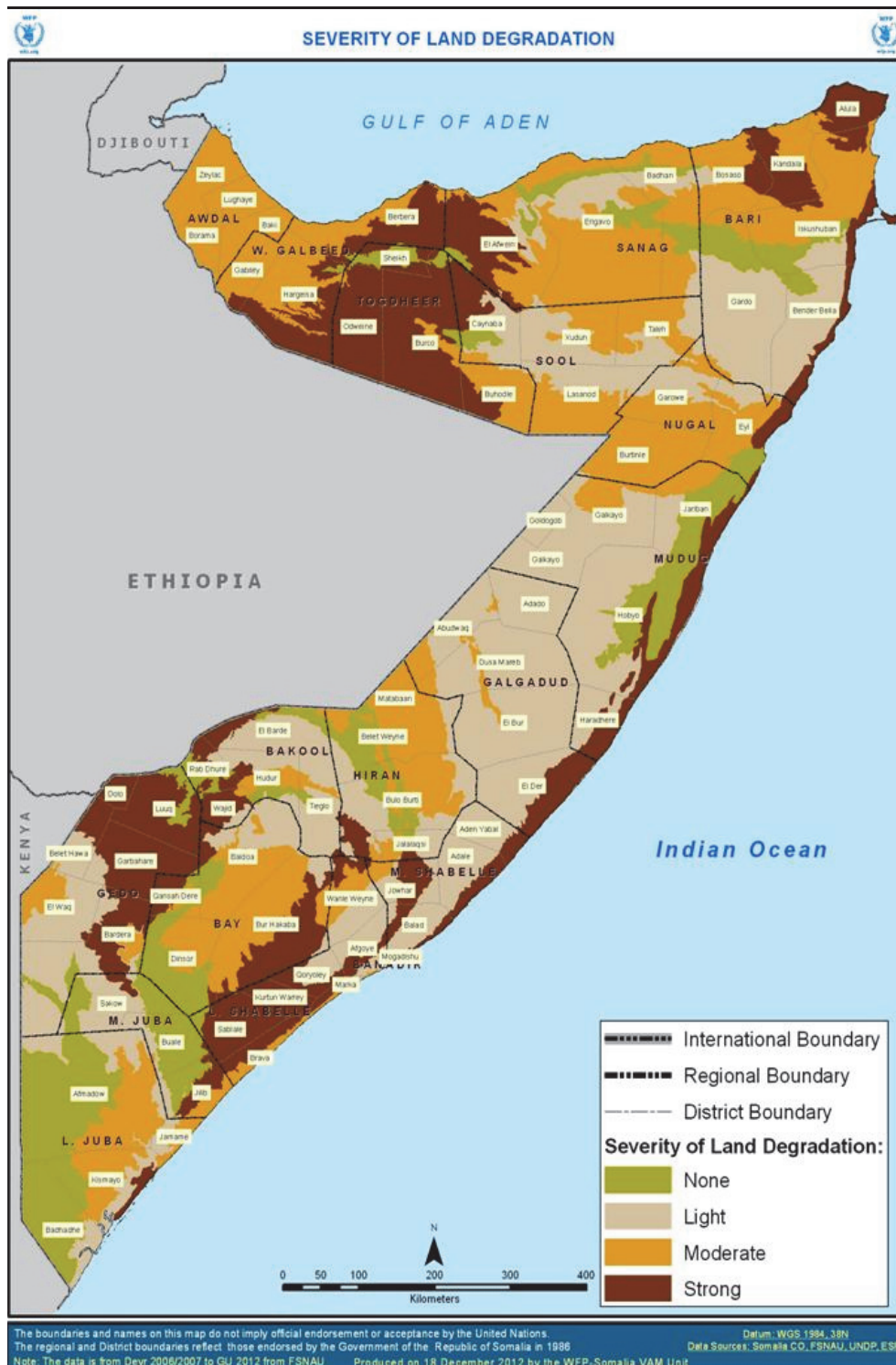
The three main land cover classes are divided into three colours (green for agriculture, orange for grasslands and brown for grass- to shrublands). The darkest shaded areas are those severely affected by poor growing seasons (7-10), while the lighter shades correspond to four to six poor growing seasons.



**Action/ Conclusion:**

Pastoral areas of central Somalia Nugal Valley are most affected by recurrent below average vegetation growth. The most affected agricultural areas are located in Hiran and the Cowpea Belt. This broadly matches patterns of recurrence of food insecurity. For programming purposes, this informs about which areas are more likely to be affected by, for instance, a loss of livelihoods in the case of rain failure.





**Process:**

Existing data on soil degradation levels (source: SWALIM) was mapped and then overlaid with the land cover zones map, in order to show the level of land degradation that the different livelihoods are exposed to.



**Analysis:**

The highest levels of land degradation can be found in parts of the north (Togdheer and W. Galbeed regions), the coastal areas of Puntland and central Somalia, as well as in Lower Shabelle and Gedo regions in the south. Moreover, most parts of Somaliland and Puntland are also affected by moderate land degradation, which also applies to parts of Hiran, Bay and Lower Juba regions.



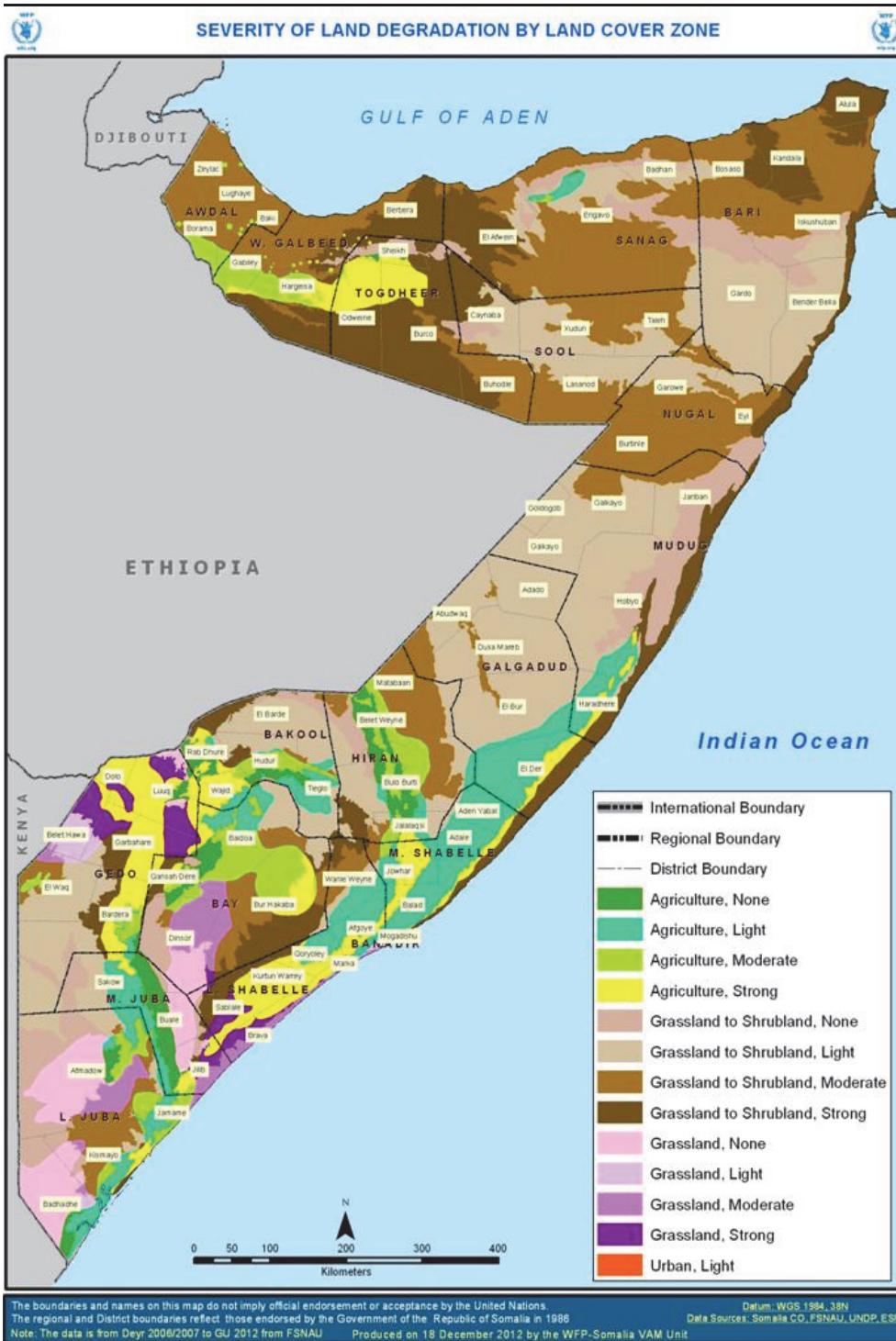
**Action/Conclusion:**

The type and severity of land degradation should inform the respective livelihoods interventions.

**Map 32: Severity of land degradation**

With regard to the severity of land degradation, it needs to be stressed here that in arid/semi-arid lands changes in or loss of natural vegetation growth and cover is a better indicator of land degradation than soil erosion. This is because soils in arid lands - often affected by droughts- are repeatedly overgrazed and compacted to extents that limit rainfall infiltration rates, result in limited biomass (e.g. pasturelands) growth and shift to a rapid dominance of coarser and unpalatable vegetation.





**Map 33: Severity of land degradation by land cover zone**

**Process:**

This map combines the information on land cover zones and the severity of land degradation. It allows to identify the levels of land degradation of each land cover zone, and hence, the most affected livelihoods and areas.



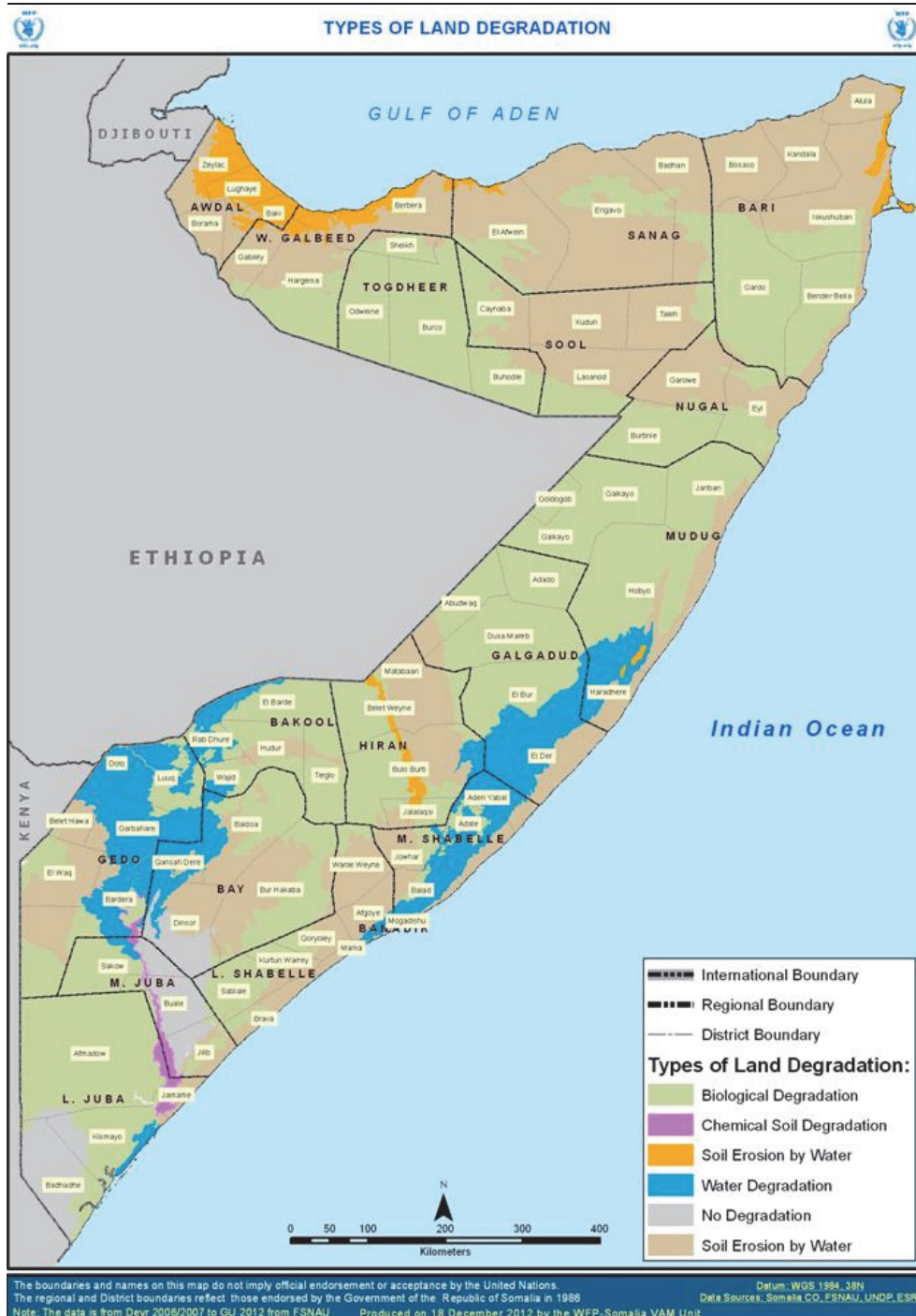
**Analysis:**

In northern Somalia, the land cover types most affected by land degradation include agricultural and pastoral areas in Togdheer, W. Galbeed and parts of Sool and Sanag regions. Moreover, parts of Bari region and the coastal areas of Puntland and central Somalia are also highly degraded. In the south, land degradation is strong along the two rivers, as well as in other parts of Gedo, Bakool, Bay and Middle and Lower Shabelle.



**Action/Conclusion:**

The combination of severity of land degradation with land cover zones can also inform livelihoods interventions. This information is important, as programmes tackling land degradation in agricultural areas (e.g. riverine areas of Gedo) must be different from projects in the pastoral Hawd of Somaliland.



**Map 34: Types of land degradation**

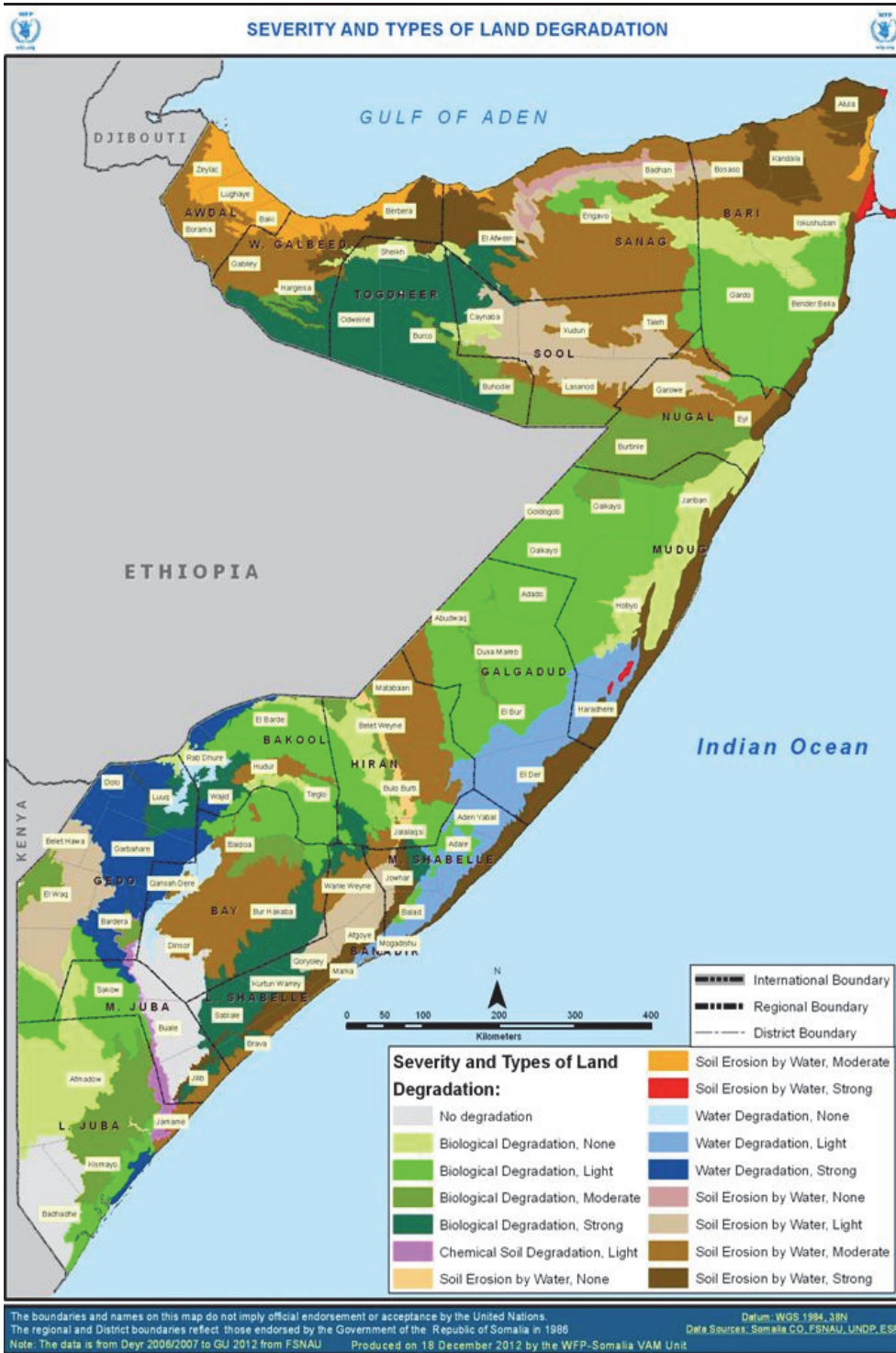
**Note:** **Biological degradation** mainly refers to loss in vegetative cover, loss of bio-diversity and the increase in undesirable species. The loss of vegetative cover can be attributed for instance to the expansion of areas under cultivation, overgrazing, as well as to fuel wood collection and charcoal production. **Chemical degradation** refers to the loss of plant nutrients from the soil. It is mainly affected by cultivation practises, which in Somalia are characterised by continuous removal of nutrients through harvesting and low replenishment through fertilisation, which accelerates chemical degradation. **Soil erosion by water** refers to soil loss through erosion, but also includes phenomena such as the deposition of undesirable sediments, deteriorating soil structure and increased stoniness.<sup>28</sup>

28 SWALIM, Land Resources Assessment of Somalia, Project Report No L-12, August 2007.

**Process:**  
The map depicts the types of land degradation (biological, water degradation, chemical etc.) by district, based on a SWALIM Land Degradation Assessment carried out in 2009.

**Analysis:**  
Somalia is mostly affected by biological land degradation and soil erosion by water. Biological degradation appears throughout the country, affecting both pastoral and agro-pastoral areas. Agricultural lands are mostly affected by water degradation.

**Action/ Conclusion:**  
This analysis combined with the other factors (food insecurity, NDVI etc) could provide an entry point for programmes such as Food-for-Assets (FFA).



Map 35: Severity and types of land degradation

**Process:**

This map combines information on type and severity of land degradation.



**Analysis:**

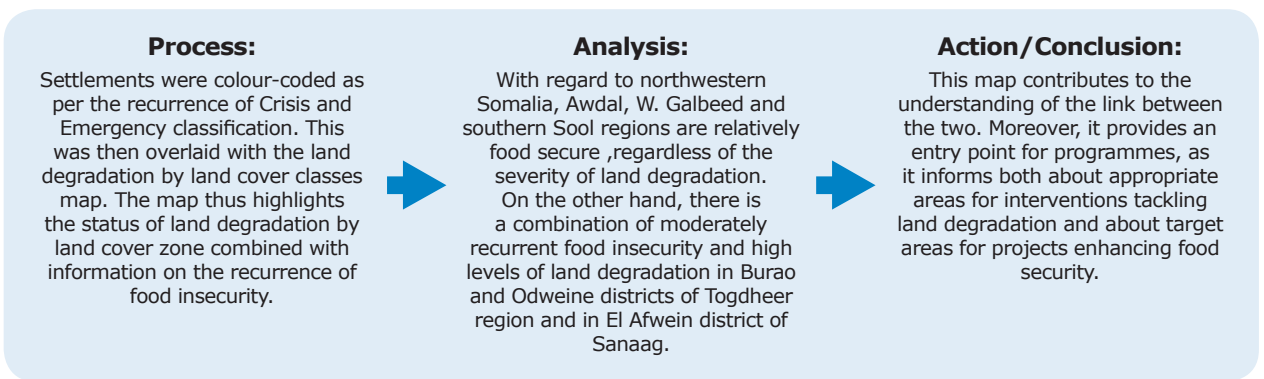
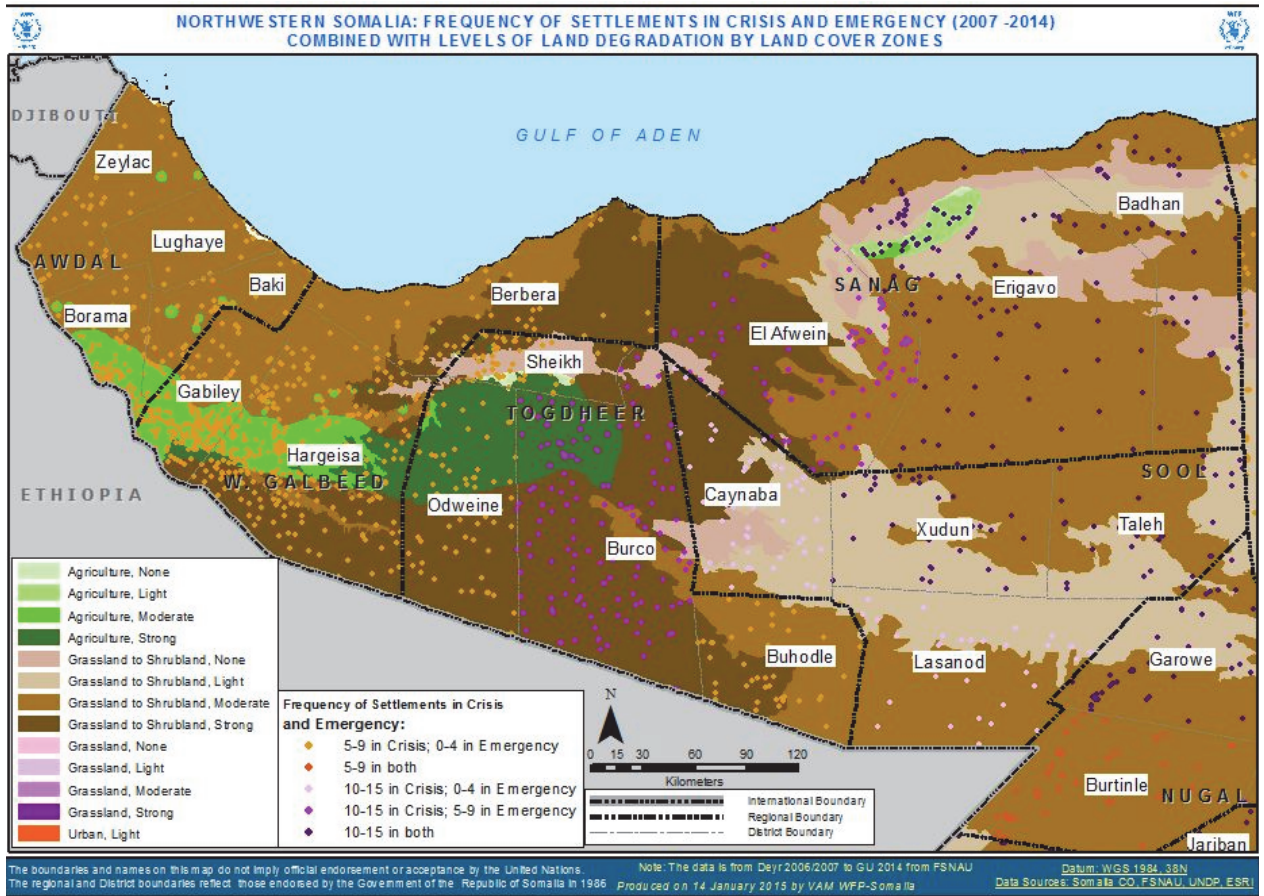
Central Somalia is mostly affected by biological degradation but with a light severity. Strong biological degradation can be found in the agro-pastoral areas of the south (Lower Shabelle and southern Bay) and in pastoral areas in Somaliland (Togdheer). The coastal area is affected by strong soil erosion by water.



**Action/Conclusion:**

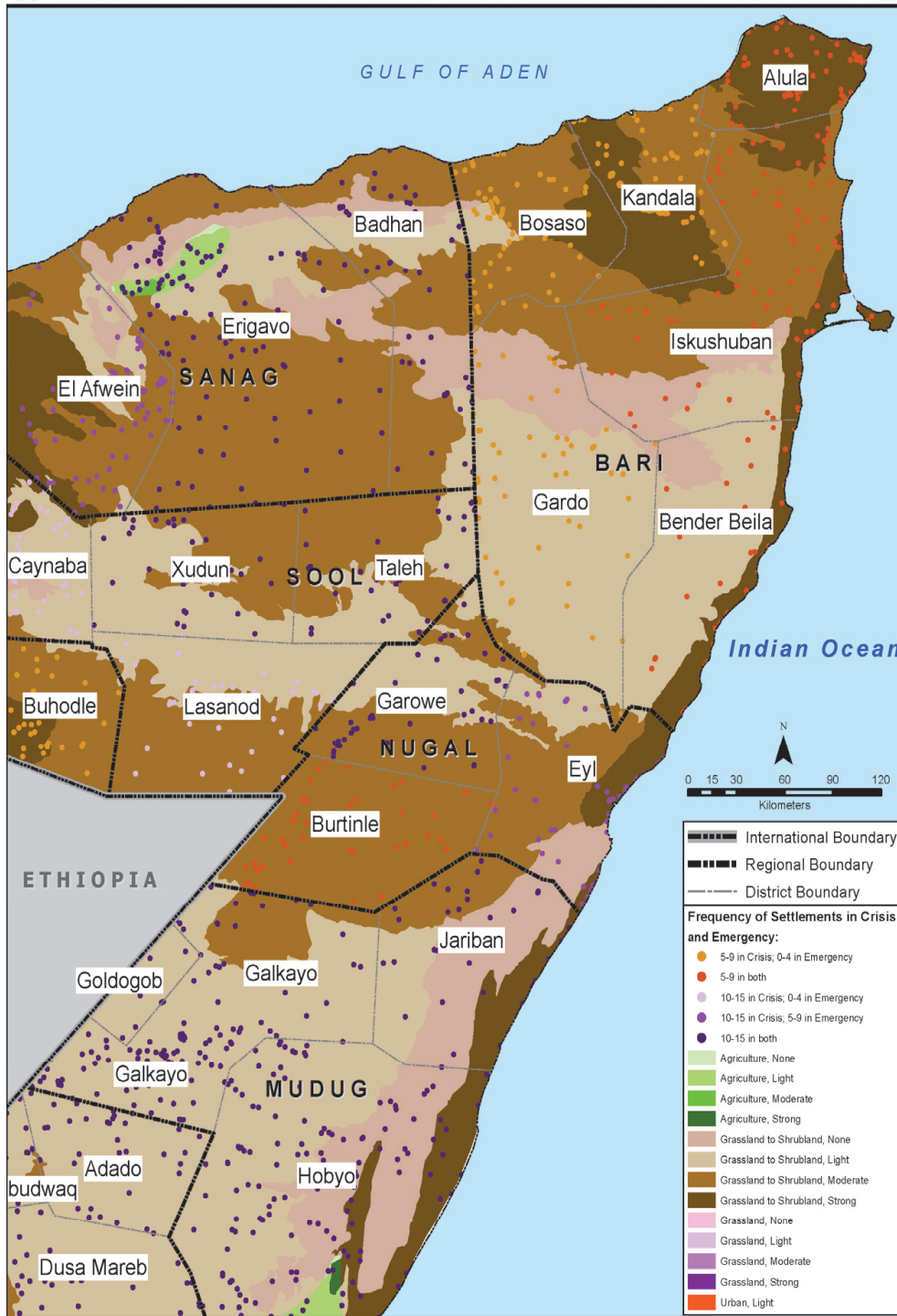
This analysis is useful for identifying the most appropriate programme according to the type and severity of land degradation. For instance, programmes aimed at tackling strong land degradation in agricultural Togdheer must be different from measures adopted in coastal Puntland, which are mainly pastoral areas. Similarly, while tackling land degradation might be a priority need in Togdheer, it might not be a necessity in agro-pastoral areas of Bay.





**Map 36: Frequency of settlements in Crisis and Emergency combined with levels of land degradation by land cover zones (NW Somalia)**





The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.  
The regional and District boundaries reflect those endorsed by the Government of the Republic of Somalia in 1996.  
Note: The data is from Deyr 2006/2007 to GU 2012 from FSNAU. Produced on 14 January 2015 by the WFP-Somalia VAM Unit.  
Datum: WGS 1984\_38N  
Data Sources: Somalia CO, FSNAU, UNDP, ESRI

**Map 37: Frequency of settlements in Crisis and Emergency combined with levels of land degradation by land cover zones (NE and central Somalia)**

**Process:**

Settlements were colour-coded as per the recurrence of Crisis and Emergency classification. This was then overlaid with the land degradation by land cover classes map. The map thus highlights the status of land degradation by land cover zone combined with information on the recurrence of food insecurity.



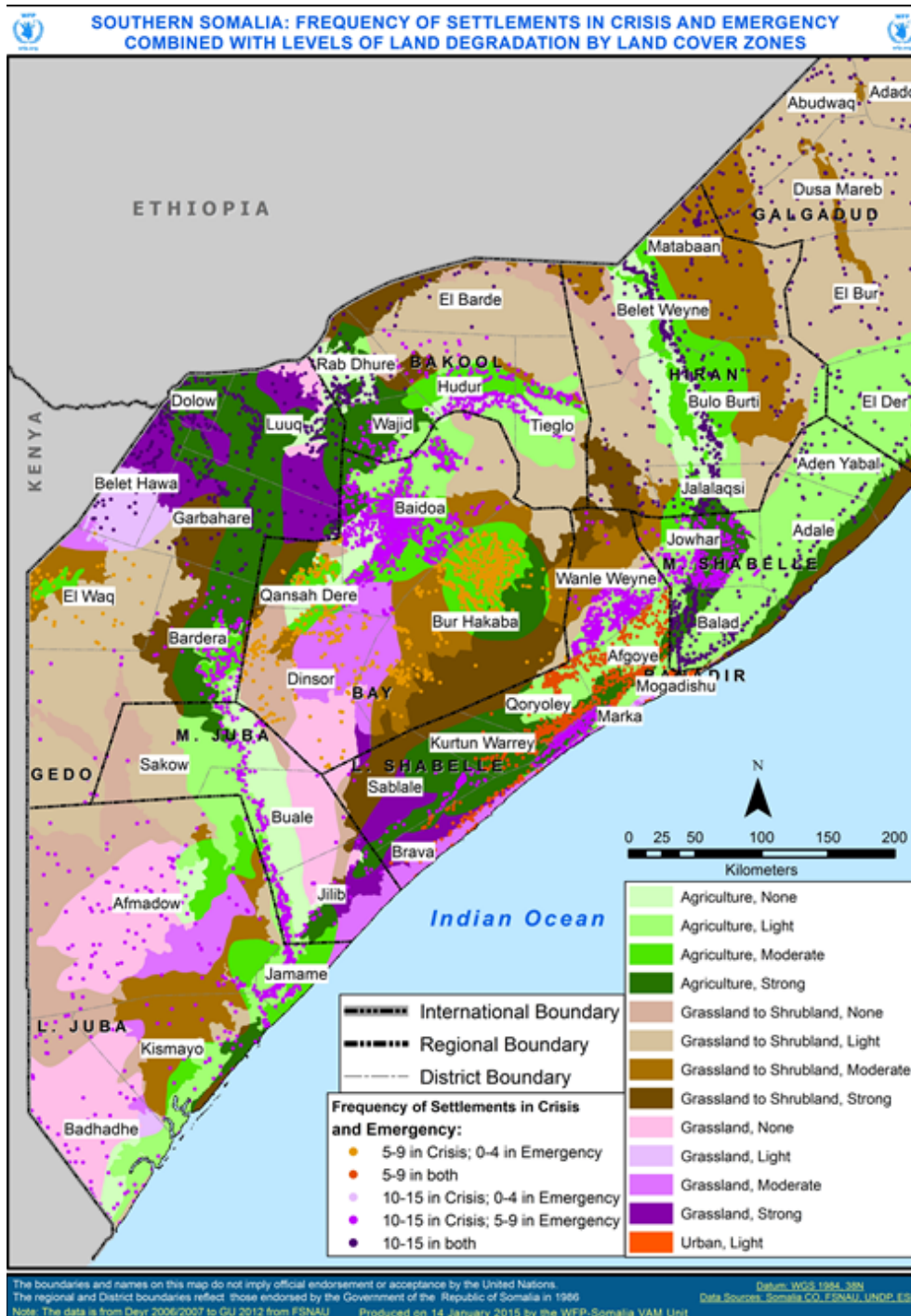
**Analysis:**

The areas most affected by strong land degradation in northeastern Somalia are the coastal areas and parts of Bari region, although the latter is not affected by recurrent food insecurity. Moderate land degradation can be observed in parts of Nugal and Sanaag, where food insecurity is also relatively frequent.



**Action/Conclusion:**

This map contributes to the understanding of the link between the two. Moreover, it provides an entry point for programmes, as it informs both about appropriate areas for interventions tackling land degradation and about target areas for projects enhancing food security.



**Map 38: Frequency of settlements in Crisis and Emergency combined with levels of land degradation by land cover zones (southern Somalia)**

**Process:**

Settlements were colour-coded as per the recurrence of Crisis and Emergency classification. This was then overlaid with the land degradation by land cover classes map. The map thus highlights the status of land degradation by land cover zone combined with information on the recurrence of food insecurity.



**Analysis:**

The settlements most affected by food insecurity and by strong land degradation can mainly be found in southern Somalia, and more specifically in agro-pastoral and pastoral livelihoods in Gedo, Bakol and Hiran, as well as in parts of the Cowpea Belt in Middle Shabelle and Galgaduud. On the other hand, Bay is affected by strong land degradation, although food security is less recurrent.



**Action/Conclusion:**

This map contributes to the understanding of the link between the two. Moreover, it provides an entry point for programmes, as it informs about both appropriate areas for interventions tackling land degradation and target areas for projects enhancing food security.

## 5. Seasonality<sup>29</sup>

Given that livelihoods are closely linked to seasonal events, which will determine periods of production and scarcity, a broad **review of seasonal factors** across the country was conducted to determine whether there were any key differences to better inform programming decisions and design.

The **climate** in Somalia is arid or semi-arid. The bimodal rainfall pattern has two rainy seasons, the Gu (April to June) and the Deyr (October to December), and two dry seasons, the Hagaa (July to September) and the Jilaal (January to March). The population relies on the long Gu rains and the shorter, but important Deyr rains, for agricultural production, pasture regeneration and replenishment of rivers, dams and ground water supply. Traditionally, the Gu was the main rainy season. However, there has been a general decline in long rains, explaining the frequency of drought and floods in the Horn of Africa. Historical trends show droughts occur regularly at intervals of 2-3 years in the Deyr and 8-10 years in consecutive Deyr and Gu seasons, extending seasonal hardships. As a consequence, the importance of the two seasons for agricultural production has changed. While traditionally the Gu harvest accounted for around 75 per cent of the total agricultural production in Somalia, the analysis of annual cereal production patterns in southern Somalia indicates that this rule does not apply with regularity any more. For instance, in 2011, the pattern was reversed, and the Deyr harvest accounted for approximately 80 per cent of the yearly agricultural production. Conversely, in 2010, over 90 per cent of the total cereal production came from the Gu harvest.

Somalia is a **food-deficit country**. Even good harvests, when available, provide only around 40-50 per cent of per capita cereal needs.<sup>30</sup> Therefore, commercial food imports play an important part in meeting the national food requirements. Over the past five years, local agricultural production normally provided only around 22 per cent of per capita cereal needs and therefore commercial food imports and food assistance play an important part in meeting the national food requirements. In recent years, assessments have estimated that approximately 25 per cent of the population did not have adequate access to sufficient food, with significant, but distinct, seasonal hardships during the two lean seasons.

Somalia is dominated by **two livelihood systems**, pastoralism and agro-pastoralism. A small proportion of the riverine population along the Juba and the Shabelle rivers depends on settled agriculture. Fishing only represents a very small livelihood activity, despite Somalia having one of the longest coastlines in Africa. In urban centres, trading activities dominate. Finally, Somalia has one of the largest concentrations of internally displaced persons (IDPs) in the world. UNHCR estimates that there are currently around 1.1 million IDPs in the country. These include newly displaced and long-term IDPs, destitute pastoralists and returnees from within the country or from outside.

The **seasonal calendar** applies to both key population groups, although they are affected differently. For instance, the main lean season for pastoralists corresponds to the harvest season of agro-pastoralist livelihood groups, while the main hunger season for agro-pastoralists is during the Gu rainy season, which is the peak season for livestock calving, lambing and kidding.

<sup>29</sup> For more information on the seasonality of shocks in the different parts of Somalia, cf. the WFP Food Security and Vulnerability Assessments in Somaliland, Puntland and Central Somalia.

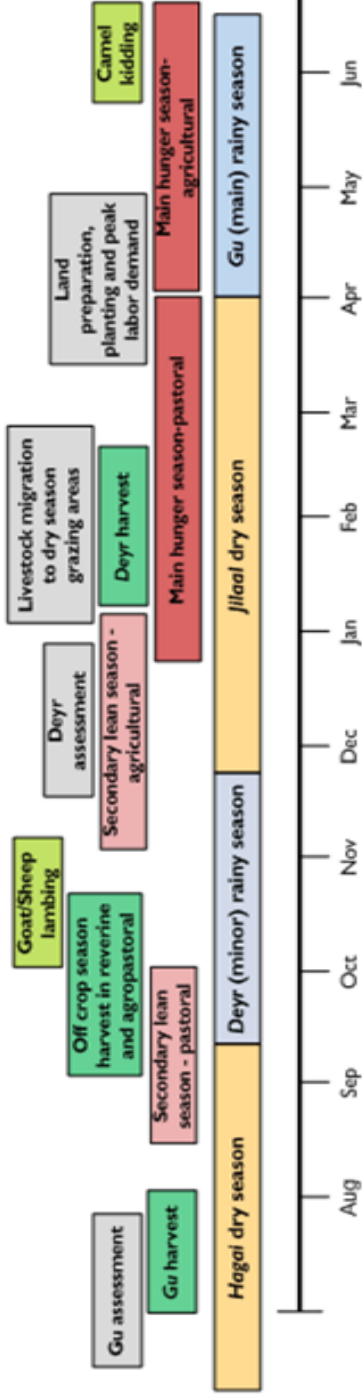
<sup>30</sup> WFP, PRRO 200443 Project Document, November 2012.

- There are 14 purely pastoralist livelihood zones in Somalia, which are located mainly in the arid regions in the central and northern parts of the country. For **pastoralists** the rainy seasons represent better times of the year, as water and pasture are more available, hence improving livestock body conditions and milk production. Milk availability improves particularly in the periods of goat/sheep lambing (October/November) and camel kidding (June). Below-average rainfall can result in reduced water and pasture availability, which can lead to abnormal livestock migration. During the dry seasons, pasturelands are depleted and people begin to move in search of water and grazing land for their livestock. The peak time for water shortages in pastoral areas is the end of the Jilaal dry season (mid-February to late March). The peak export seasons for livestock coincides with the period of Muslim festivities, and usually spans from September to December, depending on the year.
- The main agricultural production areas are situated in southern Somalia and parts of Somaliland in the northeast. The main food crops grown in Somalia are maize, sorghum, cowpeas and beans. **Agro-pastoralist communities** largely depend on the seasonal performance of the rains. Harvests come in once the rainy seasons have passed and conditions are dryer, usually in August (Gu harvest) and January (Deyr harvest). The production amounts will determine when their stocks will deplete and, hence, when their lean season starts. The peak hunger season in cropping areas is towards the end of the Gu rains (May/June). While the amount of rainfall received by agricultural production areas is very important – below-normal rainfall is likely to result in below-normal production, thus reducing incomes, and accelerating stock depletion – the distribution of rainfall is equally if not more determinant. Erratic rainfall can lead to crop damage, particularly in the case of flash floods. However, floods can also lead to excess moisture and have a positive impact on off-season harvests.
- The **urban** populations access income mainly through trade, casual labour and social support. Remittances from the diaspora are also an important source of income, and internationally-imposed restrictions and/or value fluctuations can negatively impact on household income. Due to the marginal importance of agricultural and farming activities in urban settings, urban livelihoods are highly market-dependent in order to meet their food needs, and thus also affected by seasonality. For instance, during the rough seas season (June to September), sea transport is affected and, thus, prices for imported commodities increase. Water prices also peak during the dry seasons. Finally, food prices depend on the local production, which highlight the interdependence between urban and rural livelihoods. Above-average crop production is likely to have a positive impact on the food security of urban populations. On the other hand, drought can affect urban livelihoods in two ways. First, food prices increase due to reduced food availability. Second, recurrent droughts (and insecurity) have led to massive population displacements towards urban centres over the last years, increasing stress on urban food and labour markets.
- Somalia has one of the world's highest concentrations of **IDPs**. UNHCR estimates that there are currently around 1.1 million IDPs in Somalia.<sup>31</sup> IDPs are usually particularly vulnerable, as they have less access to social support nets, both in rural and urban areas. Moreover, they often have a lower asset base than residents, which is directly linked to the displacement. A distinction has to be made between long-term IDPs, who are likely to be more integrated in their host environment, and newly displaced IDPs.

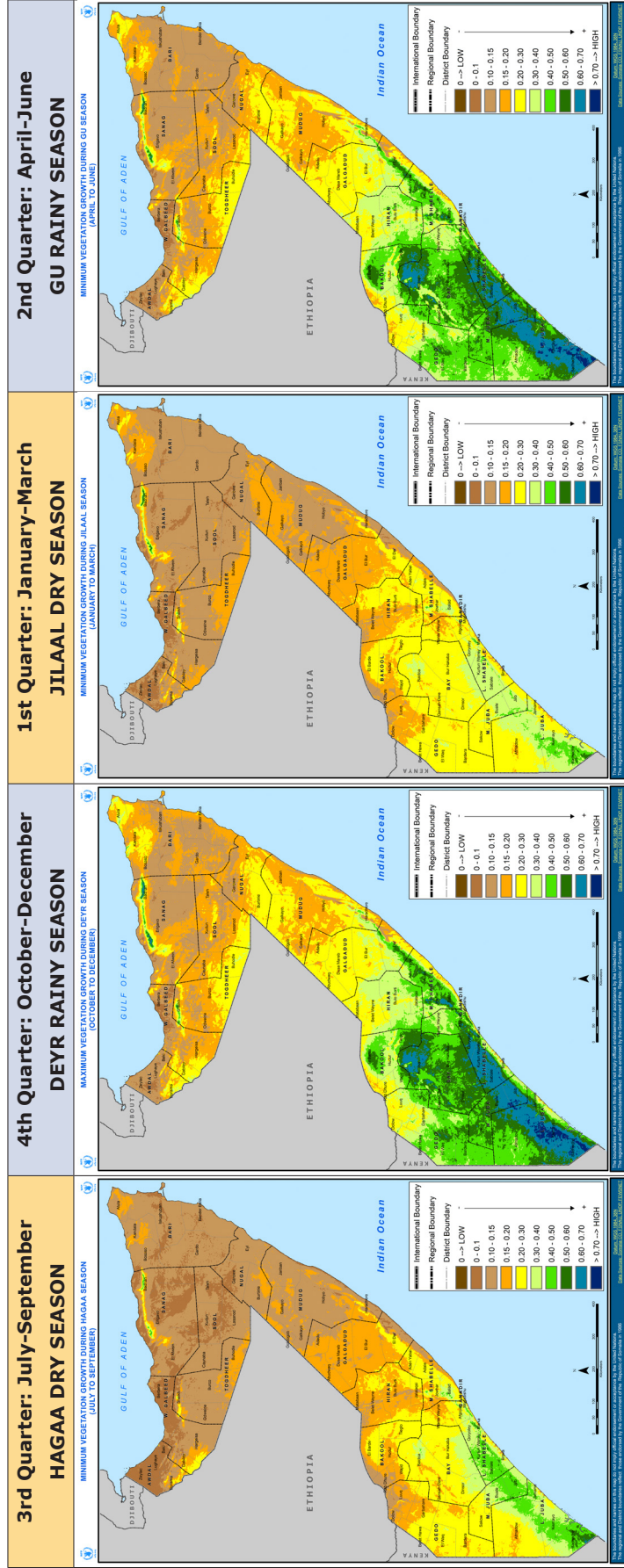
31 UNHCR, October 2014.

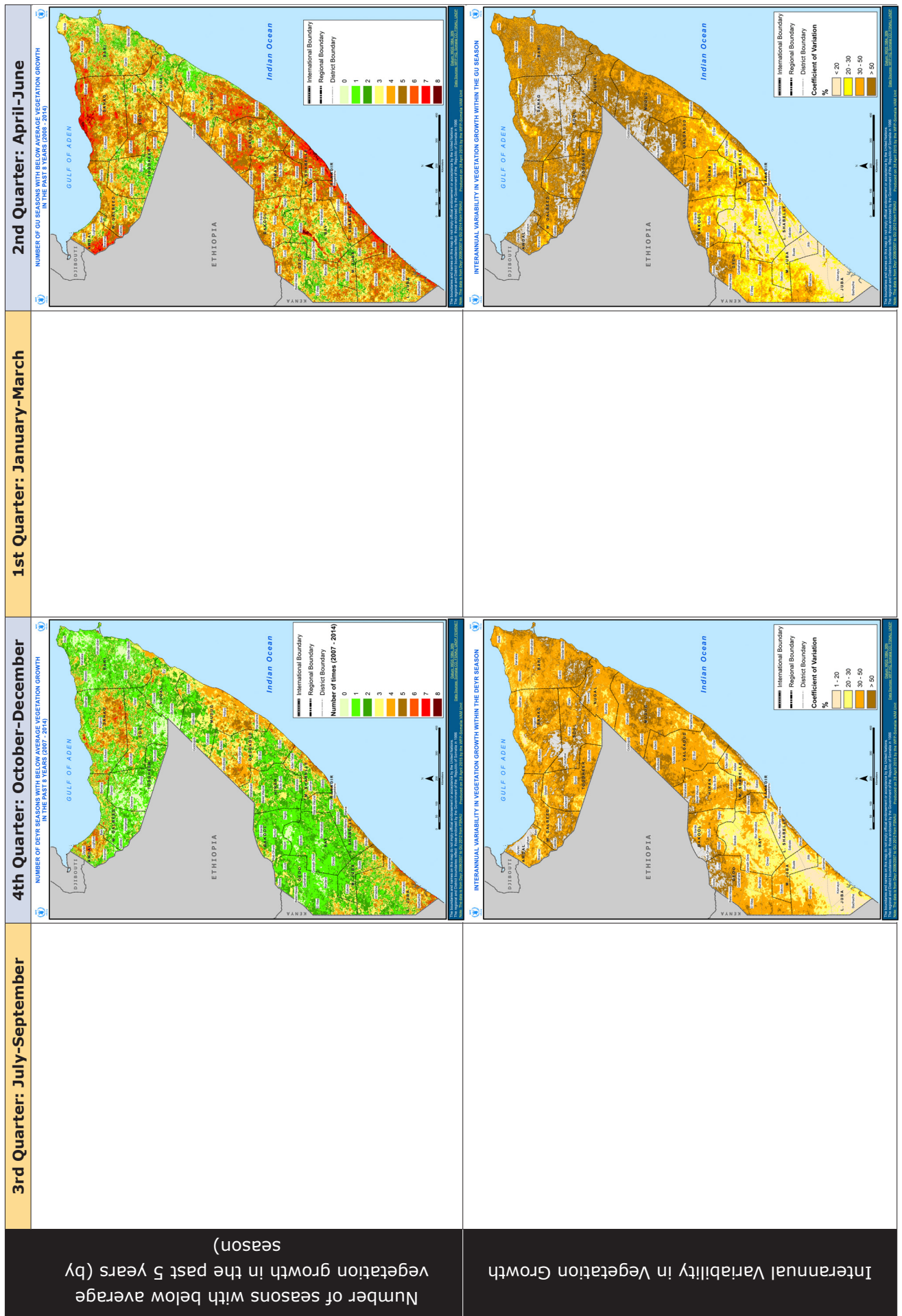


## 5.1 Seasonality in Vegetation Growth, Food Security and Nutrition



Seasonal vegetation growth (Minimum NDVI)





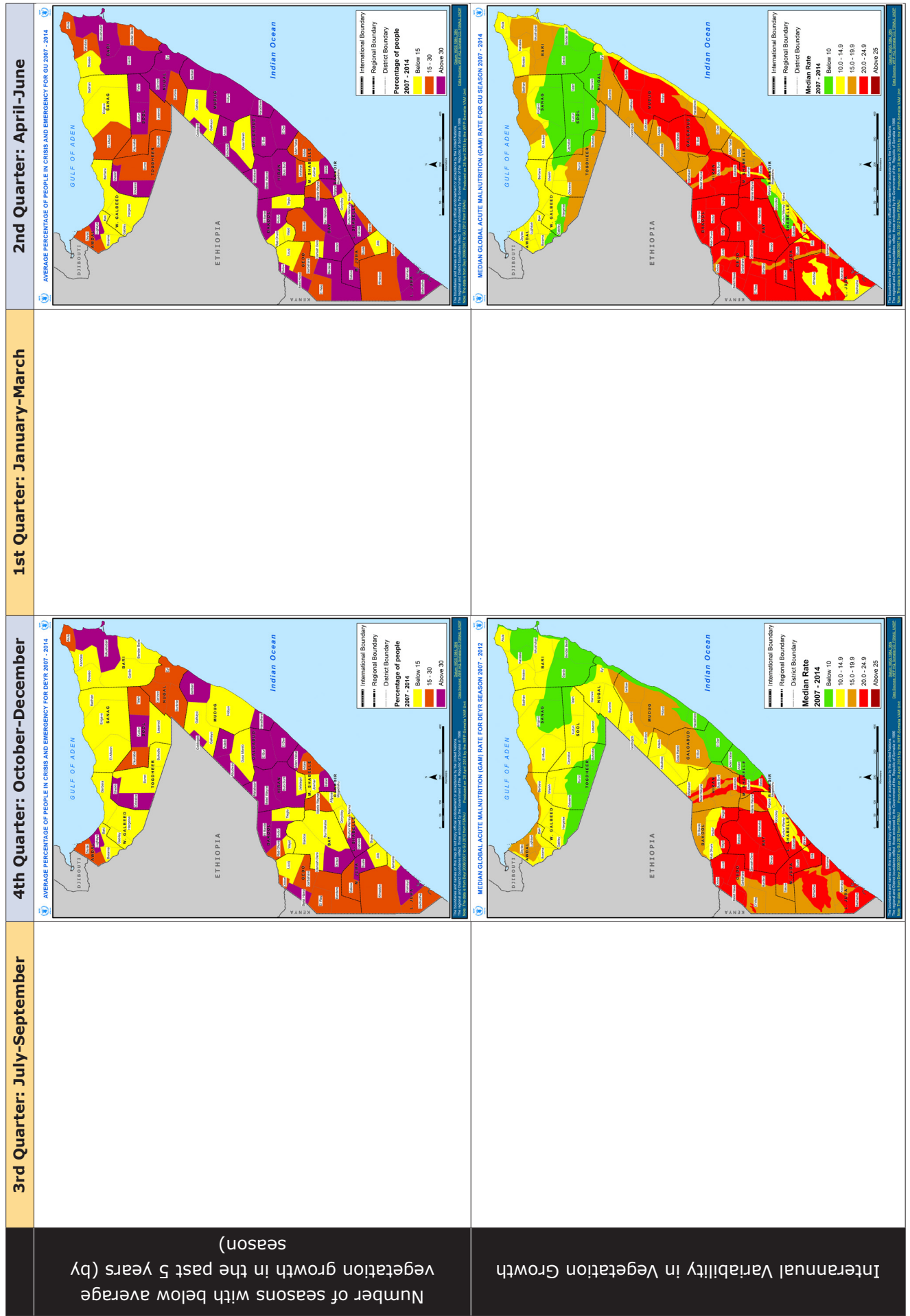
Number of seasons with below average vegetation growth in the past 5 years (by season)

Interannual Variability in Vegetation Growth

### 5.1.1. Conclusions – Seasonal Trends in Vegetation Growth

	3rd Quarter: July-September	4th Quarter: October-December	1st Quarter: January-March	2nd Quarter: April-June
Minimum NDVI	The analysis of the minimum NDVI over the last 15 years shows that some areas in the south are vegetated even during the dry season. This can be attributed to the fact that the harvest usually takes place during the dry season, after crops have fully developed. Particularly agro-pastoral areas in the stretch ranging from Lower Juba to Middle Shabelle show relatively high levels of vegetation density. In contrast, northern Somalia, including agro-pastoral areas in the northwest, only has limited vegetation, with the exception of small pockets in Sanaag region, where vegetables are cultivated.	In this quarter, the analysis of the minimum NDVI indicates that the south gets densely vegetated during the Deyr rainy season, particularly agro-pastoral areas in the Jubas and Shabelle regions, as well as high-potential agricultural areas in Bay district. In central and northern Somalia, the vegetation is low in pastoral areas, but improved with regard to the dry season. Sool Plateau is characterised by a very low vegetation growth. Agro-pastoral areas in the northwest show high levels of vegetation throughout the year, with more dense vegetation during this quarter of the year.	Compared to the Hagaa dry season, the minimum NDVI analysis shows that pastoral areas in central and northern Somalia have more vegetation. Conversely, less vegetation can be found in agro-pastoral areas in the northwest and the south. Areas with high levels of vegetation include the agro-pastoral stretch from Lower Juba to Middle Shabelle in the south, parts of Bay, pockets of vegetable cultivation areas in Sanaag and the agro-pastoral livelihood zones in Awdal. Similarly to the Hagaa season, there is a low level of vegetation on the Sool Plateau.	In this quarter, the minimum NDVI shows that the vegetation growth patterns are comparable to the Deyr season. This might indicate that the differences between the two rainy seasons are not as big as they were in the past.
Incidence of Poor Growing Seasons		The most affected areas during the Deyr season are pastoral areas in central Somalia, parts of Nugal Valley and parts of Awdal region in the northwest. The Coastal Deeh and the Addun livelihood zones seem to be particularly affected by below-average vegetation growth in this quarter, which can result in abnormal livestock migration. Parts of pastoral livelihoods in Lower Juba also seem to be affected frequently, alongside with the agro-pastoral Cowpea Belt in central Somalia. On the other hand, most of the south seems to be less affected.		Compared with the Deyr season, patterns of below-average vegetation growth are reversed. The Addun livelihood zone had a lower incidence of below-average vegetation growth over the last 5 years, while the Hawd and parts of the Sool Plateau were very affected. The northwest also seems to be affected by poor vegetation growth during the Gu, particularly agro-pastoral areas. Similarly to the Deyr, the Cowpea Belt has frequently experienced below-growth rainfall over the last 5 years.
Variability in Vegetation Growth		The variability in vegetation growth indicates the probability of vegetation growth variation, and can thus be used as an indicator of erratic rainfall. The map shows that, during the Deyr, agro-pastoral areas on the Ethiopian border in Gedo, Bakool and Hiran are the most affected, together with pastoral areas in central and northern Somalia, including the Coastal Deeh, Nugal Valley, and Hawd in the northwest. Agro-pastoral areas are less affected, particularly those in the south, which indicates that they can regularly harvest crops.		Overall, the Gu season patterns match those of the Deyr. The only exception is the Hawd, which is more affected during the Gu than during the Deyr. The Addun livelihood zone, which was more affected during the Deyr, seems to be less vulnerable during the Gu.







### 5.1.2. Conclusions – Seasonal Trends in Food and Nutrition Insecurity

Conclusions	3rd Quarter: July-September	4th Quarter: October-December	1st Quarter: January-March	2nd Quarter: April-June
		<p>No clear patterns can be identified with regard to the proportion of people affected by food insecurity during the Gu season. Generally, the scattered pattern of the overall average is confirmed, although the situation differs in some areas, particularly in Bay region, which is more food insecure during the Gu, and in the northeast, where patterns are reversed in some areas.</p> <p>In terms of nutrition, the situation is generally homogeneous throughout the south (Critical), with the exception of non-riverine agro-pastoral livelihoods in the area of the northern Juba and Shabelle rivers. Throughout the northern part of the country, the situation is Acceptable to Serious.</p>		<p>During the Deyr season, pastoral livelihoods in south-central Somalia seem to be the most affected by food insecurity (in terms of percentage of the population affected), as well as some districts in the north, including Burao, Lughaye, and Iskushuban.</p> <p>The nutrition situation is stable in the north and improved in the Addun livelihood, but much throughout the south, which is mostly classified in Very Critical. Compared to the Deyr season, Bay, Bakool and Gedo seem to be affected worse by malnutrition.</p> <p>The map depicting the severity of the nutrition situation highlights the <b>strong seasonal fluctuation of malnutrition rates</b> in northern Somalia, which seems to be worst affected by malnutrition during the Gu season. In southern and central Somalia, the nutrition situation is – to a large extent – similar in both seasons.</p>

### 5.1.3. Conclusions – Seasonal Analysis by Livelihood Type

Conclusions				
<b>3rd Quarter: July-September</b>	<b>4th Quarter: October-December</b>	<b>1st Quarter: January-March</b>	<b>2nd Quarter: April-June</b>	
<p>During the 3rd quarter of the year, agro-pastoral livelihoods usually benefit from the Gu harvest, which traditionally provides 75% of Somalia's overall harvest. This concerns mainly agro-pastoralist livelihoods in southern Somalia, where the Gu rains are more important than in the north. However, pastoralists are more vulnerable, and experience a secondary lean season towards September.</p> <p>Between July and September, some improvements in food security are expected in the Cowpea belt agro-pastoral and Coastal Deeh pastoral livelihood zones in the central regions. However, the recovery of livelihood assets from the successive droughts in these regions would require several consecutive normal seasons.</p> <p>Given the rough sea season, imports are likely to decrease in this quarter, with possible related price increases. Fishing activities are also reduced.</p>	<p>In <b>pastoral areas</b>, camel calving and goat/sheep kidding (towards December) are likely to increase milk availability and household milk access, with positive effects on the nutrition situation. However, during the first weeks of the rainy season, high mortality among weak animals may occur, as pasture is still scarce and animals are vulnerable to cooler weather. The rainy seasons are also associated with high insect populations and livestock disease outbreaks. This period of the year also coincides with the season of Ramadan/Hajj, which seen a significantly increased demand for livestock. This increases prices and export volumes and, thus, the purchasing power of pastoralist populations.</p> <p>In <b>riverine and agro-pastoral livelihoods</b>, off-season crop harvests are expected. However, depending on the intensity of the rains, riverine livelihoods are often affected by flash floods, which can damage the seasonal crop production.</p> <p>In the <b>north-western agro-pastoralist livelihood</b> zones, this period coincides with the harvest from crops planted during the Karan rainy season (mainly in inland areas in Awdal and W. Galbeed regions). The performance of the harvest is important for the food security situation in the north, as well as in other parts of the country.</p>	<p>While the overall food security situation is likely to improve in this period of the year, due to increased availability of locally produced cereals, the situation is tense for pastoralist communities.</p> <p>This period represents the main hunger season for <b>pastoralists</b>. Depending on the performance of the Deyr rains, livestock migration can result in abnormal migration routes, including cross-border migration to Ethiopia. Better-off pastoralist households can respond to reduced pasture availability by migrating to remote areas, while poor households will rather remain at the surroundings of water points to avoid high water expenses. This may result in the sale of livestock assets, and in reliance upon food purchase. Livestock prices usually decline starting in February, reducing the purchasing power of pastoralists.</p> <p>Pastoralists in the <b>Coastal Deeh</b> have accumulated a high debt level over the last years, due to several consecutive drought seasons. Their livestock asset base is low, and depending on the performance of the Deyr rains, they can, in the best-case scenario, use additional income from livestock sales to pay back part of their debt.</p> <p>During the Jilal season, <b>agro-pastoralists</b> can harvest the crops planted during the Deyr season. Above-average Deyr rains often lead to above-average cereal production, including that of cash crops.</p> <p>The availability of locally produced cereals is likely to increase towards March/April, as the Deyr harvests reach local markets. Prices are likely to decrease.</p>	<p>The overall food security situation usually improves in <b>pastoral areas</b>, while it deteriorates in agricultural production zones. While the Gu rains may provide short-term relief from water and pasture shortages in pastoral areas, this season corresponds to the main <b>hunger season in agricultural areas</b>. The performance of the Gu rains determines the food security situation for all livelihood groups. Below-normal or erratic rainfall negatively affects pasture and water availability for pastoralist livelihoods, and reduces crop production outlooks. Some deterioration of food security outcomes is likely in this period of the year.</p> <p>Camel calving (towards June) and goat/sheep lambing (March/April) are likely to increase milk availability and household milk access, with positive effects on the nutrition situation. Assuming that the season is average, in most parts of the North, including Sool Plateau, and Karkaar-Dharoor Valley, the food security situation will improve due to improved livestock production and value. Similarly Hawd and Addun pastoral of the central will improve.</p> <p>The <b>agro-pastoral</b> and low potential cropping areas, as well as riverine areas of the south will also face food deficits. Cereal stocks, mainly in the sorghum belt and riverine areas will be significantly reduced by local consumption and high market prices.</p> <p>If above-normal amounts of rain are received in the catchment areas of the Shabelle and Juba rivers, this can result in flash floods, and destroy the crops of the riverine livelihoods.</p> <p><b>Cereal prices</b> usually experience upward trends from late April, when the availability of local cereals decreases.</p>	

## 5.2. Togdheer Region Seasonal Calendar

The following chapter provides a detailed seasonal calendar for agro-pastoralist and pastoralist livelihood zones in the Togdheer region in northern Somalia. This calendar was developed in consultation with local communities, authorities and WFP during a one week livelihood programming workshop. The identified differences between the two main livelihood types are as follows:

- **Pastoralists:** The dry seasons present the greatest risks to households selling their assets to meet their basic needs. In these areas programmes should be geared towards providing these basic needs and maintaining household asset ownership so they do not fall into deeper vulnerability. The productive period during the Gu can be used to maximise household investments for the coming year, especially as the Hagaa that follows is not as severe as the Jilaal. The Deyr season can be used to support households to prepare for the coming difficult season (Jilaal). If these rainy periods follow particularly difficult dry seasons (i.e. after a shock or bad year), these programmes can be leveraged to help households recover.
- **Agro-pastoralists:** The Gu rainy season into the start of the Hagaa – which is the growing season before the harvest – is the most risky period for asset loss that can compromise future household capacities. This then becomes a critical period to protect lives and livelihoods. For the rest of the year, programmes can be geared towards helping households invest (e.g. after the harvests in the Deyr), and to prepare during the Jilaal for the coming difficult Gu.



The following tables summarise the links between the seasonal livelihood patterns and their implications for programming. This allows for the broad strokes of programming support goals to be defined:



## 5.2.1. Good Year

Burao & Oodweyne Districts - Somaliland - Typical Year Calendar												
Months	April	May	June	July	August	September	October	November	December	January	February	March
Rainy seasons												
Dry seasons												
<b>General &amp; health</b>												
School terms												
Zakat												
Celebrations												
Physical road access												
Market price: Sorghum (local)												
Market price: Rice (imported)												
Water shortages												
Acute Malnutrition (observ.)												
Acute watery diarrhoea												
Malaria												
<b>Pastoralists</b>												
Most difficult/best months (W)												
Most difficult/best months (M)												
Food stresses												
Seasonal movements												
Farmer/pastoralist conflict												
Animal diseases												
Camel reproduction												
Sheep & goats reproduction												
Camel milk & dairy sales												
Sheep/goat milk & dairy sales												
Camel sales												
Sheep & goats sales												
Camel slaughtering												
Skins/Hides sales												
HH expenditure patterns												
<b>Agro-Pastoralists</b>												
Most difficult/best months (W)												
Most difficult/best months (M)												
Food stresses												
Sorghum (qty) duration												
Maize (qty) duration												
Fodder (residues)												
Sorghum/Maize production												
Cash crop: Watermelon												
Cash crop: Tomatoes etc												
Cowpeas												
Labour (hiring)												
HH expenditure patterns												
<b>Barlawe</b>												
Income												
Women: Labour opportunities												
Men: Labour opportunities												
Difficulties												





## 5.2.2. Bad Year

Months	Burao & Oodweyne Districts - Somaliland - Bad Year Calendar											
	April	May	June	July	August	September	October	November	December	January	February	March
Rainy seasons	Jilal longer	Gu failed - very sporadic and less rains in qty in Apr/May	Hagaa longer				Deyr failed - very sporadic rains, much less rains in qty	Jilal more severe				(Khailli...
<b>General &amp; health</b>												
School terms												
Zakat												
Celebrations												
Physical road access												
Market price: Sorghum (local)												
Market price: Rice (imported)												
Water shortages												
Acute Malnutrition (observ.)												
Acute watery diarrhoea												
Malaria												
<b>Pastoralists</b>												
Most difficult/best months (W)												
Most difficult/best months (M)												
Food stresses												
Seasonal movements												
Farmer/pastoralist conflict												
Animal diseases												
Camel reproduction												
Sheep & goats reproduction												
Camel milk & dairy sales												
Sheep/goat milk & dairy sales												
Camel sales												
Sheep & goats sales												
Camel slaughtering												
Skins/Hides sales												
HH expenditure patterns												
<b>Agro-Pastoralists</b>												
Most difficult/best months (W)												
Most difficult/best months (M)												
Food stresses												
Sorghum (qty) duration												
Maize (qty) duration												
Fodder (residues)												
Sorghum/Maize production												
Cash crop: Watermelon												
Cash crop: Tomatoes etc												
Cowpeas												
Labour (hiring)												
HH expenditure patterns												
<b>Barbawe</b>												
Income												
Women: Labour opportunities												
Men: Labour opportunities												
Difficulties												

### 5.2.3. Pastoralists – Typical Year

The following two seasonal calendars are specific to the two different livelihood groups, pastoralists and agro-pastoralists. The different seasons are analysed separately with regard to their impact on the specific livelihood type.

Burao & Oodweyne Districts - Somaliland - Typical Year Calendar											
April	May	June	July	August	September	October	November	December	January	February	March
	Gu - main rains			Hagaa - dry season		Deyr - short rains			Jilaal - long dry season		(Khalili...)
<p>The Gu is seen as the best part of the year by men and women. Production is at its highest, it is a time of rest, weddings, and celebrations, and when elders gather and discuss community affairs.</p> <p>There will be some movement of household members and animals away from the homestead, as people enclose land near their homes to conserve pasture and browse for the coming dry season. This can lead to conflicts when pastoralists encounter areas that have been closed.</p> <p>The onset of the main rains relieves stress over water shortages experienced during the preceding Jilaal dry season, bringing pasture flushes, water, and improved animal conditions – although wet conditions can lead to increased livestock diseases. Camels and shoats give birth which increases livestock holdings, and will conceive for the following seasons' birthing (camel gestation is one year).</p> <p>There is the greatest milk production from camels and shoats, and is used for own consumption and market sales. Given high supply, milk prices are low.</p> <p>Acute malnutrition rates which peaked during the Jilaal now begin to decrease due to milk and meat availability.</p> <p>Cereal prices in markets remain high, yet purchases from pastoralists are low as consumption is from own production.</p> <p>The rains do bring an increase in human diseases, most notably acute watery diarrhoea (AWD) and malaria later in the season due to standing water. This will negatively affect household health and labour options, and increase expenditures.</p> <p>The rains can block roads and hamper vehicle access to infrastructure and services (e.g. markets/ health posts etc.). Access is possible by foot if distances are short.</p> <p>Household expenditures at this time are mainly for human and animal health, non-food household needs and investments, and obligations surrounding celebrations.</p>	<p>The Hagaa presents difficulties for both men and women. Own production is lower, with greater need to purchase food from the markets. Eid and Zakat obligations increase household expenditures.</p> <p>The entire household will be around the homestead, as those moving have returned with the animals and are using the browse and pastures in land they enclosed during the Gu. Water shortages begin to increase and peak at the end of the Hagaa until the Deyr rains. Dry conditions bring increases in the transmittal of animal diseases as they congregate around water points.</p> <p>Pastures and browse begin to deplete, resulting in reduced milk production from their herds which is primarily kept for household consumption given increasing food shortages. Malnutrition may begin to increase at this time. Not much milk is being sold in the markets, and this low supply leads to higher prices, which benefits sellers.</p> <p>Malaria is still high at the start of Hagaa due to standing water (from the Gu), but it decreases rapidly.</p> <p>Increasing water scarcity increases collection time for women and girls, whose responsibility is to water the animals. This has a negative impact on girl's enrolment, as the new school year starts at this time.</p> <p>Cereals prices remain high on the markets. Sorghum prices begin to decrease with the start of the August / September harvests. The monsoon season occurs during this time, and prevents boats that import rice from reaching the ports of Somaliland, thereby increasing rice prices.</p> <p>There is a high supply of shoats on the local market, as surplus animals after the good Gu period are sold. This high supply leads to low prices. Selling prices increase for camels and shoats at the end of the Hagaa, as the livestock export trade to the Gulf begins before Eid and the Hajj.</p> <p>Household expenditures at this time are mainly for food, medicines, school fees, and other non-food household needs.</p>	<p>The Deyr is regarded as a good period by both men and women. The onset of the rains relieves water stresses which in turn frees up the time that women spend collecting water. This is also a period of weddings and celebrations.</p> <p>Similarly to the Gu, pasture lands and browse near the homestead are closed for use during the Jilaal, and the men graze their animals away from the homestead. This could be a flashpoint for conflict.</p> <p>Water and browse leads to improved animal conditions and increased milk production, for own consumption and market sales – although milk prices are low due to higher supply to the markets.</p> <p>Camels and shoats will be giving birth from the conceptions of the previous Gu and Deyr respectively. They will also be reproducing at this time, for birthing in the subsequent rainy seasons.</p> <p>The rains also bring about an increase in human diseases, most notably acute watery diarrhoea, and malaria later in the season when there is standing water.</p> <p>Cereal prices on the markets are low due to the harvests of local sorghum. Income is also good, as this period has the best selling prices for livestock for the entire year, due to the export trade of animals to the Gulf states which supply the Hajj.</p> <p>Like the Gu, vehicle access on roads can be blocked and disrupt access to markets and other infrastructure and services. Access by foot is possible.</p> <p>Household expenditures at this time are mainly spent on health, non-food needs, and obligations around celebrations. Investments in preparing for the coming difficult Jilaal are made by households, and for human and animal health, non-food household needs and investments, and obligations surrounding celebrations.</p>	<p>The Jilaal is regarded as the most difficult and severe part of the year by both men and women, and particularly in the last months (also known as the 'Khalili'). Temperatures are high, and conditions are dusty.</p> <p>The entire household will be together at the homestead, using the browse and pasture enclosed during the Deyr.</p> <p>Shortages of water and pasture keep increasing and are at their highest during the second half of the Jilaal (Khalili). Milk production is at its lowest, and kept for household consumption.</p> <p>Animal conditions are at their poorest, and disease outbreaks can occur when animals are congregated around shrinking water points and pastures.</p> <p>Malaria outbreaks are high at the start of the Jilaal, but stop once standing water has dried.</p> <p>The second half of the Jilaal corresponds to the highest peak of food stresses, with a greater need to purchase food from the market. Local cereal (sorghum) prices rise as the harvests are finished, peaking during the second half of the Jilaal (they will stabilize at this high price until the next Hagaa harvest).</p> <p>Malnutrition begins to rise, and peaks by the end of the Jilaal, due to food shortages and poor health.</p> <p>Shoats, and in some instances camels, will be sold to meet household food and non-food needs. Poor animal conditions however lead to poor prices, and if the Jilaal is particularly severe then there is an even higher supply of animals in the market which can lower prices further. This can be a risky period for households, who may begin to sell female animals and reduce their productive assets.</p> <p>This is the hardest time for women, and workloads increase due to water collection. Girls are particularly at risk of being pulled from school for this, impacting their attendance rates.</p> <p>Households experience the highest expenditures of the year, as they need to buy food, medicines, non-food essentials, and in some cases water. Given low prices for livestock and higher food prices, their terms of trade are at one of their lowest points of the year.</p>								





### **5.2.5. Pastoralists and Agro-Pastoralists – Bad Year**

A bad year has been defined as the failure of the Gu. If the subsequent Deyr fails then the year is severe. If there is the failure of three rains in a row, then the year will be regarded as extremely severe and critical. A bad year is seen as an equalizer between pastoralists and agro-pastoralists, as crop production falls away and the households begin to rely primarily on their livestock holdings. In this regard, bad years are far more difficult and risky for agro-pastoralists, as they have lower livestock ownership. Conditions become increasingly difficult as the year progresses, becoming incrementally severe every time a rainy season fails. It was noted that even in bad years, people will be able to engage in labour-based activities. The exception to this is in the event of a severe Jilaal following a failed Deyr and Gu, where women indicated that conditions would be too difficult in many cases and as such consideration to relief should be given. However, this will be context specific, and may change location by location. In terms of transfer modalities, women stated a preference for vouchers to ensure that household food needs would be met. Men on the other hand indicated a preference for cash-based programming, given that bad years bring about increased household expenditures both on food and non-food needs.



Photo: WFP Somalia

Dead livestock

Togdheer & Oodweyne - Somaliland - Bad Year Calendar											
April	May	June	July	August	September	October	November	December	January	February	March
		Gu failed - very sporadic and less rains in qty in Apr/May	Hagaa longer and more difficult			Deyr failed - very sporadic rains, much less rains in qty					Jilaa! more severe
<p>If the first two months of the Gu rains fail, then any rains in the third month will temporarily relieve water stress but will not contribute to production.</p> <p>This results in no animal production and subsequent food shortages, continued and increasing malnutrition rates, and increased water shortages and higher workloads and stress - particularly for women which negatively impacts on child caring practises.</p> <p>Men are away from the homestead looking for water, browse, and pastures. Conflicts and disputes over resources begin to increase, between pastoralists themselves and with agro-pastoralists.</p> <p>Newly born animals do not survive, resulting in less future assets for the households. They also do not conceive which will impact asset recovery for at least the next year. Livestock diseases increase due to poor animal conditions and congregation at water points.</p> <p>Household expenditures increase as water, and food is mostly purchased from the markets at high prices. Sources of income will come from the distress sales of animals - including reproductive ones - at low prices. Agro-pastoralists take from shop keepers and traders, to be paid back after the (Deyr) harvests. There is a greater reliance on kinship support and remittances, which places more stress on those that can share.</p>	<p>Gu failed - very sporadic and less rains in qty in Apr/May</p> <p>Hagaa longer and more difficult</p> <p>The <b>Hagaa</b> becomes extremely difficult, as the productive period has been lost.</p> <p>There is still no animal production, and food purchases from markets continue at high prices. Failed sorghum and maize harvests do not bring prices down at the end of the Hagaa.</p> <p>Camels that conceived during the previous Deyr will miscarry, so the birthing expected in the Deyr will be lost.</p> <p>Men will move further afield with the animals, whilst the women, children, and the elderly will return to the homestead.</p> <p>Pastoralists will be selling animals at low prices as there is high supply to the markets. Only those that still have animals in conditions will be able to benefit from the better prices linked to the export trade to the Gulf at the end of the Hagaa.</p> <p>Agro-pastoralists will still work on preparing lands for the Deyr harvest period, in the event that these rains come. Similarly, there will be household expenditures on farming inputs and seeds that could become a lost investment if the Deyr rains fail.</p> <p>Both pastoralists and agro-pastoralists begin to take additional loans from shopkeepers and traders, to cover food and non-food expenses.</p>	<p>Deyr failed - very sporadic rains, much less rains in qty</p> <p>The failure of <b>the Deyr</b> results in no respite for people. Conditions follow similar patterns as those of the failed Gu, except that poorer and harder conditions and stresses are deeper and more pronounced.</p> <p>Men will be looking for water and browse/pastures, and the women, children, and elderly will remain behind at the homestead with a few animals.</p> <p>Animals will not conceive which will impact future livestock asset holdings - particularly for camels - for the next 12 to 18 months.</p>	<p>Jilaa! more severe</p> <p>The Jilaa! following a failed Deyr - and in particular a failed Gu and Deyr - is extremely difficult and severe. Such an event is seen as an emergency. Malnutrition rates begin to rise, due to food shortages, poor health, and compromised child-care practises as women's workloads increase.</p> <p>Livestock holdings are reduced, households are becoming indebted to shop-keepers and traders, and kinship support becomes one of the primary mechanisms to get through the season.</p> <p>There are severe water shortages, and if the season follows a failed Gu and Deyr, distress sales and slaughtering of animals begin.</p> <p>Agro-pastoralists will still be preparing their lands and spending on farming inputs in the event of Gu rains and a subsequent harvest. If they have already exhausted all means of accessing such inputs, they may begin to fall out of the system and start moving towards urban areas.</p> <p>Once natural resources (water and browse/pasture) have been exhausted, conflicts will reduce and ultimately stop. Pastoral men that can no longer find water and pasture resources will return to the homestead to wait out the difficult season.</p>								

## 6. Markets

### 6.1. Sources of Price Data

WFP VAM field monitors collect the monthly price data for the main markets in central and northern Somalia, as well as in Mogadishu, on a weekly basis. The second major source of data is FSNAU, which also monitors markets in areas inaccessible to WFP in southern Somalia. The following market analysis is mainly based on three sources which are; WFP Study on 'Food Market and Supply Situation in Southern Somalia', published in October 2011, a WFP 'Analysis of the Structure, Conduct and Performance of the Cereal and Sugar Market' in Somalia, published in January 2010<sup>32</sup> and latest market information from other partners particularly FSNAU and FEWSNET, supported by Trader Surveys and Beneficiary Market Assessment studies conducted in 2014.

### 6.2. Market Structure and Trader Response Capacity

Assessments by WFP in 2011 indicated that a high number of traders operate in Somalia. There is a high concentration of sellers at import level in Mogadishu, Berbera and Bosasso who reportedly control over 45 percent of the market share in the three ports. These importers are linked to a network of wholesalers and retailers in various parts of the country and play an important role in managing commodity movement amidst various challenges especially security.<sup>33</sup>

WFP assessments further indicated that there was a high number of wholesalers and retailers in various market types trading mainly maize, sorghum, rice and sugar. Retailers operate in fixed markets procuring their supplies from wholesalers or pooling funds to buy directly from importers. Most open air traders are mainly women trading in rice and sugar and to a smaller extent sorghum and maize.

The table below show the average number of wholesalers and retailers by commodity and market type.

Market Type						
Commodity	Type of Trader	Satellite market in surplus region	Main market in surplus region	Main market in deficit region	Satellite market in deficit region	Import hub
Maize & Sorghum	Open air retailers	161	399	182	41	-
	Wholesalers	27	44	99	18	-
Sugar & rice	shopkeepers	-	-	314	179	514
	Wholesalers	-	-	61	37	269
	Importers	-	-	0	0	15

Source: (WFP 2011) Food Market and Supply Situation in Somalia.

It should however be noted that while the number of traders could have increased over the past three years owing to an improvement in the security situation in various parts of the country, recent assessments indicate that in general, markets have responded

<sup>32</sup> WFP, 'Food Market and Supply Situation in Southern Somalia', October 2011.

<sup>33</sup> Noor Ali Farah, 'Trade Returns to the Gedo region', Somalia Report, 14 April 2012.



in a limited way to increased demand despite their notable role in meeting the food requirements of the country. For example Somalia's food deficit in 2015 is estimated at 237,000 tons much of which may not be met through imports.

It is however worth noting that at regional levels, some markets have exhibited relatively strong capacity to respond to localised demand. This is especially the case with border markets, markets in production hubs and markets within proximity of import hubs. For example 2014/2015 market assessments by WFP in Kismayo, Garbahare, Dollo, Baidoa and Beletweyne indicated that markets have relative capacity to respond to increased demand despite various challenges related to production and smooth flow of commodities from supply to retail markets.

### **6.3. Food Production and Supply Situation**

The main food crops grown in Somalia are maize, sorghum, cowpeas and beans. Unlike other countries in the Horn of Africa, where significant volumes of rice and wheat are produced locally, Somalia does not have high levels of production. The main crops produced in southern Somalia are maize and sorghum. Cowpeas are cultivated in central Somalia, while the western part of Somaliland is a production area for sorghum. Apart from these major crops, horticultural farming (onions, tomatoes, watermelon) and citrus is also significant in the country.

Despite an overall improvement in food production exceeding the 2005-2013 Deyr post war average and the 2009-2013 five-year average by 42 percent and 7 percent respectively, Somalia's cereal deficit is estimated at 237,000 tons up to the end of 2015.<sup>34</sup> Out of the total cereal production of 108,000 tons (Deyr and off season), Sorghum production accounts for 65 percent (68,200 tons) and maize 35 percent (36,000). The supply of cereals from local production is expected to follow the normal seasonal pattern with sorghum coming from Bay and maize from lower and middle Shabelle. In addition, there is anticipated inflow of white sorghum in the country through cross border trade with Ethiopia.<sup>35</sup>

Cereal availability is expected to improve in most regions apart from Hiran and Juba owing to low production (Deyr 2014/15) in these two areas. For poor households in major cereal producing areas in Bay and the Shabelles, stocks are expected to last for at least four months until May 2015.

A modest decline in the price of locally produced cereals is expected in most parts of southern Somalia once the commodities start entering the market. A decline in sorghum prices in Baidoa (25%), Hudur (22%) and Bardera (20%) has already been observed (in December 2014) owing to increased cereal availability prospects in the markets. Never the less the supply of commodities in areas affected by trade restrictions such as parts of Bakool remains constrained. As result food prices in affected areas remain higher compared to the same period in 2013.<sup>36</sup>

34 FSNAU Post Deyr 2014/2015 Technical Series Report No. VII.57

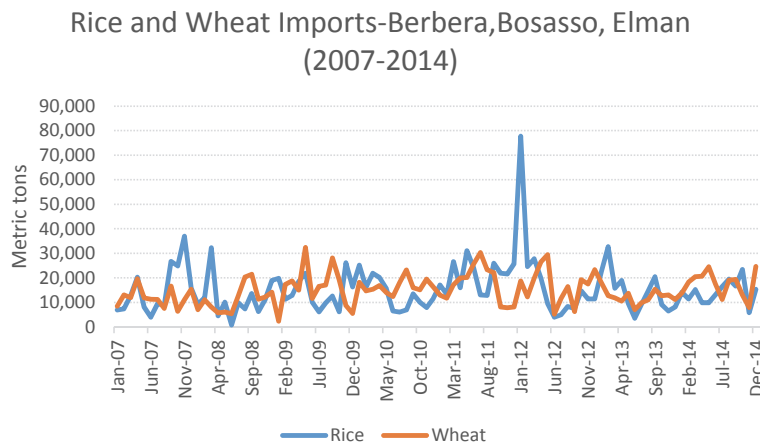
35 FEWS NET Special report: Livestock exports from northern ports in the Horn of Africa, 11 January 2012.

36 Post Gu Analysis Technical Series report 2014 No. VII 56 October 2010.



Food imports play an important role in bridging the food supply gap in Somalia's local production. Since 2007, Somalia's wheat and rice imports have shown irregular patterns varying from one month to another. A significant spike in rice imports was however observed in January 2012. This followed the 2011 famine period which saw local food production falling below normal averages during the same period.

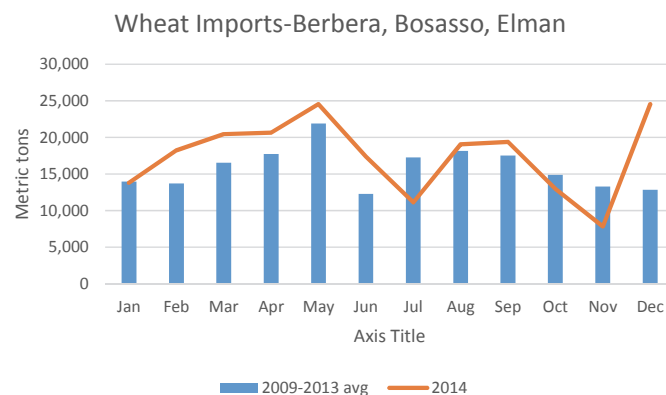
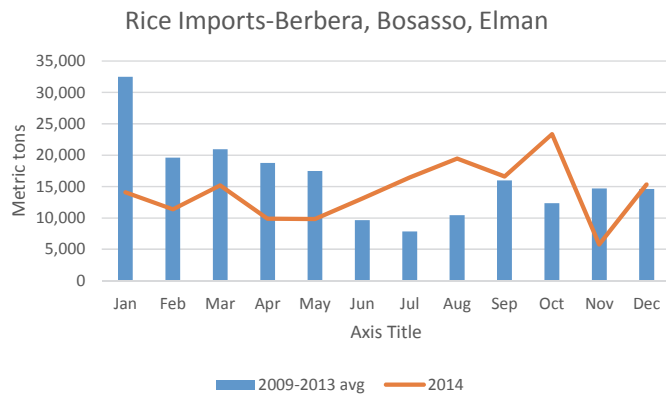
**Trends in Rice and Wheat Imports (2007-2014)**



Source: FSNAU import data

Rice imports in 2014 were below the five year average for 2009-2013 between January and May. However between June and October 2014, rice imports increased above the five year average and sharply fell in November before rising again to 2009-2013 levels in December. On the other hand, wheat imports in 2014 were above the five year average for 2009-2014 for most of the year apart from July, October and November of the year.

**Rice and Wheat Imports (2009-2013 avg. vs. 2014)**



Source: FSNAU import data

It is worth noting that while there has been an increase in wheat imports compared to the 2009-2013 average, the overall trends indicate that food imports have not significantly increased over the past eight years to bridge the current food supply gap in Somalia.

## 6.4. Market Integration

Assessments by WFP in 2014 indicate that Somalia continues to rely heavily on imported cereals particularly rice and wheat, in addition to locally produced cereals (maize and sorghum).

In almost all assessed markets in south Somalia, the prices of imported cereals (wheat and rice) are strongly correlated. However, the prices of sorghum and white maize are weakly correlated in some of the markets.

### Price correlations between different markets in south Somalia

Markets	Commodities			
	Imported rice	Red sorghum	Wheat	White maize
Hudur/Ceebeerde		0.81		0.90
Hudur/Baidoa		0.85		0.80
Ceelberde/Baidoa		0.59	0.86	0.82
Beletweyne/Ceelbeerde	0.90	0.83	0.90	0.91
Beletweyne/Baidoa	0.95	0.68	0.92	0.90
Beletweyne/Mogadishu	0.88	0.70	0.93	0.89
Ceelbeerde/Mogadishu	0.83	0.53	0.88	0.76
Baidoa/Mogadishu	0.91	0.94	0.94	0.92
Dollo/Ceelbeerde	0.88	0.59	0.81	0.80
Dollo/Baidoa	0.91	0.64	0.83	0.65
Dollo/Ceelwaq	0.87	0.52	0.74	0.51
Ceelbeerde/Ceelwaq	0.89	0.24	0.69	0.70
Baidoa/Ceelwaq	0.83	0.57	0.70	0.54
Kismayo/Afmadow	0.95	0.93	0.87	0.85
Kismayo/Baidoa	0.96	0.89	0.92	0.90
Kismayo/Ceelwaq	0.87	0.18	0.71	0.28
Kismayo/Dollo	0.90	0.80	0.84	0.63

Source: WFP Markets and Traders Capacity Assessments, 2014

While strong price correlations among various markets signal the potential for market integration, a number of challenges continue to affect markets in south Somalia. Assessments by WFP in 2014 indicate that trade restrictions owing to insecurity, poor road conditions and numerous tax levies along trade routes continue to affect the smooth flow of commodities to markets. However, given the strong correlation of prices in some markets and flow of commodities, it can be noted that, despite the above restrictions, markets especially for imported commodities are fairly integrated.<sup>37</sup>

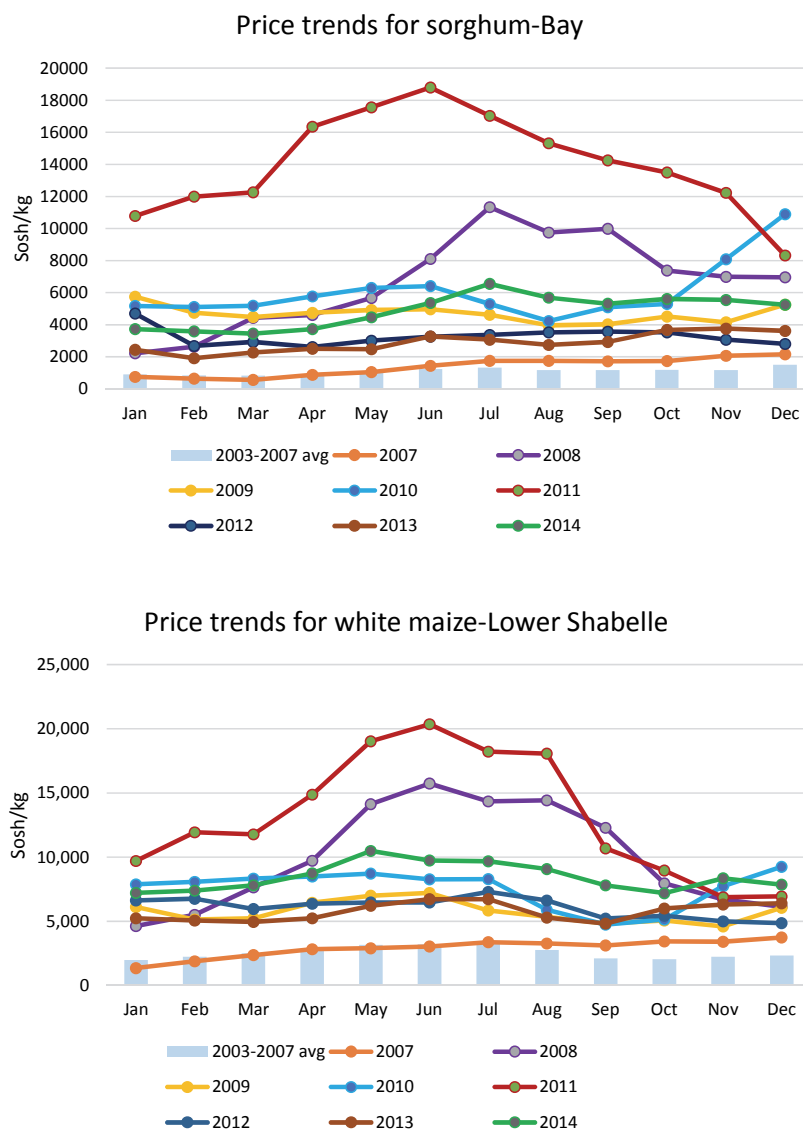
Trade restrictions are particularly a major concern in parts of Gedo region due to road blockades by the Al Shabaab. For example, a WFP market assessment in Garbahare and

<sup>37</sup> WFP Markets and Traders Capacity Assessments in Somalia, 2014.

Burdubho in early 2015 found out that insecurity and Al Shabaab trade restrictions were some of the factors limiting the smooth flow commodities from supply areas to markets in the district.<sup>38</sup>

## 6.5. Price Volatility

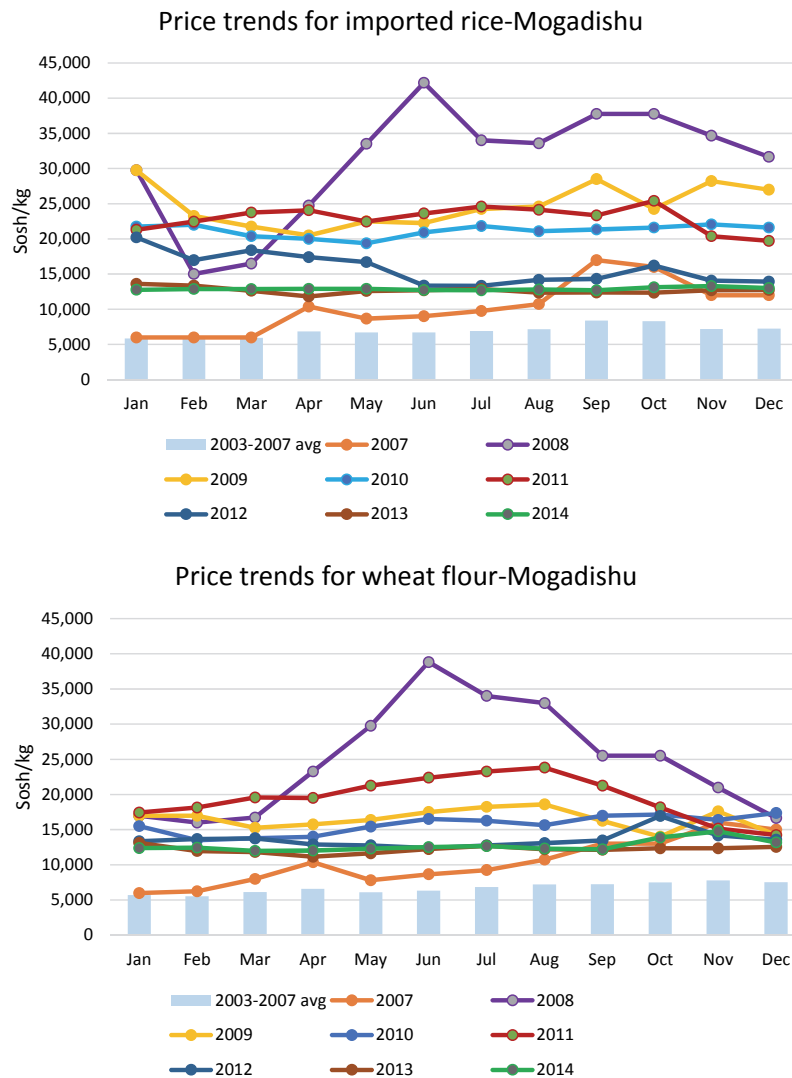
In 2011, Somalia – and particularly south Somalia – experienced a food price crisis for locally produced cereals which was by far more severe than in 2008 and which contributed to the 2011 famine. Cereal prices more than tripled in main markets of south Somalia compared to the 2003-2007 averages, which were used as reference in the above mentioned studies as they better represent the long-term seasonal patterns of local cereal prices in recent years. Cereal prices for locally produced commodities have recovered from the 2011 crisis, although prices in 2014 remain well above the 2003-2007 average as well as the annual trends for 2012 and 2013.



**Figure 14: Sorghum prices in Bay (top) and white maize price in Lower Shabelle (bottom) (Source: FSNAU)**

38 WFP, Markets and Trade Capacity Assessment in Garbahare district.

On the other hand, the prices of imported cereals (rice and wheat) increased beyond the 2003-2007 average owing to global price hikes. The prices of imported cereals recovered in 2013 and 2014 remaining at almost the same levels and experiencing almost no fluctuations during the entire year.



**Figure 15: Sorghum prices in the Sorghum Belt (top) and Somaliland (bottom) (Source: FSNAU)**

The Somali Shilling remained stable for most of 2014 but slightly depreciated to 21,000 for the US Dollar in December compared to 20,000 in July 2014. The change can be attributed to political tensions within the Transitional Federal Government (TFG). Similarly, a slight depreciation in the Somaliland Shilling was observed between October and December 2014 owing to a decline in livestock exports over this period. The Somaliland Shilling weakened by five per cent and 13 per cent compared to the same period in 2013 and the five year average, respectively.<sup>39</sup>

There was an observed decline in the annual inflation rates in 2014 by 3% in Somaliland shilling areas. On the other hand, there was an observed increment in the annual inflation rates in Somali shilling areas in the south and north by 4-5%. The modest levels of inflation is a reflection of the relatively low food prices during the second half of 2014.

39 FSNAU Post Deyr 2014/2015 Technical Series Report No. VII.57



## 6.6. Livestock markets

Livestock are a key livelihood resource for pastoral and agro-pastoral populations in Somalia. These populations sell sheep, goats, cattle, and camels for export to the Arabian Peninsula, the Persian Gulf, and other markets which transit through the northern ports of Berbera and Bossaso. Domestic consumption is also a major source of demand for livestock. Livestock sales are the largest single source of household income in some livelihood zones. In 2000, Saudi Arabia imposed a ban on live animal imports from Somali ports which shifted exports to Djibouti. However, the ban was lifted in 2009, and since then Berbera and Bossaso have regained much of their temporarily lost market share, especially for sheep, goats, and cattle. Livestock exports have some year-round demand, but the seasonality is such that there is a minor increase in demand in preparation for Ramadan and there is a substantial spike in demand, especially for sheep, in the month preceding the Hajj, due to high demand for sheep or cattle to sacrifice on Eid al-Adha. This annual spike in demand drives price movements and demand patterns, especially for sheep, across the Horn of Africa.<sup>40</sup>



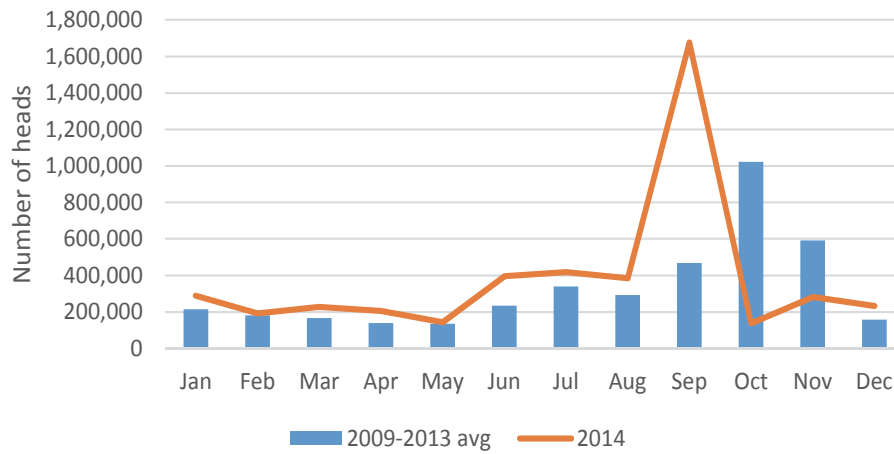
Photo: WFP Somalia

Camels drinkinh at FFA reservoir Sheerbi, Puntland

40 FEWS NET Special Report: Livestock exports from northern ports in the Horn of Africa, 11 January 2012.

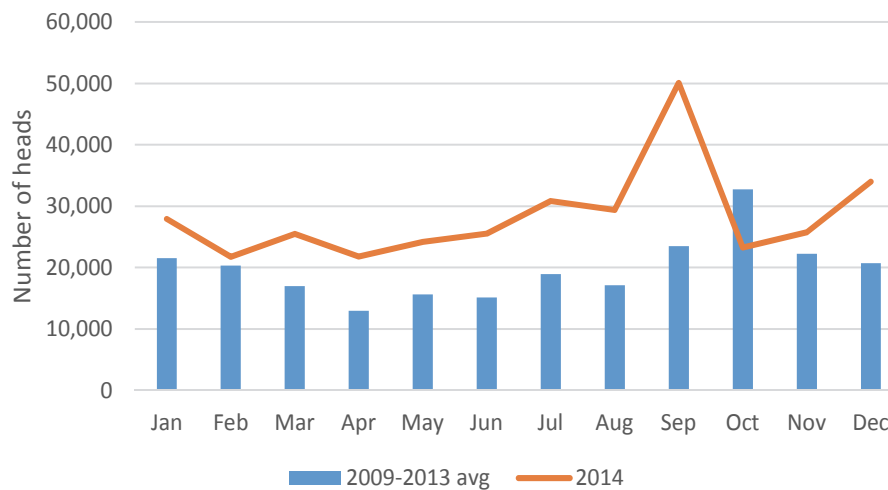
A comparison of 2014 data to the five year average of 2009-2013 indicates that livestock exports for shoats and cattle were generally higher than the five year average. The exception was camel which saw exports decline below the 5 year average from May to December 2014.

**Shoats (goat/sheep) exported: Berbera, Bosasso Ports**



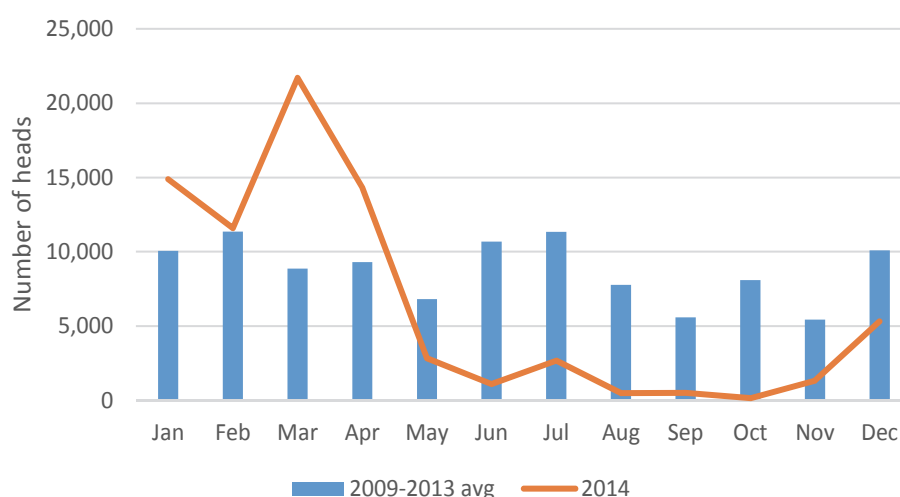
Source: FSNAU export data 2007-2014

**Cattle exported: Berbera/Bosasso Ports**



Source: FSNAU export data 2007-2014

## Camel exported: Berbera/Bosasso Ports



Source: FSNAU export data 2007-2014

FSNAU export data further indicates that livestock exports reached 4,999,688 in 2014 of which 67% were between July and December 2014. The number of livestock exports is expected to increase in the first half of 2015 due to an increase in demand for the Ramadhan period.<sup>41</sup>

## 6.7. Remittances

Remittances are – together with other forms of social support such as gifts, zakat or loans – one of the major income sources of the Somali population. It is estimated that remittances from the Somalia's diaspora account for about one fifth of household income, and total USD 1.3 billion to USD 2 billion a year.<sup>42</sup> However, the distribution of access to remittances varies across the country. Two-thirds of urban households in northern Somalia cite remittances as their major source of income. Conversely, in south-central Somalia, the overall access to remittances is very limited, except for Galgaduud, Bay and Bakool regions, where the increased access to remittances is attributable to the enhanced response from the diaspora in the light of the deterioration of food security in 2011. While access to remittances generally improved in some additional areas in the south, including Gedo and Hiran, it decreased for agro-pastoralist and coastal pastoralist livelihoods in central Somalia. IDPs were found to have less access to remittances, as only 1-2% of IDP households in Puntland and 4-7% in Somaliland stated remittances as a major income source.<sup>43</sup> The main risk factors with regard to remittances include fluctuations of the exchange rate, as remittances are usually transferred in US Dollars, and US legislation designed to prevent funds from reaching US-designated terrorist groups, which are affecting the remittances system.<sup>44</sup> In 2014 and 2015 this had the direct result of western banks in the UK and US ceasing international money transfers to Somalia<sup>45</sup>.

41 FSNAU Post Deyr 2014/2015 Technical Series Report No. VII.57

42 Laura Hammond, 'What role for the diaspora in Somalia's future?' The Guardian, 20 February 2012.

43 FSNAU Post Deyr 2011/12 Technical Series Report No VI.43, March 2012.

44 Rebekah Curtis, 'Q&A Horn of Africa transfer firm on remittances to Somalia', AlertNet, 24 February 2012.

45 <https://www.oxfam.org/en/pressroom/reactions/oxfam-reaction-barclays-banks-stoppage-money-transfers-somalia> and by Anna Lindley, Jason Mosley - Challenges for the Somali Money Transfer Sector, March 2014

## 7. Infrastructure

Understanding the infrastructure of Somalia is important, as it affects population movements and trade flows within the country, and with neighbouring countries. There are four major ports in Somalia, including three deep-sea ports (Mogadishu, Bossaso and Berbera) and Kismayo port. In addition, there are several smaller ports along the coastline, which are however less important in terms of trade volumes. Import and export activities are mainly channelled through the ports of Mogadishu, Berbera and Bossaso.



Map 39: Road network

### Process:

The roads linking Somalia's main cities and regions were mapped, in order to get a better understanding of transport routes for goods and people.



### Analysis:

The main roads in northern Somalia link Borama to Hargeisa, Berbera to Garowe and Burao to Bossaso. In the northeast, there is one main road linking Bossaso to Garowe and Galkayo. In southern Somalia, the main roads link Mogadishu to Belet Weyne through Jowhar, Mogadishu to Baidoa and Hudur, as well as Mogadishu and Kismayo.



### Action/Conclusion:

There are three major entry/exit points to/from the country, which are the main ports of Berbera, Bossaso and Mogadishu. Moreover, there are several cross-border entry/exit points along the Kenyan and Ethiopian borders, which are very important for trade, particularly livestock trade in the north. For instance, a significant proportion of livestock exports from Somalia originate from the Somali region of Ethiopia, and are exported through Berbera port.



## 8. Population

The last time a census was conducted in Somalia was in 1975 and only limited results for published. Another attempt at a census was made in 1985/86, but results were never made public. UNFPA with support from UN sister agencies, among them WFP, conducted a Population Estimation Survey Somalia (PESS) in 2014 to close data gaps and collect information to inform programming of humanitarian and development interventions. The PESS was meant to pave the way for a proper census to be conducted in the years to come.

<b>Somali population at a glance</b>		
<b>Estimated population</b>	<b>12,316,895</b>	
	<b>People</b>	<b>%</b>
Urban	5,216,392	42.4
Rural	2,806,787	22.8
Nomadic	3,186,965	25.9
IDPs	1,106,751	25.9
<b>Population distribution</b>		
Male	6,244,765	50.7
Female	6,072,130	49.3
Urban - Male	2,598,926	49.8
Urban - Female	2,617,466	50.2
Rural - Male	1,439,176	51.3
Rural - Female	1,367,611	48.7
Nomadic - Male	1,663,775	52.2
Nomadic - Female	1,523,190	47.8
IDPs - Male	542,888	49.1
IDPs - Female	563,863	50.9

**Figure 15: Somali population at a glance**

<b>AGE DISTRIBUTION</b>				
<b>Age groups in years</b>	<b>Male</b>	<b>%</b>	<b>Female</b>	<b>%</b>
0 - 4	815,516	13.1	864,033	14.2
5 - 9	1,085,397	17.4	1,021,955	16.8
10 - 14	979,946	15.7	851,937	14.0
15 - 64	3,218,601	51.5	3,223,984	53.1
64+	144,008	2.3	105,407	1.7

**Figure 16: Somali age distribution**

<b>HOUSEHOLDS</b>		
<b>Estimated households:</b>	<b>2,076,677</b>	<b>%</b>
Urban	782,354	38.6
Rural	482,674	23.8
Nomadic	465,718	22.9
IDPs	298,493	14.7

**Figure 17: Somali households**

MEAN AND MEDIAN AGES						
	Male		Female		Total	
	Mean	Median	Mean	Median	Mean	Median
Nomadic	21	17	20	17	21	17
Rural	20	15	19	16	20	16
Urban	21	17	21	18	21	17
IDPs	19	13	18	14	18	13

Figure 18: Somali population mean and median ages

## 8.1. Population size and Distribution

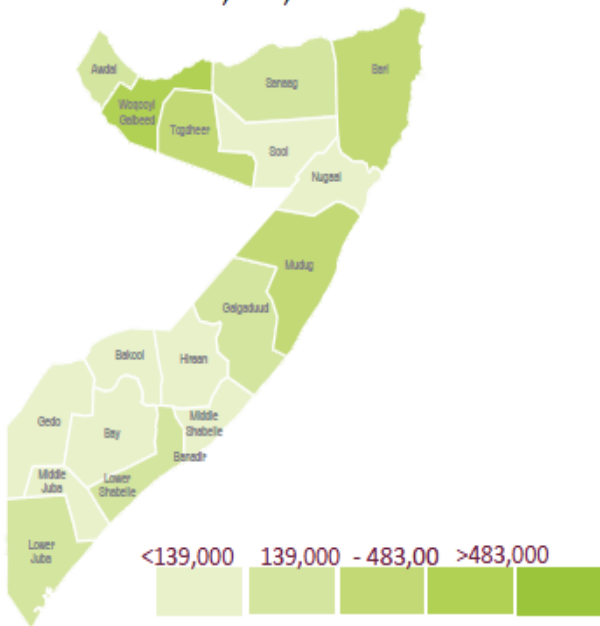
According to the Population Estimation Survey the estimated total population in urban, rural, nomadic areas and camps for IDPs in the 18 pre-war regions of Somalia was 12,316,895. Compared to many other African countries, the number of people living in urban areas was relatively high.

Region	Urban	Rural	Nomads	IDPs *	Total
Awdal	287,821	143,743	233,709	7,990	673,263
Woqooyi Galbeed	802,740	138,912	255,761	44,590	1,242,003
Togdheer	483,724	57,356	154,523	25,760	721,363
Sool	120,993	13,983	187,632	4,820	327,428
Sanaag	159,717	30,804	352,692	910	544,123
Bari	471,785	65,483	133,234	49,010	719,512
Nugaal	138,929	31,047	213,227	9,495	392,698
Mudug	381,493	79,752	185,736	70,882	717,863
Galgaduud	183,553	52,089	214,024	119,768	569,434
Hiraan	81,379	135,537	252,609	51,160	520,685
Middle Shabelle	114,348	249,326	100,402	51,960	516,036
Banadir	1,280,939			369,288	1,650,227
Lower Shabelle	215,752	723,682	159,815	102,970	1,202,219
Bay	93,046	463,330	195,986	39,820	792,182
Bakool	61,928	134,050	147,248	24,000	367,226
Gedo	109,142	177,742	144,793	76,728	508,405
Middle Juba	56,242	148,439	131,240	27,000	362,921
Lower Juba	172,861	161,512	124,334	30,600	489,307
<b>All Regions</b>	<b>5,216,392</b>	<b>2,806,787</b>	<b>3,186,965</b>	<b>1,106,751</b>	<b>12,316,895</b>

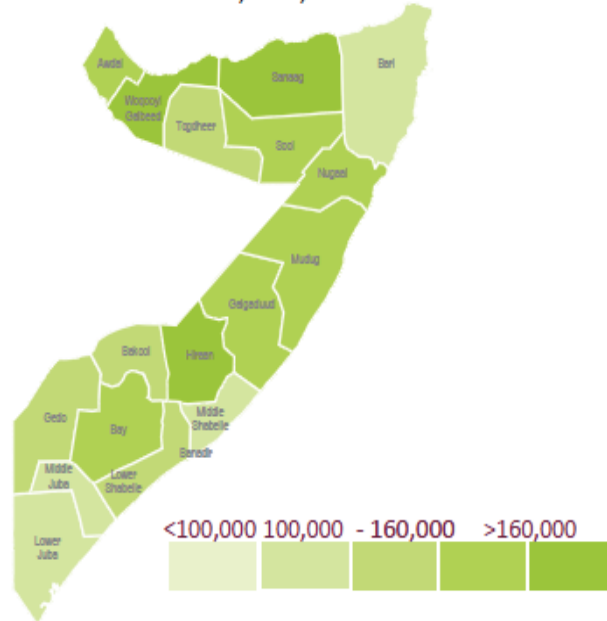
Figure 19: Urban, rural, nomadic and IDPs population by region

## Total Population – 12,316,895

Urban – 5,216,392

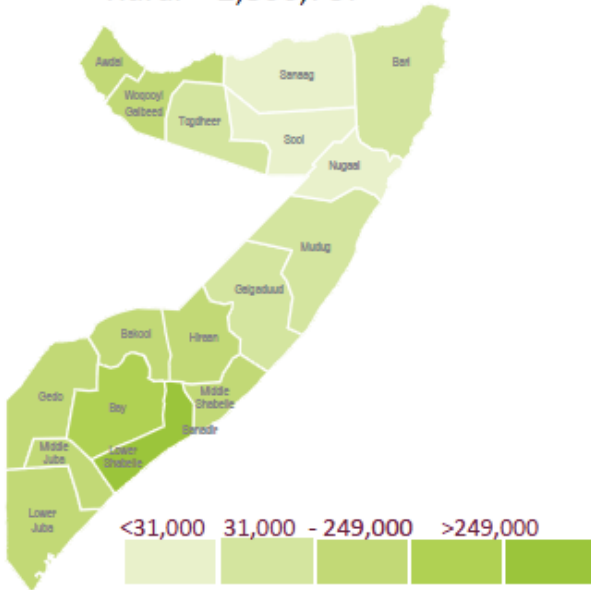


Nomads – 3,186,965

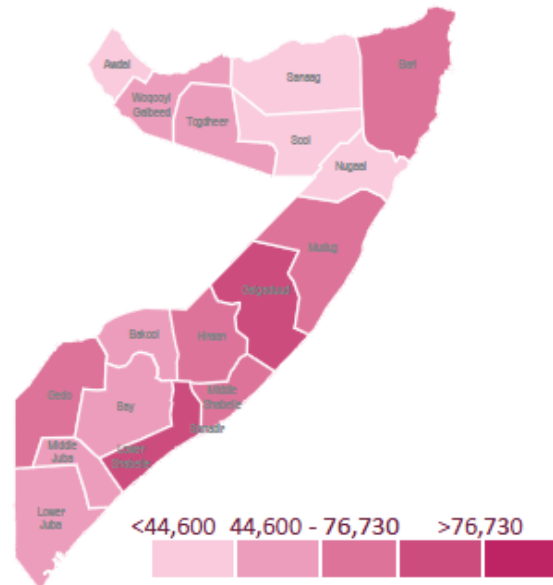


Map 40: Urban and Nomadic population by region

Rural – 2,806,787



IDPs- 1,106,751



Map 41: Rural and IDPs population by region

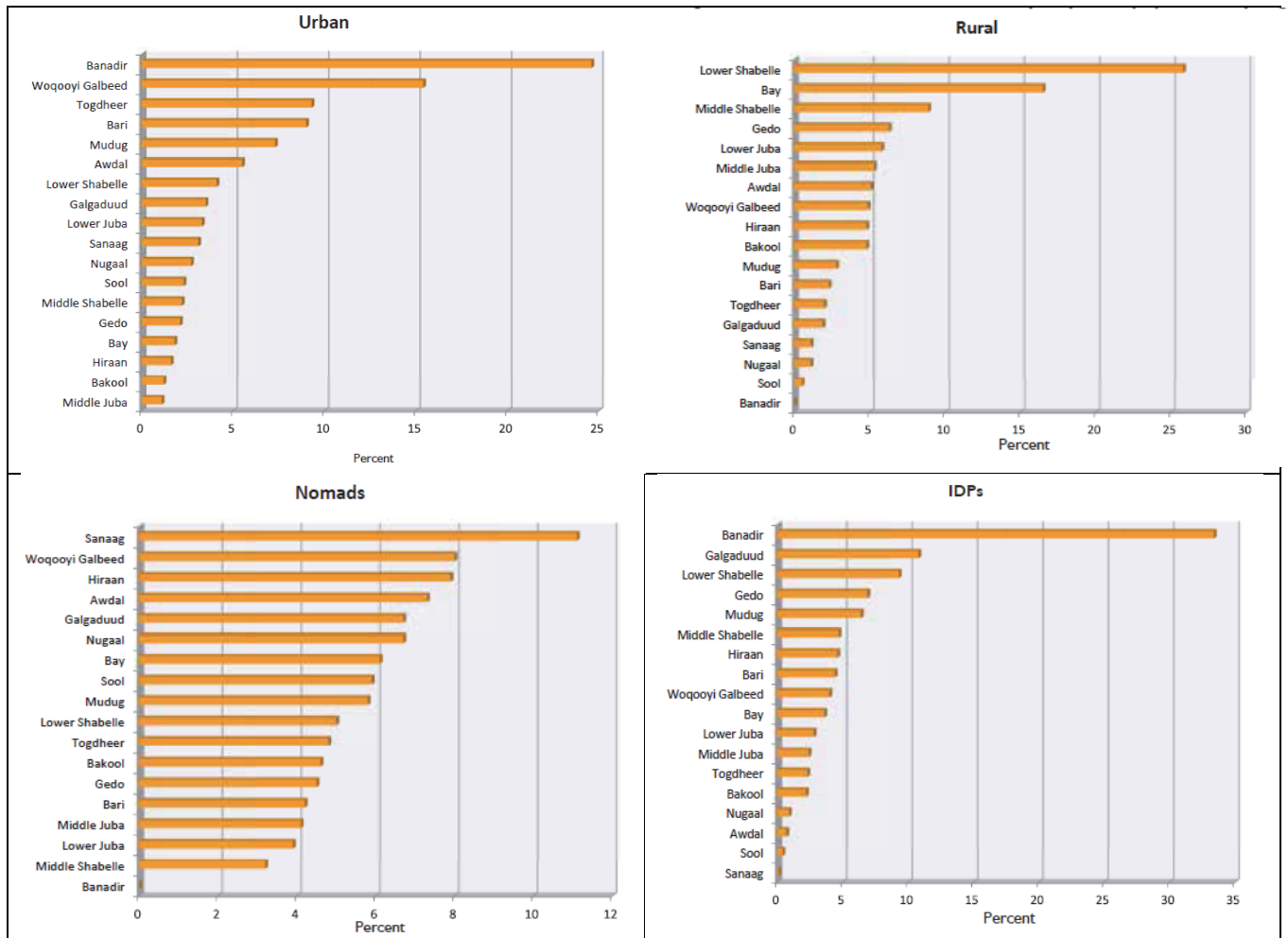


Figure 20: Percentage of urban, rural, nomadic and internally displaced population by region





Photo: WFP Somalia

# Conclusion and Implications for Programming

## 1. Patterns of Underlying Causes of Food and Nutrition Insecurity

The following updated conclusions are meant to continue fostering the discussions between partners and bring together all the analyses explained throughout the document. The goal of the updated analysis is to revisit multi-year variations in food and nutrition needs in Somalia and identify new focus areas based on common patterns that will help to inform the common understanding of food and nutrition insecurity. Studying the recurrence of shocks, the degradation of the natural environment and the food insecurity outcomes is a key element. This will draw a profile of the population, identifying those areas most at risk, and help to understand what type of assistance would be most appropriate.

The Zero hunger Challenge launched by the UN Secretary General Ban Ki-moon in 2012 calls on everyone – governments, the private sector, NGOs, the public – to do their part to achieve this goal. It is all based on a shared aspiration that hunger can be eliminated in our lifetimes. This further reinforces WFP's responsibility to respond to both chronic and acute hunger, and provide inputs, in partnership with other UN, I/LNGO, public and private sector actors, to achieve: i) Zero stunted children less than 2 years; ii) 100% access to adequate food all year round; iii) All food systems are sustainable; iv) 100% increase in smallholder productivity and income and v) Zero loss or waste of food. And it is through this lens that the analysis provided in the preceding chapters must be interpreted. Hence, this section will initially focus on the food insecure areas and will then try to identify patterns between these and all other relevant analyses.

### Frequency and Severity of Acute Food Insecurity.

Combining the map showing the **frequency of the population** classified in Crisis and Emergency with the map showing the **average percentage of the population** in Crisis and Emergency gives a clear indication of the districts and livelihoods with both a high frequency of Crisis and Emergency and a high percentage of the population affected by food insecurity. This provides a geographical footprint of areas where more significant levels of support may be required along the entire spectrum of relief to recovery to strengthen resilience. Drawing from the analysis, the following patterns were identified:

- **Higher frequency and higher severity:** In central Somalia, the livelihood zones continue to demonstrate a high frequency and severity (measured by percentage of the population affected) of Crisis and Emergency situations include the Hawd, Addun, and Coastal Deeh of central Somalia, as well as Sanag region in the north. In southern Somalia, the most affected areas include parts of Gedo, Bakool, Middle Juba, as well as Lower and Middle Shabelle regions
- **Lower frequency and lower severity:** Conversely, the parts of the Hawd Pastoral Livelihood Zone situated in Somaliland seem to be less often affected by food insecurity, with the exception of Odweine and Burao districts. Surprisingly, the analysis showed that agro-pastoral livelihoods in Bay region are less often affected (0-3 occurrences of crisis and emergency classification over the last 7 years).



- When considering only the rural population (**Map 14**), there are some important differences with notably less frequency in much of Bari, parts of Sool and Sanag and some pastoral areas in the south (most notably El Waq, Afmadow and Badhadhe) as well as agro-pastoral areas of Bay and parts of Lower Shabelle (Brava and Qoryoley). It is important to note that the impact of shocks on urban environments will differ as households have different access to and use of their livelihood capitals.

As indicated in section 2.2, IDPs continue to suffer from a high level of vulnerability due to food insecurity and critical levels of malnutrition.

### **Impact of Rainfall and Vegetation on Food Insecurity**

When combining Map 24: Number of seasons with below average vegetation growth in the past 7 years with Map 14: Frequency of rural people in Crisis and Emergency, 2007-2014, we can identify the following patterns:

- There is a strong relationship temporally in central Somalia, as well as in Sool region in the north and in parts of Gedo, Bakool and Hiran in the south between below average vegetation groups and the severity of food insecurity.
- In Lower and Middle Juba, these relationships seem less pronounced. For example in parts of Lower Juba (Afmadow district) while they seem to be affected by a high frequency of below-average growing seasons, they are less affected by recurrent acute food insecurity.
- In Middle Juba and Lower Shabelle the evidence indicates that they are less affected by the frequency of below-average vegetation, but are highly affected by frequent food insecurity.
- In Somaliland (Awdal, W. Galbeed), there seems to be little correlation between the number of seasons with below average vegetation growth and the frequency of rural people in Crisis and Emergency. Looking at the analysis, it appears that these areas have experienced frequent below-average vegetation growth, while they were generally food secure; suggesting that other factors – in this case probably insecurity – have a more direct impact on food security.

### **Land Degradation and Vulnerability**

Land degradation can increase the impact of floods and droughts, especially in already vulnerable areas. When analysed in reference to shocks and food insecurity, this can be an entry point for resilience-building activities to recover and strengthen natural capital dependent livelihoods (e.g. Pastoralist and Agro-pastoralist).

When combining **Map 24: Number of seasons with below average vegetation growth in the past 7 years** with **Map 33: Severity of land degradation by land cover zone** we see the following patterns:

- Generally, agro-pastoral areas seem to be the most affected by land degradation, but are less affected by the frequency of poor growing seasons in the last seven years.

The Coastal Deeh livelihood zone is particularly affected by land degradation, and also experienced a high incidence of poor growing seasons in the last five to seven years. This also tends to agree with the food security patterns, which indicate that this livelihood zone is highly food insecure as a result of several consecutive drought seasons. Moreover, the patterns (land degradation and frequency of poor growing seasons) also match in Somaliland, particularly in Togdheer, Sool Plateau and Nugal Valley.

- Overall, food insecure areas with high levels of land degradation include parts of the Hawd livelihood in Odweine and Burao districts, as well as agro-pastoral and pastoral areas in Gedo and parts of Bakool. The degradation in Odweine and Burao is “biological degradation<sup>46</sup>” in grasslands to shrub lands, while in the south in Gedo it is “water degradation<sup>47</sup>”, and in Bakool it is “biological degradation”.
- Generally, the frequency patterns of below-average vegetation growth match the patterns of frequency of food insecurity. This refers particularly to the pastoral livelihoods who rely on mobility to access fodder and water for their livestock, of central Somalia, as well as the agro-pastoral areas of Hiran, Middle Shabelle, and parts of Lower Shabelle.
- Agro-pastoral areas in the south (Lower and Middle Shabelle, Gedo and parts of Bakool) also have matching patterns of high land degradation and frequent food insecurity.

### ***Additional Findings***

- In terms of nutrition, further analysis is required. However, as highlighted in the nutrition section, the factors affecting the nutritional status of children in Somalia are linked not only to food security, but also to a wide range of health-related and cultural factors, such as poor feeding practises or high morbidity. At the time of printing this report, WFP in partnership with Oxfam, Save the Children, Concern Worldwide and ACF is undertaking a Nutrition Causal Analysis in south and central Somalia (Hiran, Bakool, Bay, Banadir and Gedo regions) to investigate through a ‘multi-sectorial’ approach the contributing factors affecting nutritional status within a given community. The nutrition causal analysis first aims to establish the relative importance or the perceived weight of contribution, of the underlying ‘spheres’ or factors that influence the nutritional status; it also investigates the relationships between these factors providing guidance on activities to address the root causes of malnutrition.
- With regard to the impact of floods, as the evidence indicates, Somalia is generally not a very flood prone country; with flooding limited to river basis. However, for populations in the riverine areas (Hiran and Shabelle) they are more vulnerable due to the combination of flood proneness, poor land and irrigation management, deterioration and lack of investment of existing flood water management (embankments, slues gates, etc.), population density and underlying food insecurity.

46 Reduction of vegetative cover, loss of vegetation species and habitats, and decline of biomass (source- SWALIM).

47 Water degradation includes processes such as aridification, change in quality and quantity of surface water, and drop in ground water (source- SWALIM).



## 2. Livelihood Seasonality and Food Insecurity

An understanding of seasonality is critical for knowing when the periods of greatest risk are, how households and communities meet their food and non-food needs during different times of the year and how households cope with shocks during more difficult seasons. The development of seasonal calendars at local levels is a critical step in building this understanding, and identifying the main challenges households and communities face at different times of the

As indicated in Chapter Five, seasonal livelihood programming consultations were held in Somaliland's Burao district, covering pastoral, agro-pastoral and "Barlawe" (i.e. those pastoralists that have lost assets to such a critical level that they are not considered to have a viable pastoral livelihood) livelihoods, provide concrete examples on how this information can be used. While the situation in the Hawd of Togdheer is different from other parts of Somalia, many similarities will exist across the same livelihoods, which extend to the approaches and types of support required. Another example, included below are the consultative workshops on seasonal programming held in Bossaso and Iskushuban districts, in Puntland's Bari region.

The main differences across the three livelihoods discussed in the different district and community consultations are as follows:

- **Pastoralists:** There are two critical periods of difficulties: the two dry seasons: Jilaal and Hagaa-. The dry seasons present the greatest risks to households selling assets to meet basic needs, thus, programmes should be geared towards providing these basic needs and maintaining household asset ownership so they do not fall into deeper vulnerability. The productive period during the Gu can be used to maximise household investments for the coming year. The Deyr season can be used to support households to prepare for the coming difficult season (Jilaal). If these rainy periods follow particularly difficult dry seasons (i.e. after a shock or bad year), these programmes can be leveraged to help households recover. What creates the greatest difficulties for pastoralists is the occurrence of consecutive bad rainy seasons, as well as conflicts that disrupt their traditional migrating time/routes or force them to change their livelihoods.
- **Agro-pastoralists:** There is one critical period during the year - the Gu rainy season into the start of the Hagaa. This is the growing season before the harvest and is the period of greatest risk for asset loss/depletion that can compromise future household capacities. This then becomes a critical period to protect lives and livelihoods. For the rest of the year, programmes can be geared towards helping households invest (e.g. after the harvests in the Deyr), and to prepare during the Jilaal for the coming difficult Gu season, where up to 75 per cent of the production is obtained.
- **Pastoral Dropouts (referred to as *Barlawe* during the consultation):** They will face difficulties all year round, particularly if they have migrated to urban areas. Where they are still living within the pastoral livelihood system, difficulties become more acute in the dry seasons as other community members start facing their own hardships; in agro-pastoral areas, these difficulties will peak during the Gu and into the start of the Hagaa.

The outcomes of both consultations are included below. While the seasonal calendars are specific to livelihood zones in Burao, Odweine, Dollow, Bosasso and Iskushuban districts

many of the key aspects are similar in other pastoral or agro-pastoral livelihood zones. The first set of tables provides an overall summary of different priorities identified by the communities for pastoral and agro-pastoral livelihoods, the seasonal livelihood patterns. The second set of tables reflects the links between seasonal livelihood patterns and their implications in a bad year. A bad year has been defined as the failure of the Gu. If the subsequent Deyr fails, then the year is severe. If there is the failure of three rains in a row, then the year will be regarded as extremely severe and critical. A bad year is seen as an equalizer between pastoralists and agro-pastoralists, as crop production falls away and the household begins to rely primarily on their livestock holdings. In this regard, bad years are far more difficult and risky for agro-pastoralists, as they have lower livestock ownership. Conditions become increasingly difficult as the year progresses, becoming incrementally severe every time a rainy season fails.

Several of the elements related to the provision of basic social services and safety nets have been added, based on these consultations, but prepared after the workshop. The following table reflects how seasonality can also inform the provision of basic services such as nutrition, health and education, in order to complement the tables on relief and livelihoods interventions. A comparison of these tables with those in the full report from the consultations could be made to ascertain where this report has provided additional insight outside of the formal consultations.

## 2.1. Typical Year

### a) Burao and Odweyne: Programme Support Requirements in a Typical Year

The following table shows possible programmes for pastoralists and agro-pastoralists in a typical year. It is based on community consultations carried out in Burao and Odweyne districts of Somalia:

Typical Year Livelihoods & Relief Programmes	Gu - main rains			Hagaa - dry season			Deyr - short rains			Jilaal - long dry season		
	April	May	June	July	August	September	October	November	December	January	February	March
Pastoralists	Support HH's to make investments (or support HH Recovery if following a failed Deyr & severe Jilaal) Can be labour-based: (women & men) Transfer modality preferences: Cash (women & men)			Protecting livelihoods & safeguarding investments Can be labour-based: (women & men) Transfer modality preferences: Food (women) / Cash (men)			Strengthen HH's capacity to prepare for coming hardships (or support HH Recovery if following a failed Gu) Can be labour-based: (women & men) Transfer modality preferences: Cash (women & men)			Protecting lives & livelihoods & safeguarding development gains Can be labour-based: (women & men) Transfer modality preferences: Vouchers (women & men) / Cash (men)		
Agro-pastoralists	Protecting lives & livelihoods & safeguarding development gains Can be labour-based: (women & men) Transfer modality preferences: Vouchers (women & men) / Cash (men) <b>NB: Difficult period for women in June/July</b> (labour-based projects can be an issue for women)						Support HH's to make investments (or support HH Recovery if following a failed Gu) Can be labour-based: (women & men) Transfer modality preferences: Cash (women & men)			Strengthen HH's capacity to prepare for coming hardships Can be labour-based: (women & men) Transfer modality preferences: Vouchers & Cash (women & men)		Protecting lives & livelihoods & safeguarding development gains

## b) Bossaso and Iskushuban: Programme Support Requirements in a Typical Year

The following table shows possible programmes for pastoralists, IDPs, peri-urban communities and agro-pastoralists in a typical year. It is based on community consultations carried out in Bosasso and Iskushuban districts of Somalia.

Supporting Programmes	Gu - main rains			Hagaa - dry season			Deyr rains			Jilaal - dry season		
	April	May	June	July	August	September	October	November	December	January	February	March
Pastoralists	Supporting HHs to make investments (or support HH Recovery if following a failed Deyr & severe Jilaal)			Protecting livelihoods & safeguarding investments			Strengthening HH's capacity to prepare for coming hardships (or support HH Recovery if following a failed Gu)			Protecting lives & livelihoods & safeguarding development gains		
IDPs/Peri-urban	Strengthening HH's capacity to prepare for coming hardships or for making investments			Protecting lives & livelihoods & safeguarding development gains			Strengthening HH's capacity to prepare for coming hardships or for making investments					
Agro-pastoralists	Support HHs to make investments (or support HH Recovery if following a failed Deyr & severe Jilaal)			Protecting livelihoods & safeguarding investments			Strengthening HH's capacity to prepare for coming hardships (or support HH Recovery if following a failed Gu)			Protecting lives & livelihoods & safeguarding development gains		
Coastal	Supporting HHs to make investments to prepare for difficult Hagaa (or support HH Recovery if following a failed Deyr & severe Jilaal with limited income from fishing activities)			Protecting livelihoods & safeguarding development gains			Strengthening HH's capacity to prepare for coming hardships and make investments (or support HH Recovery if following a difficult Hagaa)			Strengthening HH's capacity to prepare for coming hardships through investments (or support HH Recovery if fishing activities in the Deyr have only provided limited income)		

## 2.2. Bad Year

### a) Burao and Odweyne: Programme Support Requirements in a Bad Year

In the event of a bad year, for instance due to a failure of rains or any other shock, programmes would need to include more relief-oriented components, while still emphasizing livelihood support interventions. As the table below for Burao and Odweyne districts indicates:

Bad Year Livelihoods & Relief Programmes	Gu failed - very sporadic and less rains in qty in Apr/May						Deyr failed - very sporadic rains , much less rains in qty					
	Jilaal longer		Hagaa longer						Jilaal more severe			
Months	April	May	June	July	August	September	October	November	December	January	February	March
Pastoralists & Agro-pastoralists (programme rationales and timing are the same for both groups)	Protecting lives & livelihoods Labour-based: (women & men) Transfer modality preferences: Vouchers (women) / Cash (men)			Protecting lives & livelihoods Labour-based: (women & men) Transfer modality preferences: Vouchers (women) / Cash (men)			Protecting lives & livelihoods Labour-based: (women & men) Transfer modality preferences: Pastoralists: Cash (women & men) Agro-pastoralists: Vouchers (women) / Cash (women & men)			Protecting lives & livelihoods Relief: (women) Labour-based: (men) Transfer modality preferences: Vouchers (women & men) / Cash (men)		

### b) Bosasso and Iskushuban: Programme Support Requirements in a Bad Year

In the event of a bad year, for instance due to a failure of rains or any other shock, programmes would need to include more relief-oriented components, while still emphasizing livelihood support interventions. As the table below for Bosasso and Iskushuban districts indicates:

Supporting Programmes	Failed Gu			Failed Deyr			Jilaal longer					
	April	May	June	July	August	September	October	November	December	January	February	March
Pastoralists	Protecting lives & livelihoods & safeguarding development gains			Protecting lives & livelihoods & safeguarding development gains			Protecting lives & livelihoods & safeguarding development gains			Protecting lives & livelihoods & safeguarding investments Safety nets. Possibly relief.		
IDPs/peri-urban	Protecting livelihoods & safeguarding investments		Protecting lives & livelihoods & safeguarding investments Safety nets. Possibly relief.						Protecting livelihoods & safeguarding investments			
Agro-pastoralists	Protecting lives & livelihoods & safeguarding development gains			Protecting lives & livelihoods & safeguarding development gains			Protecting lives & livelihoods & safeguarding development gains			Protecting lives & livelihoods & safeguarding investments Safety nets. Possibly relief.		
Coastal	Protecting lives & livelihoods & safeguarding development gains			Protecting lives & livelihoods & safeguarding investments Safety nets. Possibly relief.			Supporting HH Recovery if following a failed Gu and difficult Jilaal period			Protecting livelihoods & safeguarding investments		

### 2.3. Provision of Basic Social Services

With regard to social services, the following intervention priorities were identified as an outcome of the community consultation sessions conducted in Burao:

Basic Service Programmes	Gu - main rains			Hagaa - dry season			Deyr - short rains			Jilaal - long dry season		
	April	May	June	July	August	September	October	November	December	January	February	March
Basic Service Programmes	High malnutrition spike cont. - increase preventative and treatment nutrition programme outreach/coverage.	Key Migration period for pastoralists - mobile service provision as well as services at key transit points. Increased incentives needed for school attendance (pastoralists).			School Break	Delivery of school supplies and in-service/refreshers trainings for teachers	Migration period for pastoralists - mobile service provision as well as services at key transit points. Increased incentives needed for school attendance (pastoralists).				Acute malnutrition spikes - increase preventative and treatment nutrition programme outreach, coverage. Preventative programmes to begin prior to the peak.	
	Water scarcity cont. - Possible need for water trucking in bad years.		Prioritize school incentives for agro-pastoralists to offset demands for agriculture related work		Mild seasonal acute malnutrition spikes (severity depends on Gu) - increase preventative and treatment nutrition programme outreach/coverage. Preventative programmes to begin prior to the peak.		Community DRP training/planning sessions for pastoralists	Prioritize school incentives for agro-pastoralists to offset demands for agriculture related work			Water scarcity - high workload (girls) and expenditure (HH) - Prioritize water vouchers, Possible need for water trucking in bad years.	
All Livelihoods	Adult education/skills trainings for pastoralists (least busy season)		Adult education/skills trainings for pastoralists (least busy season)		Adult education/skills trainings for urban poor/IDPs (least busy season) and in August for agro-pastoralists		Adult education/skills trainings for pastoralists (least busy season)				Adult education/skills trainings for agro-pastoralists (least busy season)	
		Morbidity increases (AWD mid April to mid June, Malaria mid-June to July) - Increase efforts focused on behaviour change communication. Possible need for mosquito net and other NFI distributions.			Post Gu Harvest Period, Land Preparation and Planting for Deyr rains with high HH labour demands - efforts to increase utilization of services and/or better school attendance following failed harvests (agro-pastoralists).		AWD and other disease outbreaks - Increase efforts focused on behaviour change communication	HH labour demands for tending to fields and harvest (Dec/Jan) - efforts to increase utilization of services and/or better outreach required.			Training of pastoralist elders on conflict resolution and/or rangeland management	Mosquito Net distribution and stocking of drugs before rains. Increased incentives for school attendance following failed harvests (agro-pastoralists).



The summary of the broad programming rationales based on people's basic and longer-term needs, combined with their livelihood stresses and opportunities (i.e. the 'why' support could be needed) at different times of the year are presented above. The consultations in Burao and Bossaso for the districts of Burao, Oweine, Bossaso and Iskushuban also identified a number of activities which were both on-going and considered gaps. Placing the identified activities together with these broad programming rationales then indicates which activities (the 'what') could be conducted at which time of the year (the 'when') for which livelihood and whom within them (the 'who', in terms of livelihoods and men/women).

By doing this, it becomes clearer how the timing of specific programme activities can be geared and maximised to support people's own livelihood efforts – for example, services and support which maintain / improve health and nutrition in one season could result in household savings, which could then be invested in assets in the following one where conditions for investments are better, etc.; or consider the impacts that by bringing water closer to the homestead through well-timed water harvesting techniques will impact in a livelihood – for example, by reducing seasonal hardships for women during the Jilaal who spend extended time collecting water, which in turn affects child caring practises and nutrition.

#### **2.4. FAO/WFP/UNICEF Joint Programme for Enhancing Resilience**

WFP together with FAO and UNICEF launched a joint strategy for enhancing resilience in Somalia through harmonised activities aligned to the three complementary core building blocks to promote and strengthen community resilience. These are 1. Strengthen productive sector to increase household income by diversifying livelihoods strategies, intensifying production at household level and by enhancing the access to the market and to market information to extend household frontier of possibilities; 2. Improve basic social services to strengthen vulnerable household human capital by creating systems able to assess communities and capture the information needed to enhance the demand and access to care practices and capacity building opportunities; and 3. Establish predictable safety nets to address the most vulnerable people's basic needs through predictable and sustainable transfer of resources (food or cash) for the destitute and seasonally at risk population.

Since the development of the joint strategy for enhancing the resilience in Somalia, the three agencies have jointly implemented the resilience building approach in five districts (Dolow, Iskushuban, Bossaso, Burao and Odweyne) in Somalia. WFP has led the seasonal livelihood programming conducted in Puntland and Somaliland. Community action plans have been developed applying CBPP tools. A joint baseline survey was conducted in April 2013 to establish baselines in piloting districts. Based on feedback from community action plans, the development of a joint work plan and implementation of resilience activities are ongoing. A midline is underway to understand the process and programmatic impact of the joint resilience pilot.

Currently the three agencies are implementing a wide range of activities for farmer, pastoral and IDP communities (livelihoods strengthening and diversification, creation/rehabilitation of community assets water catchments, feeder road rehabilitation) as well as safety nets e.g. school meals programme, supplementary feeding programme, integrated management of acute malnutrition using in-kind, cash and vouchers.

### 3. Additional Analysis

While this analysis provides a national overview of food security trends and explores potential underlying causes of food and nutrition insecurity in Somalia, it is not exhaustive. The following are recommendations for further analysis to complement the seasonal trend analysis undertaken in this document.

- **Nutrition:** The linkages between nutrition and food security remains an analytical challenge, which requires further study. Particularly in southern Somalia, the impact of food insecurity on the nutrition situation needs to be clarified further. However, in this context, data availability remains a major challenge. As part of WFP Somalia's approach to engaging in strategic partnerships, at the time of printing, a joint Nutrition Causal Analysis is being undertaken to understand the main causes of malnutrition in order to address them subsequently, with a hope to reduce malnutrition prevalence. A causal analysis is investigating the contributing factors affecting nutritional status within a given community. The causal analysis first aims to establish the relative importance or the perceived weight of contribution, of the underlying 'spheres' or factors that influence nutritional status; second, it also investigates the relationships between these factors. This thus presents a good opportunity to tailor WFP's prevention programme in addressing the root causes of malnutrition. The Nutrition Causal Analysis (NCA), is focused in the areas of operation in south and central Somalia (Hiran, Bakool, Bay, Banadir and Gedo regions) where seasonal GAM rates, irrespective of the level of humanitarian access or response have remained above the Emergency nutrition threshold.

# Bibliography

The following consists of a list of interesting reading materials on food and nutrition insecurity in Somalia, as well as background documents to this report. It is by no means exhaustive.

Report on UNICEF's Water Interventions Mapping *Project Technical Report (2005-2009) No. W-19-SWALIM/UNICEF*

Potential of Rainwater harvesting in Somalia - *A planning, Design, Implementation and Monitoring Framework Technical Report 2007 No. W-09-October SWALIM*

Water Resources of Somalia *Project Report 2007 No. W-11-October -SWALIM*

*Food Security and Vulnerability Assessment -Somaliland 2008 October- WFP Somalia*

National Micronutrient and Anthropometric Nutrition Survey Somalia 2009-FSNAU

Water Sources Inventory for Northern Somalia *Technical Report No. January 2009 w-12 -SWALIM*

Analysis of the General Climatic Conditions of Somalia in Support of Drought Monitoring Project Manual 2009 No. W-14 June -SWALIM

Climate of Somalia *Technical report, 2007 No. W-01 Oct. -SWALIM*

Post Deyr Analysis Technical Series report 2006 / 07 No. V. 12 March 7, -FSNAU

Post Gu Analysis Technical Series report 2007 No. V. 13 September 21, -FSNAU

Post Deyr Analysis Technical Series report 2007 / 08 No. V. 14 March 7, -FSNAU

Post Gu Analysis Technical Series report 2008 No. V. 15 October 15, -FSNAU

Post Deyr Analysis Technical Series report 2009 No. VI. 24 September 29, -FSNAU

Post Gu Analysis Technical Series report 2009 / 10 No. VI. 31 March 3, -FSNAU

Post Deyr Analysis Technical Series report 2010 No. VI. 32 September 17, -FSNAU

Post Gu Analysis Technical Series report 2010 No. VI. 33 September 27, -FSNAU

Post Deyr Analysis Technical Series report 2010 / 11 VI. 36 March 4, -FSNAU

Post Gu Analysis Technical Series report 2011 No. VI. 42 October 28, -FSNAU

Post Deyr Analysis Technical Series report 2011 / 12 No. VI. 44 March 2, -FSNAU

Post Gu Analysis Technical Series report 2012 No. VI. 48 October 18, -FSNAU

Post Deyr Analysis Technical Series report 2012 / 13 No. VI 50 March 5, -FSNAU

Post Gu Analysis Technical Series report 2013 No. VII. 51 October 18, -FSNAU

Post Deyr Analysis Technical Series report 2013 /4 No. VII. 54 March 31, -FSNAU

Post Gu Analysis Technical Series report 2014 No. VII 56 October 10, -FSNAU

*The Population Estimation Survey of Somalia, 2013, December, -UNFPA*

*Food Security and Vulnerability Assessment -Central Somalia 2011 January- WFP Somalia*

Post Deyr Analysis Nutrition Analysis Technical Series report 2012 No. VI 45 March 9

<http://www.fsnau.org>

<http://www.faosomalia.org>





## Annex 2: Affected Populations by Season and Livelihood Type

### 2.1: Somalia overall

	Gu 2007	Deyr 2007/2008	Gu 2008	Deyr 2008/2009	Gu 2009	Deyr 2009/2010	Gu 2010	Deyr 2010/2011	Gu 2011	Deyr 2011/2012	Gu 2012	Deyr 2012/2013	Gu 2013	Deyr 2013/2014	Gu 2014	7- yrs average
Rural	Emergency	296,000	550,000	647,000	675,000	785,000	288,000	348,000	1,450,000	320,000	140,000	107,000	95,000	27,000	32,000	420,000
	Crisis	488,000	315,000	752,000	533,000	661,000	492,000	639,000	607,000	670,000	695,000	126,000	60,000	177,000	388,000	488,000
	Stress									715,000	1,070,000	1,346,000	1,290,000	1,306,000	1,433,000	1,194,000
	Total	784,000	865,000	1,399,000	1,208,000	1,446,000	780,000	987,000	2,057,000	2,057,000	1,705,000	1,905,000	1,579,000	1,445,000	1,510,000	1,853,000
Urban	Emergency			140,000	100,000	134,000	80,000	176,000	365,000	150,000	25,000	0	0	10,000	40,000	104,000
	Crisis			520,000	525,000	501,000	214,000	281,000	218,000	400,000	425,000	152,000	45,000	389,000	726,000	372,000
	Stress									680,000	730,000	341,000	985,000	1,052,000	715,000	751,000
	Total			660,000	625,000	635,000	294,000	457,000	583,000	547,000	1,180,000	152,000	1,030,000	399,000	1,481,000	1,227,000
Total	Emergency	296,000	550,000	787,000	775,000	919,000	368,000	524,000	1,815,000	470,000	165,000	107,000	95,000	37,000	72,000	524,000
	Crisis	488,000	315,000	1,272,000	1,058,000	1,162,000	706,000	920,000	825,000	1,070,000	1,120,000	278,000	105,000	566,000	1,114,000	860,000
	Stress									1,295,000	1,800,000	1,687,000	2,275,000	2,355,000	2,148,000	1,945,000
	Total	784,000	865,000	2,059,000	1,833,000	2,081,000	1,074,000	1,444,000	2,640,000	2,835,000	3,085,000	2,072,000	2,475,000	2,958,000	3,334,000	3,329,000

### 2.2: WFP accessible areas

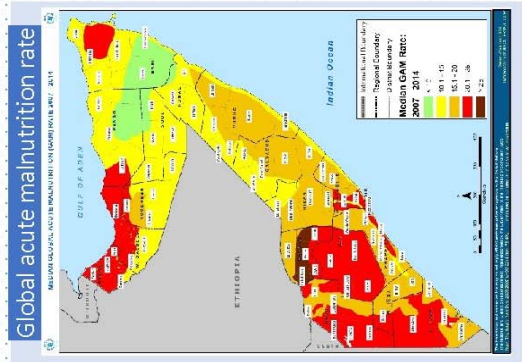
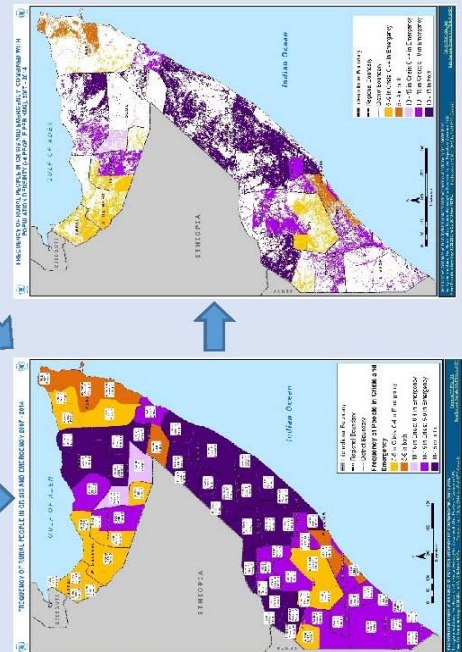
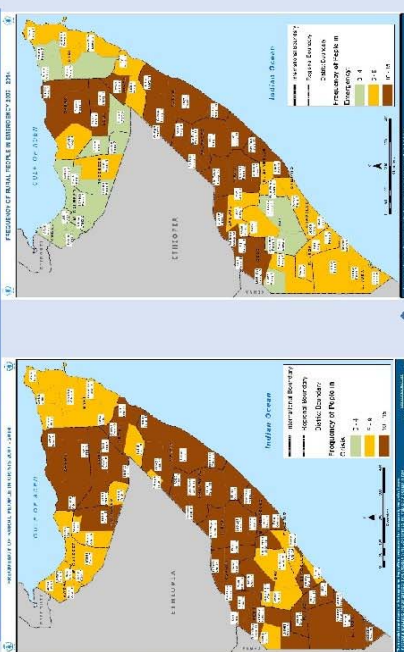
	Gu 2007	Deyr 2007/2008	Gu 2008	Deyr 2008/2009	Gu 2009	Deyr 2009/2010	Gu 2010	Deyr 2010/2011	Gu 2011	Deyr 2011/2012	Gu 2012	Deyr 2012/2013	Gu 2013	Deyr 2013/2014	Gu 2014	7- yrs average
Rural	Emergency	15,000	111,000	231,000	277,000	390,000	171,000	183,000	297,000	107,000	78,000	51,000	45,000	15,000	15,000	157,000
	Crisis	77,000	139,000	304,000	224,000	411,000	283,000	317,000	350,000	231,000	186,000	57,000	40,000	87,000	201,000	222,000
	Stress									279,000	403,000	571,000	559,000	626,000	866,000	551,000
	Total	92,000	250,000	535,000	501,000	801,000	454,000	500,000	647,000	647,000	617,000	667,000	679,000	644,000	728,000	1,082,000
Urban	Emergency			71,000	85,000	126,000	31,000	48,000	83,000	65,000	48,000	0	0	0	14,000	53,000
	Crisis			266,000	271,000	330,000	156,000	156,000	157,000	210,000	243,000	74,000	37,000	14,000	73,000	175,000
	Stress									608,000	607,000	162,000	575,000	636,000	605,000	533,000
	Total			331,000	350,000	449,000	180,000	192,000	224,000	268,000	291,000	74,000	37,000	14,000	87,000	761,000
Total	Emergency	15,000	219,000	302,000	362,000	516,000	202,000	231,000	380,000	172,000	126,000	51,000	45,000	15,000	29,000	210,000
	Crisis	77,000	389,000	570,000	495,000	741,000	439,000	473,000	507,000	441,000	430,000	131,000	77,000	101,000	273,000	397,000
	Stress									887,000	1,010,000	733,000	1,133,000	1,262,000	1,471,000	1,084,000
	Total	92,000	608,000	872,000	857,000	1,257,000	641,000	704,000	887,000	1,500,000	1,566,000	915,000	1,255,000	1,378,000	1,773,000	1,691,000

N.B.: The figures for the Gu 2007 and Deyr 2007/08 were excluded from the calculation of the peaks, as urban populations were not assessed specifically in these two assessments. IDP caseload which is additional 800,000 people is not included (see also FSNAU technical Series for more details on this subject). Additionally, 490,000 rural people who were classified in Famine in Gu 2011 are not included.

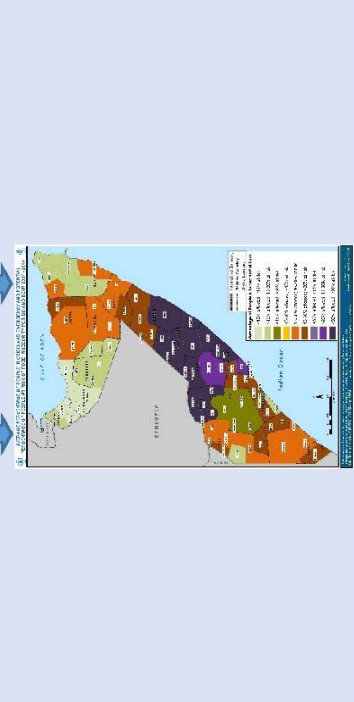
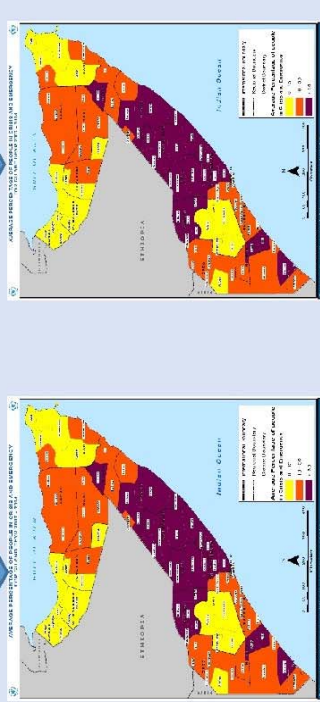
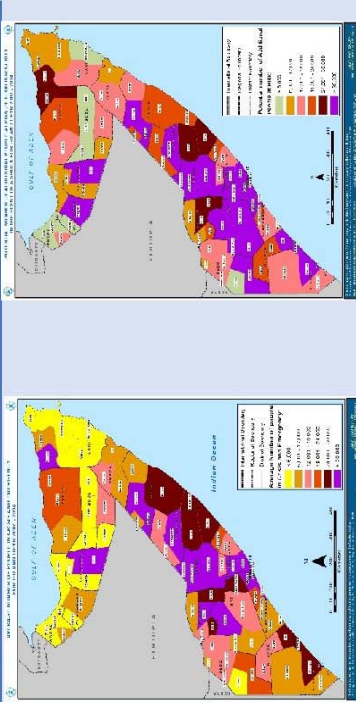
# Annex 3: Map Flowchart

## Food Security & Nutrition

Frequency of humanitarian crisis & emergency (2007 – 2014)

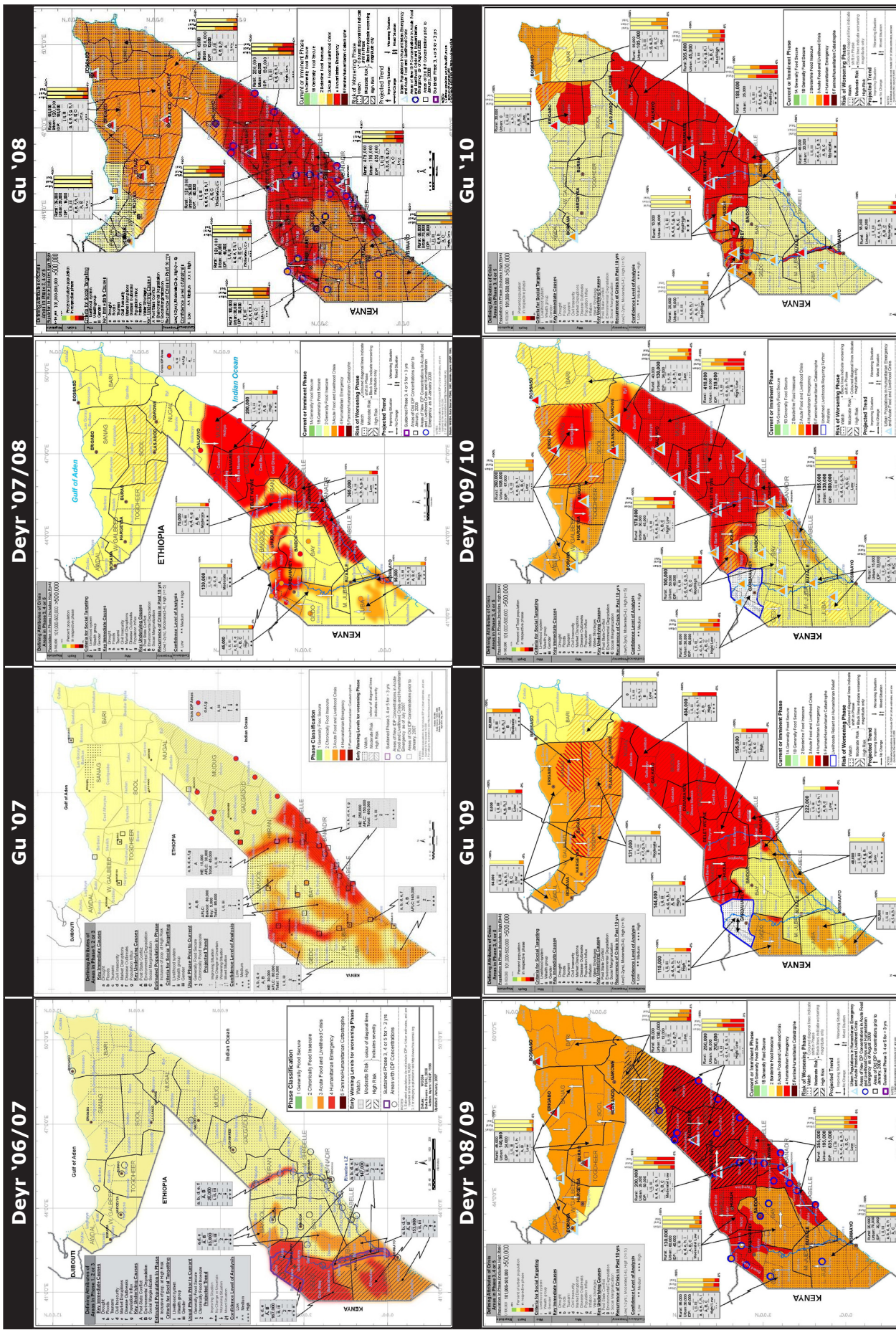


People at risk & in humanitarian crisis and emergency (2007 – 2014)

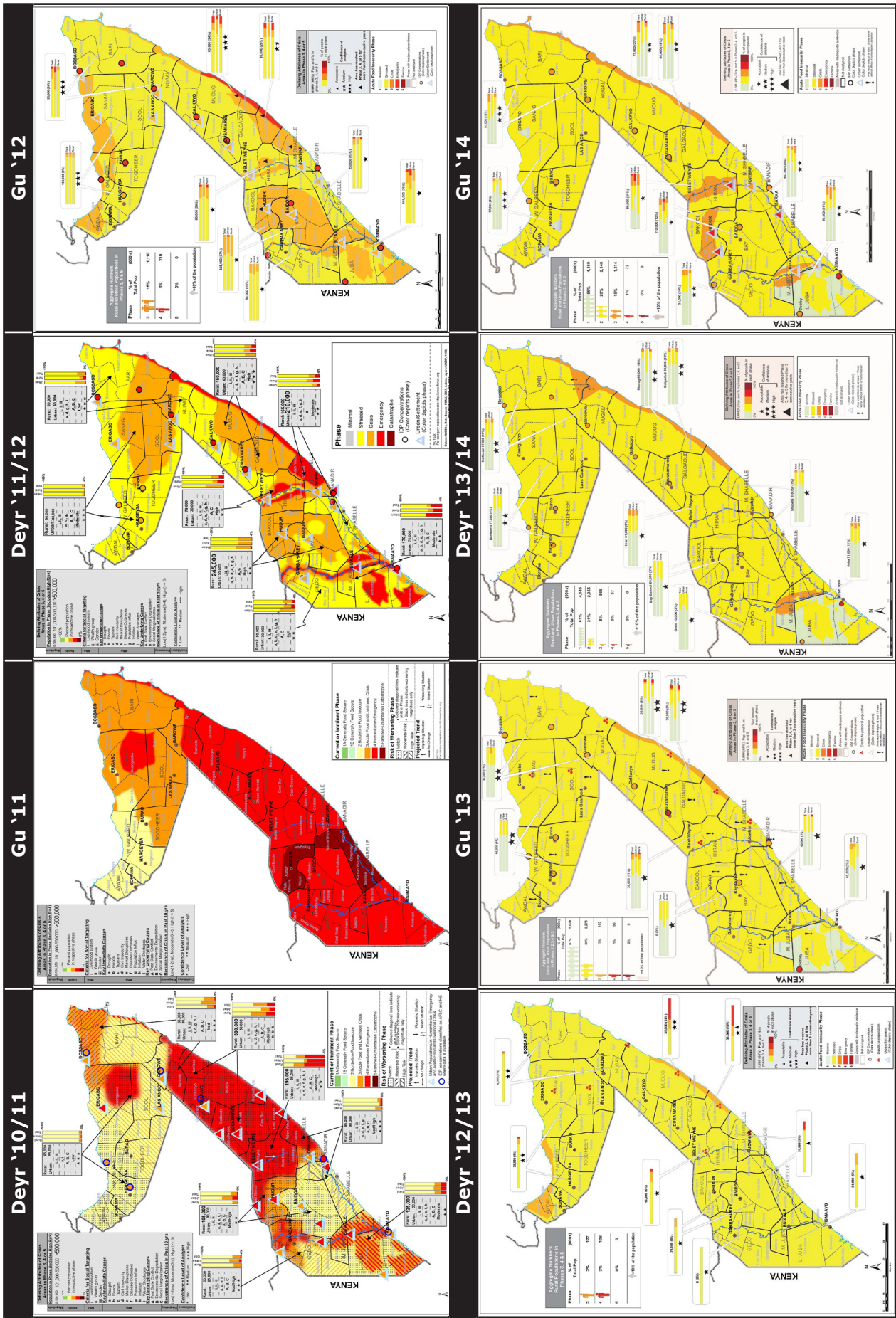




# Annex 4: Progression of the Food Security Situation, 2007-2014







Note: For higher resolution versions of the maps above, please visit the FSNAU website (<http://www.fsnau.org/ipc-map>).





The following technical partners contributed critical material for this analysis:



