



Trend Analysis of Food and Nutrition Insecurity in Somalia 2007-2012

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Somalia: Trend Analysis of Food and Nutrition Insecurity (2007-2012)

Prepared by: WFP Somalia VAM Section (Job Aminga, Federico Doehnert, Joshua Mesa, Hersi Mohamud and Simon Renk), WFP Somalia Nutrition Section (Marc Prost, 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)

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World Food Programme Somalia
PO Box 64902
Nairobi
Kenya

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Introduction

1. Background

To respond to the worsening food security and nutrition situation, as well as to the deteriorating security environment, WFP Somalia 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. In the logic of this long-term approach to a focus on a sustainable improvement of food security and nutrition in Somalia, the WFP Country Office decided in early 2012 to replace the existing EMOP with PRRO 200443 from 2013.

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 on the country are the seasonal assessments carried out by the

Food Security and Nutrition Analysis Unit (FSNAU)¹ of the Food and Agriculture Organisation of the UN (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, since then, 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, the 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.² Although the element of chronic food security analysis was introduced in 2011 as part of the shift

| Phase Name and Description | Phase 1 Minimal | Phase 2 Stressed | Phase 3 Crisis | Phase 4 Emergency | Phase 5 Famine <i>(evidence for all three criteria of food consumption, wasting, and CDR is required to classify Famine)</i> |
|--------------------------------------|--|---|---|--|---|
| 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 | Cross-Cutting Objectives: (1) mitigate immediate outcomes, (2) support livelihoods, (3) address underlying causes and chronic food insecurity if it exists, and (4) monitoring | | | | |
| | Priority: Build Resilience, Disaster Risk Reduction | Priority: Disaster Risk Reduction, Protect Livelihoods | Priority: Protect Livelihoods, prevent malnutrition, and prevent loss of life | Priority: Save Lives & Livelihoods | Priority: Prevent widespread death and total collapse of livelihoods |

Figure 1: IPC Analytical Framework

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, which is its limitation with regard to assessing the underlying causes of food insecurity in Somalia.³

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 the 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 – all contribute to identifying the types of appropriate programmes that may be required and tailored to local conditions. In this context the work and past land degradation and climate analysis done by the SWALIM team has to be underlined. In addition to that the livelihood analysis by FEWS NET also needs to be underscored. Without such data this report would not have been feasible.

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 the understanding of the food security and nutrition context in Somalia, and to inform programming and targeting. 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;
- The potential impact of civil insecurity on food security;
- Major population displacements over the past years (to be conducted).

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): The figures of affected populations from the seasonal assessments of the last 5 years (2007-2012);
- 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);
- Administrative Boundaries: Somalia Country Office;
- FEWS NET seasonal calendar;
- LANDSCAN 2008: Population density raster;
- FSNAU data on nutrition from the seasonal assessments and any other nutrition surveys;
- FSNAU and WFP market price data, as well as import/export data collected by WFP;
- WFP Food Security Assessments: Information on the general Food Security situation and the 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-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 5 years, from 2007 to 2012. This 5-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 5-year average, in order to avoid strain on the overall results caused by the impact of last year's famine crisis.

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 as they represent the majority (>60%) of the overall population.

3. Strengths and Limitations

The following information synthesis was pulled together by Programme, VAM HQ and VAM Somalia, and 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 2012 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, that it be incorporated and this trend document is kept updated for future reference.

Finally, one major limitation needs to be pointed out, which affects the results of this analysis, but also represents a general challenge for food security analyses in Somalia. This limitation refers to the reliability of the population data on the country, which urgently needs to be revised. Currently, WFP and other humanitarian agencies are using the UNDP population figures of 2005, which might not reflect recent large-scale population displacements and thus be outdated.

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. Broadly:

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 even 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 5 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 to slipping into food insecurity in the event of a major shock.

- *What could be a core group of food insecure people even 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 five-year average of affected populations amounts to approximately 1.7 million people, including 1.2 million rural and 540,000 urban populations. Of these, around 1.2 million people represent a core group, defined through the two lowest numbers of affected populations over the last five 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 is of around 700,000 people.

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

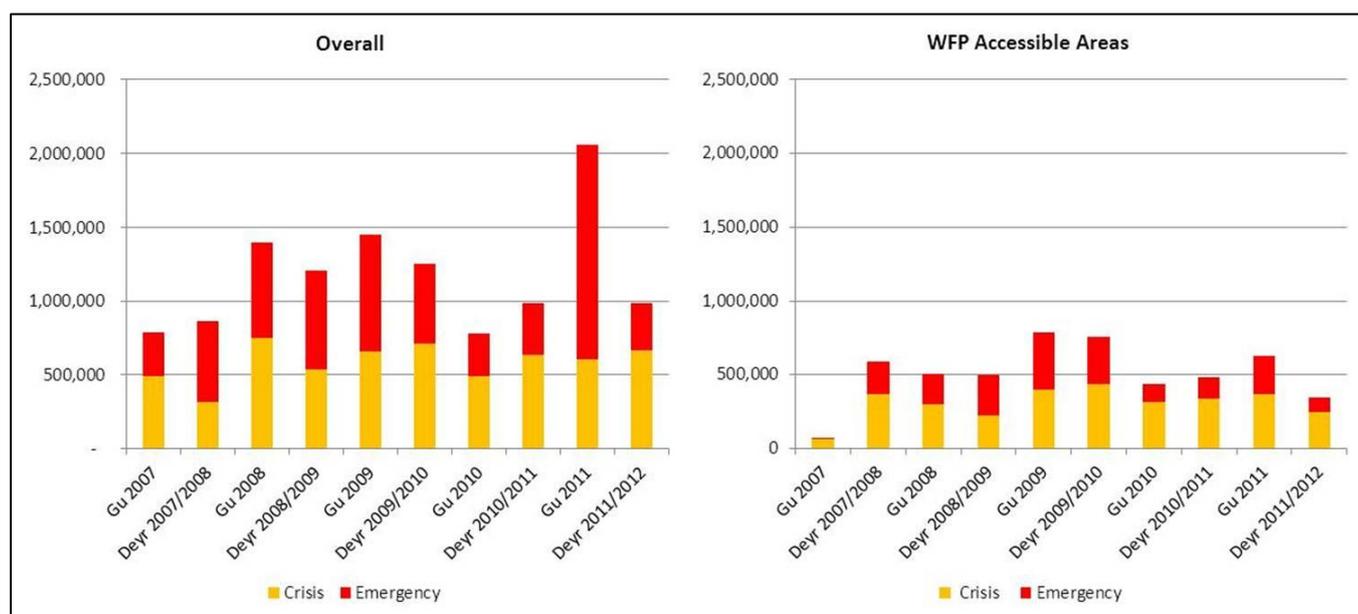


Figure 2: Rural populations in Crisis and Emergency, 2007-2012

Plotting these out, it is apparent that people have faced two major shocks in the last five 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 areas⁴ the average and emergency peaks are around 750,000 and 1.2 million people respectively thus having a difference of 450,000 people.⁵

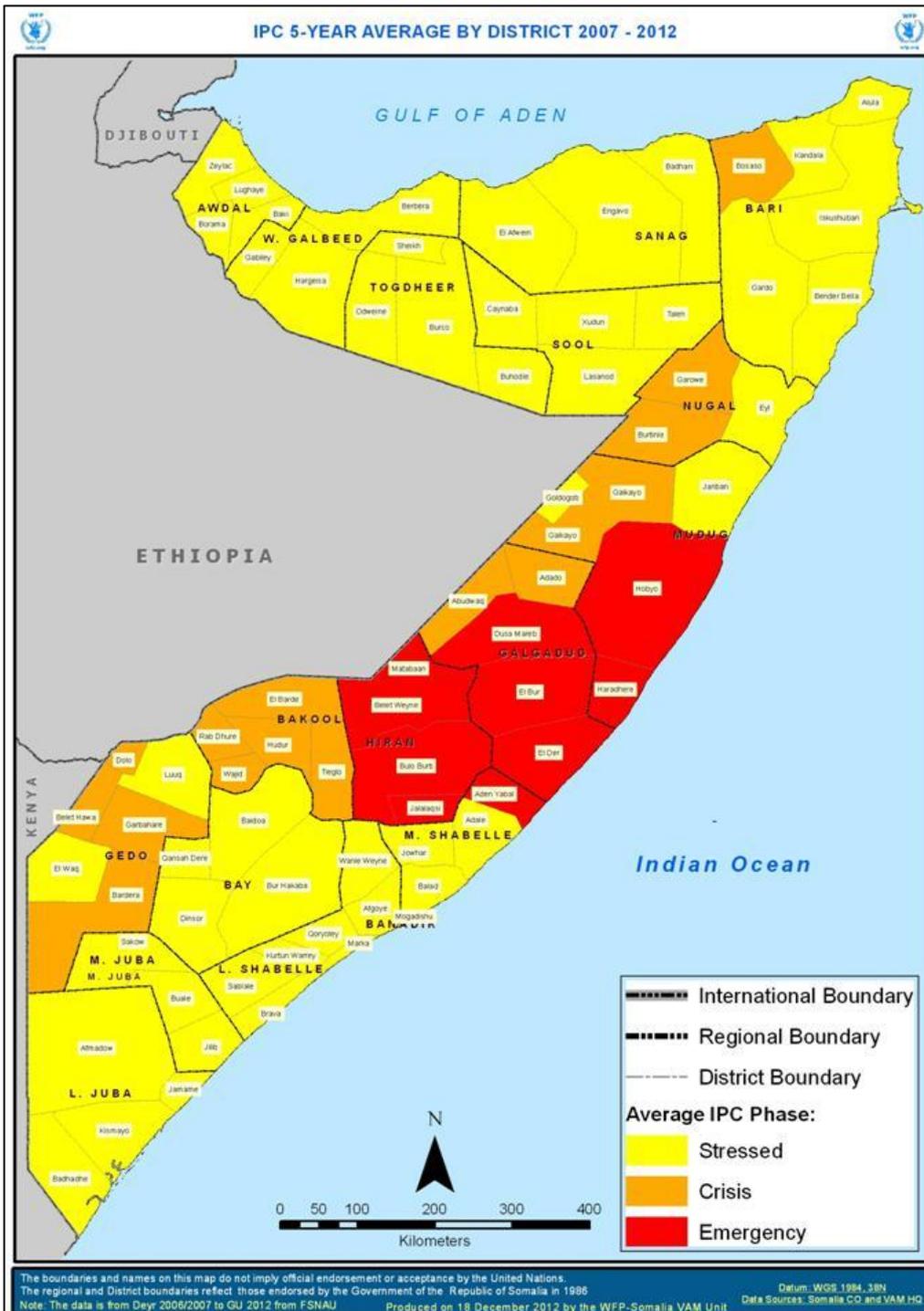
⁴ The accessible areas include northern Somalia (Somaliland and Puntland), parts of central Somalia, Mogadishu, as well as some areas on the Kenyan-Somali and Ethiopian-Somali borders. Areas under the control of al-Shabaab have not been accessible since the ban imposed by the insurgents on WFP in January 2010.

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 – 5-year average



Process:
The average food security situation over the last 5 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:
9 districts can be identified which, over the last 5 years, had over 20% of their population classified in Emergency. These are located in Hiran, Galgaduud, Mudug and Middle Shabelle regions of central Somalia. Another 15 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, parts of the south and Bossaso district in the northeast are, on average, the most food insecure areas of the country.

Map 1: IPC 5-year average by district

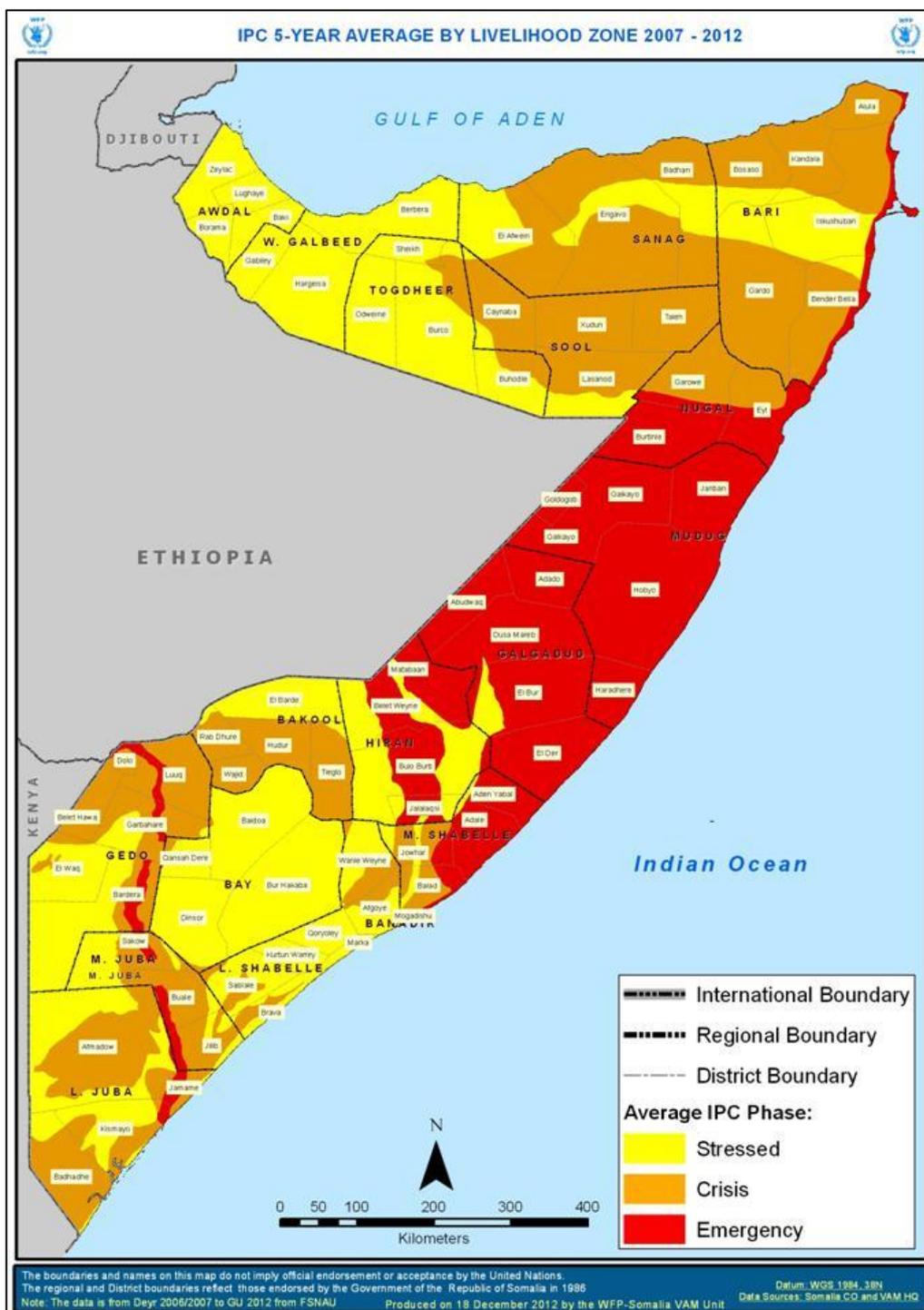
Process:
 The average food security situation over the last 5 years is mapped by livelihood zone based on the IPC 2.0 methodology, to identify which areas are most affected by high averages of food insecure populations. In order for a district to be classified in a specific phase, at least 20 per cent 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).



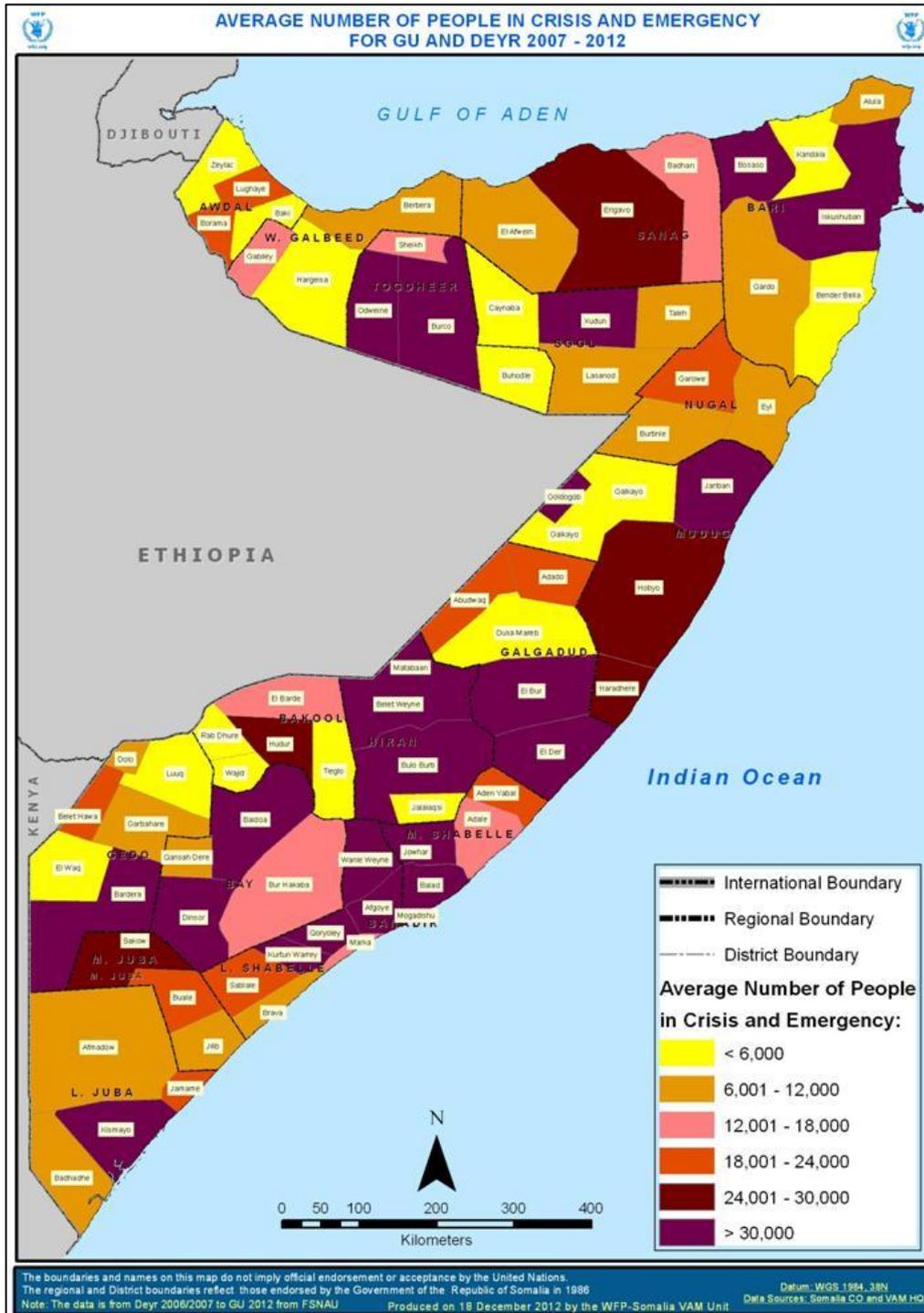
Action/Conclusion:
 While no clear pattern can be identified, this map provides a different picture than map 1. Particularly, it highlights how the riverine communities along the Juba river and in Hiran are highly food insecure, which was not highlighted in the map by district. On the other hand, agro-pastoralists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



Map 2: IPC 5-year average by LHZ

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 ten 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 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 5 years is combined and the average number by district calculated.

Analysis:
There are 22 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.

Understanding the proportion that food insecure people represent in an area is important. 10,000 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 5 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 3 out of 20 people are or could become food insecure; 16%-30% implies 2 to 3 out of 5 people, whilst >30% is 1 or more out of every 3 people.

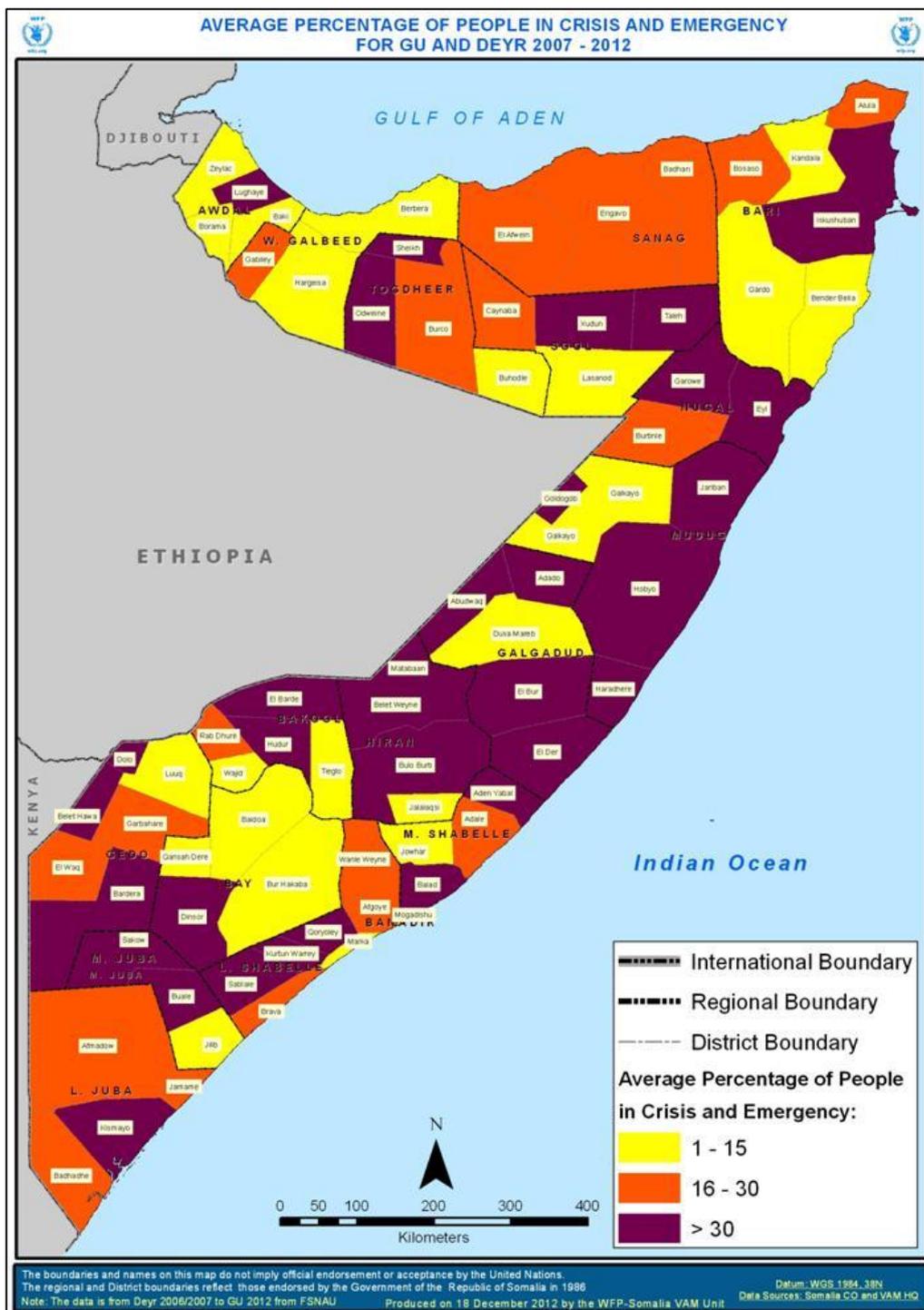
Process:
 The average number of people in Crisis and Emergency over the past 5 years is expressed in percentage out of the total population.



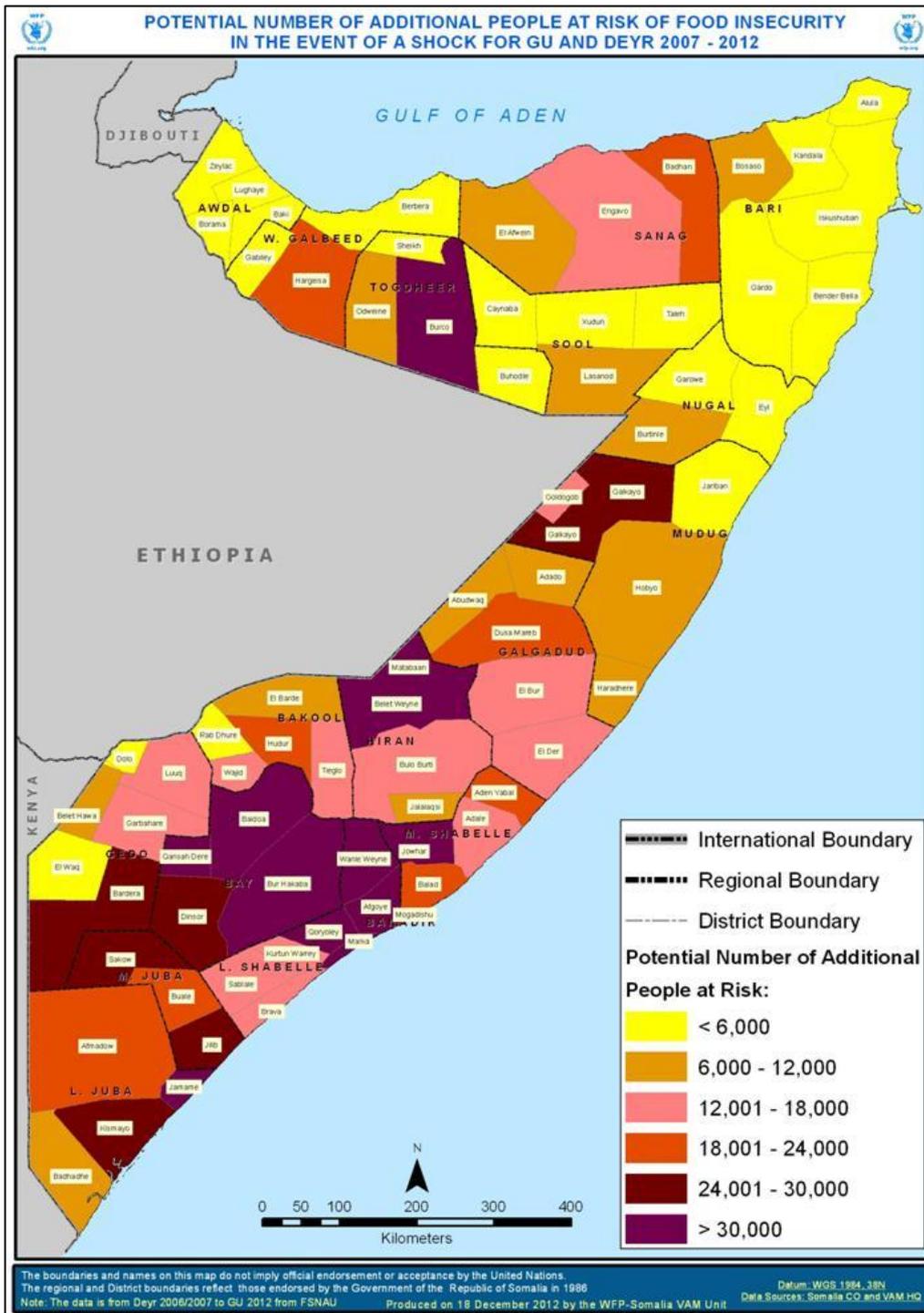
Analysis:
 The majority of districts with a high proportion of food insecure populations are located in central Somalia and in Bakool, Gedo, Lower Shabelle and the Juba regions of southern Somalia. Moreover, some parts of northern Somalia also have high proportions of food insecure populations, namely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



Action/Conclusion:
 The proportion of the population affected is important as it informs 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 4: Average percentage of people in Crisis and Emergency

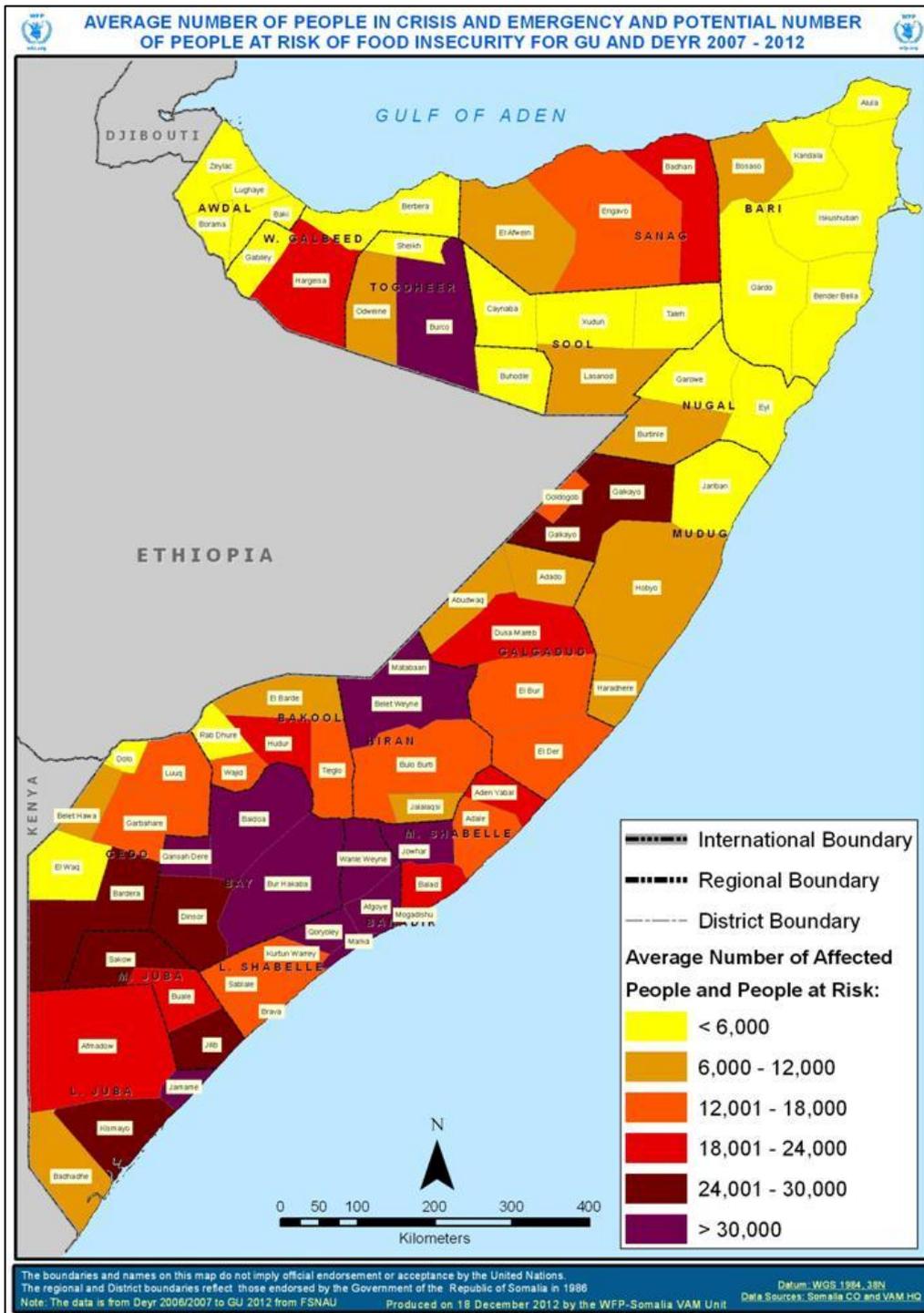


Process:
This map shows the additional number of people that are likely to fall into food insecurity in the event of a shock. This was calculated by deducting the number of persistently food insecure people (cf. map 3) from the average of the two highest peak of populations in Crisis and Emergency.

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 5: Potential number of additional people at risk of food insecurity in the event of a 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, Bander Beila). Most of the southern and central parts of the country have high average figures of affected populations and populations at risk.

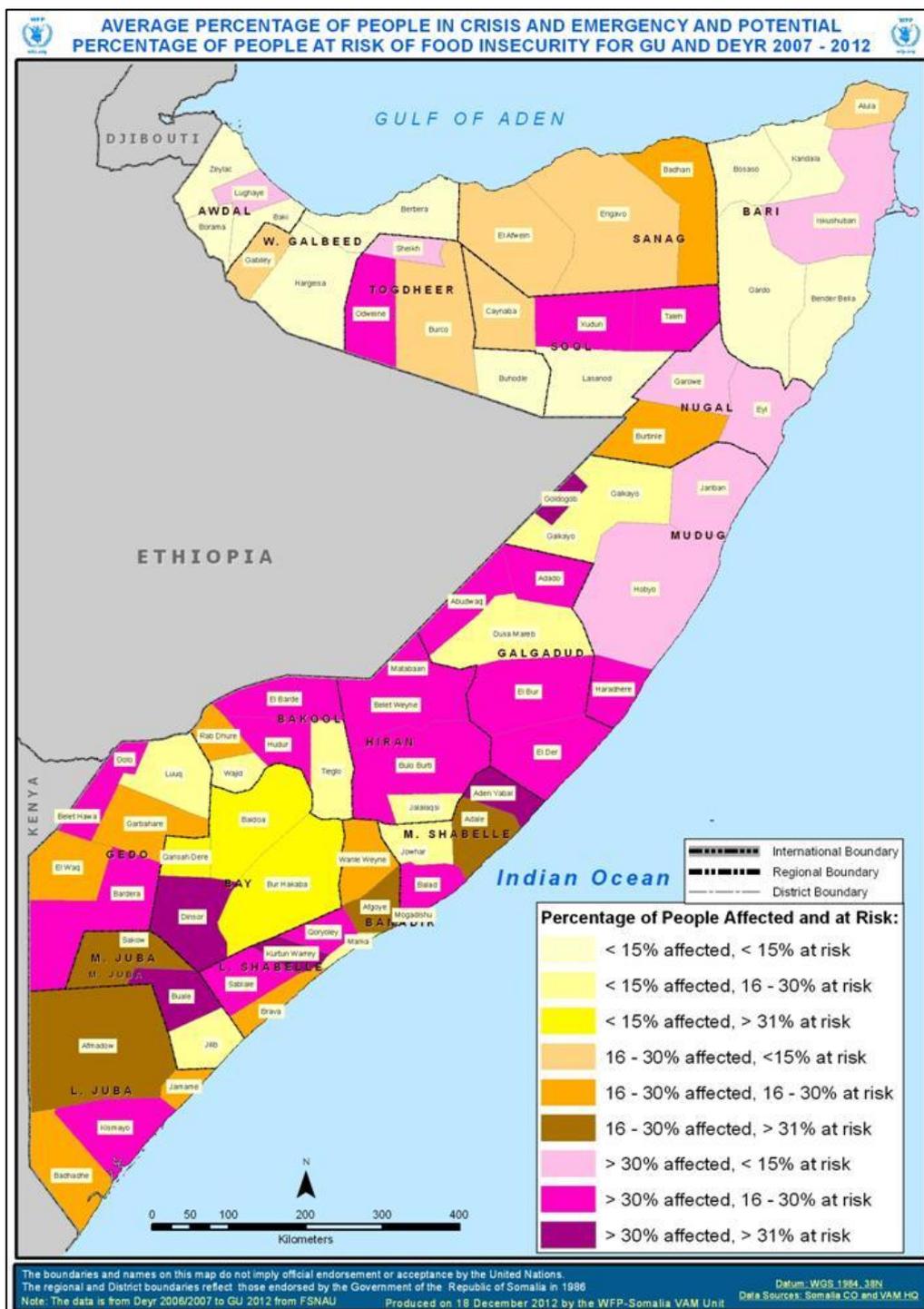
Action/Conclusion:
This map informs programming decisions in a bad year with the absolute numbers of people affected by food insecurity. This information can be used for planning and contingency purposes.

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

Process:
 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 Galgadud, Hiran, Bakool, Middle Shabelle and Lower Juba. In the north, the same would apply to the border region between Puntland and Somaliland (Sool and Sanag).

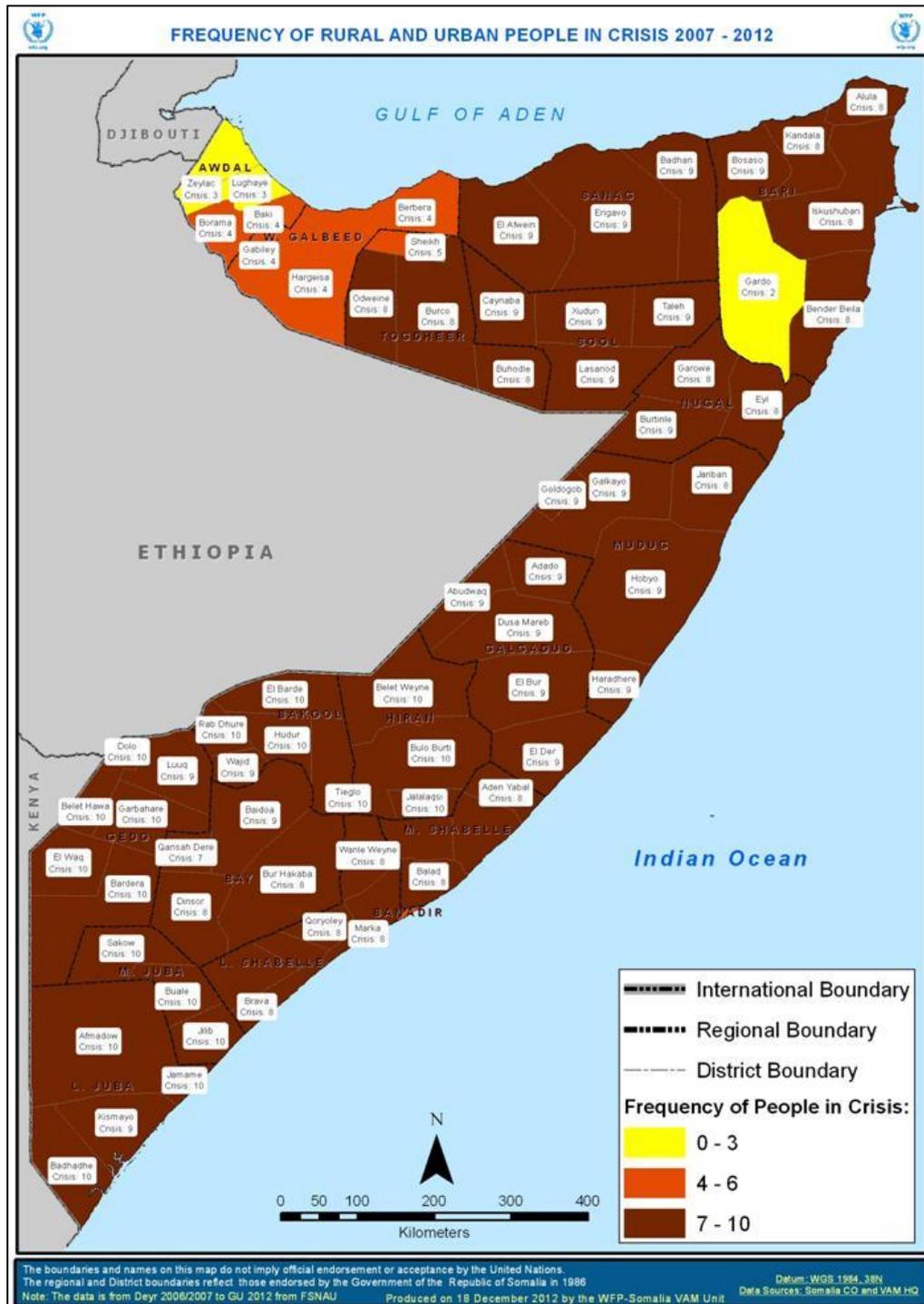
Action/Conclusion:
 Similarly to the previous map, this map shows the percentage of people affected by food insecurity in a bad year. Districts with a high percentage of people affected and at risk can be expected to have a high concentration of food insecure populations, which requires different targeting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

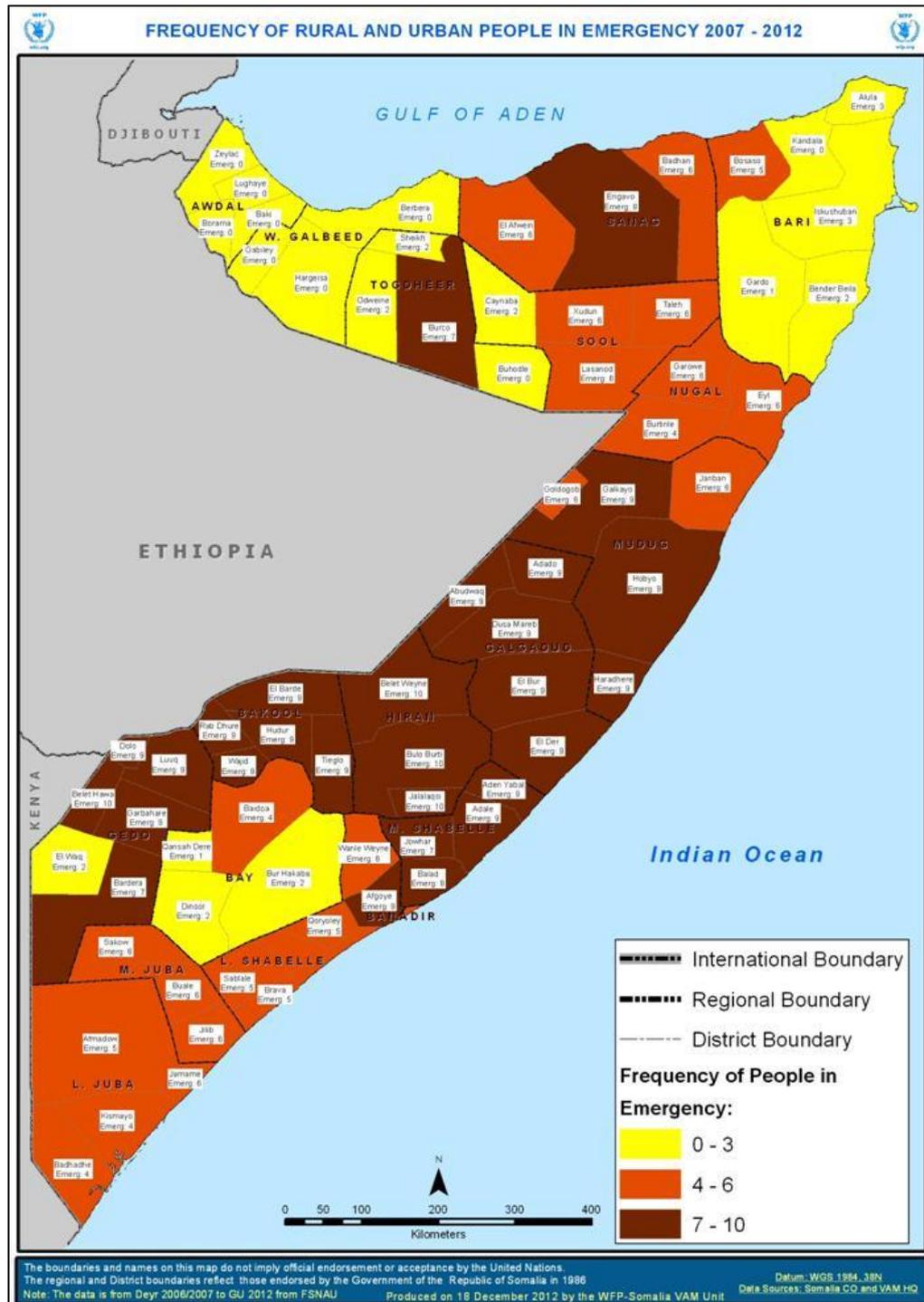


Map 8: Average percentage of people in Crisis and Emergency and potential percentage of people at risk of food insecurity

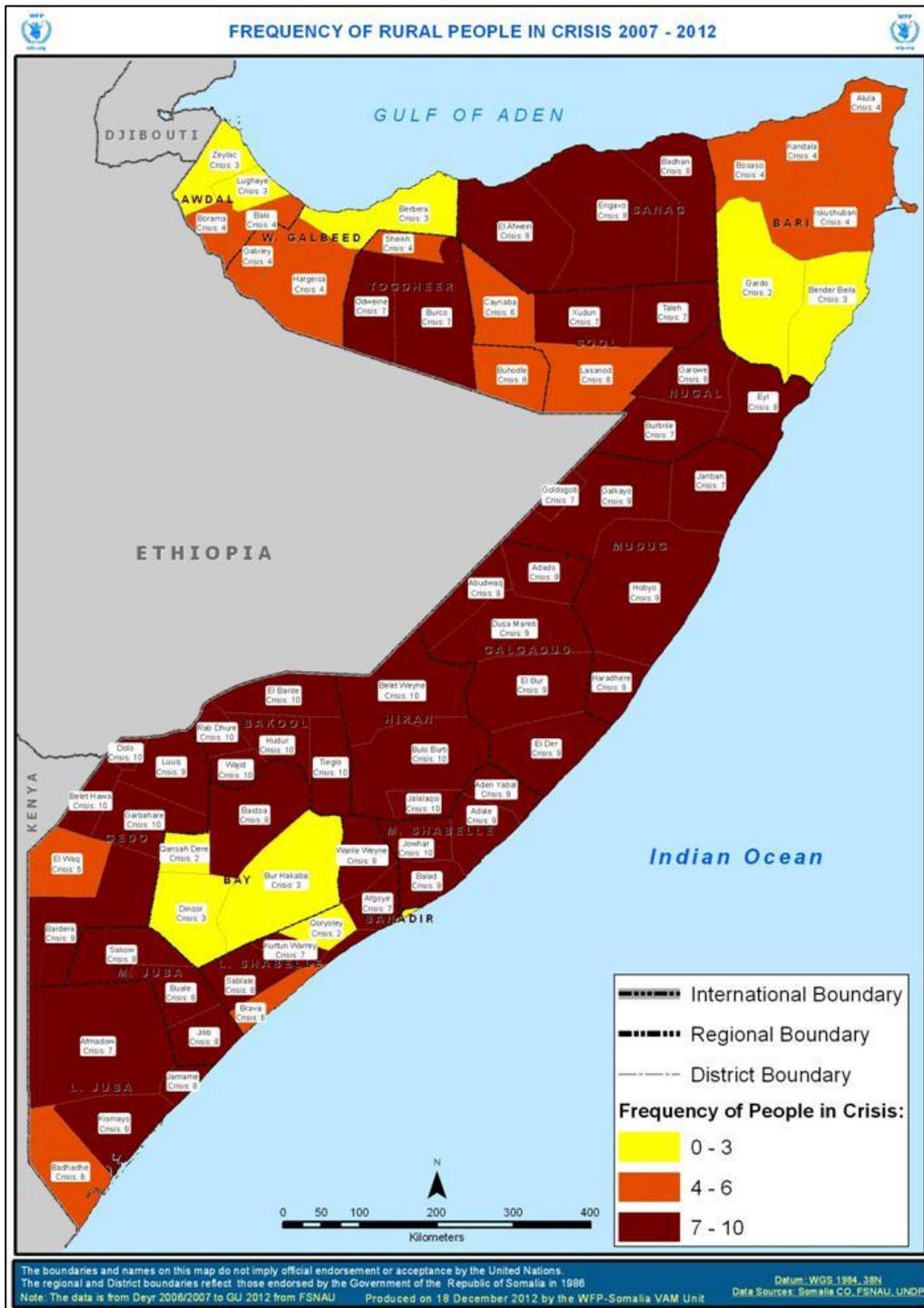
1.3. People in Crisis and Emergency

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 five years. First, the frequency of Crisis and Emergency classifications will be 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.

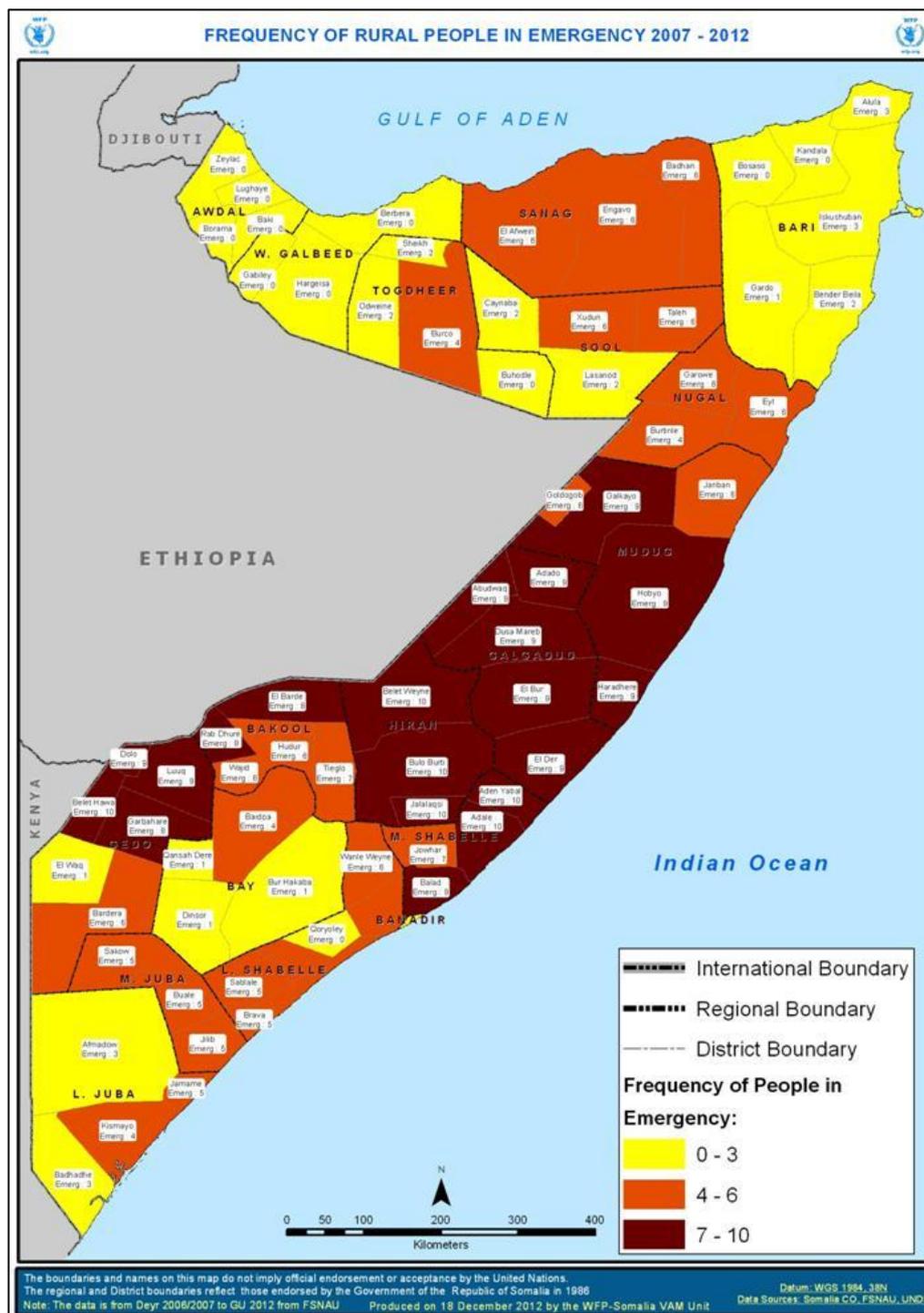




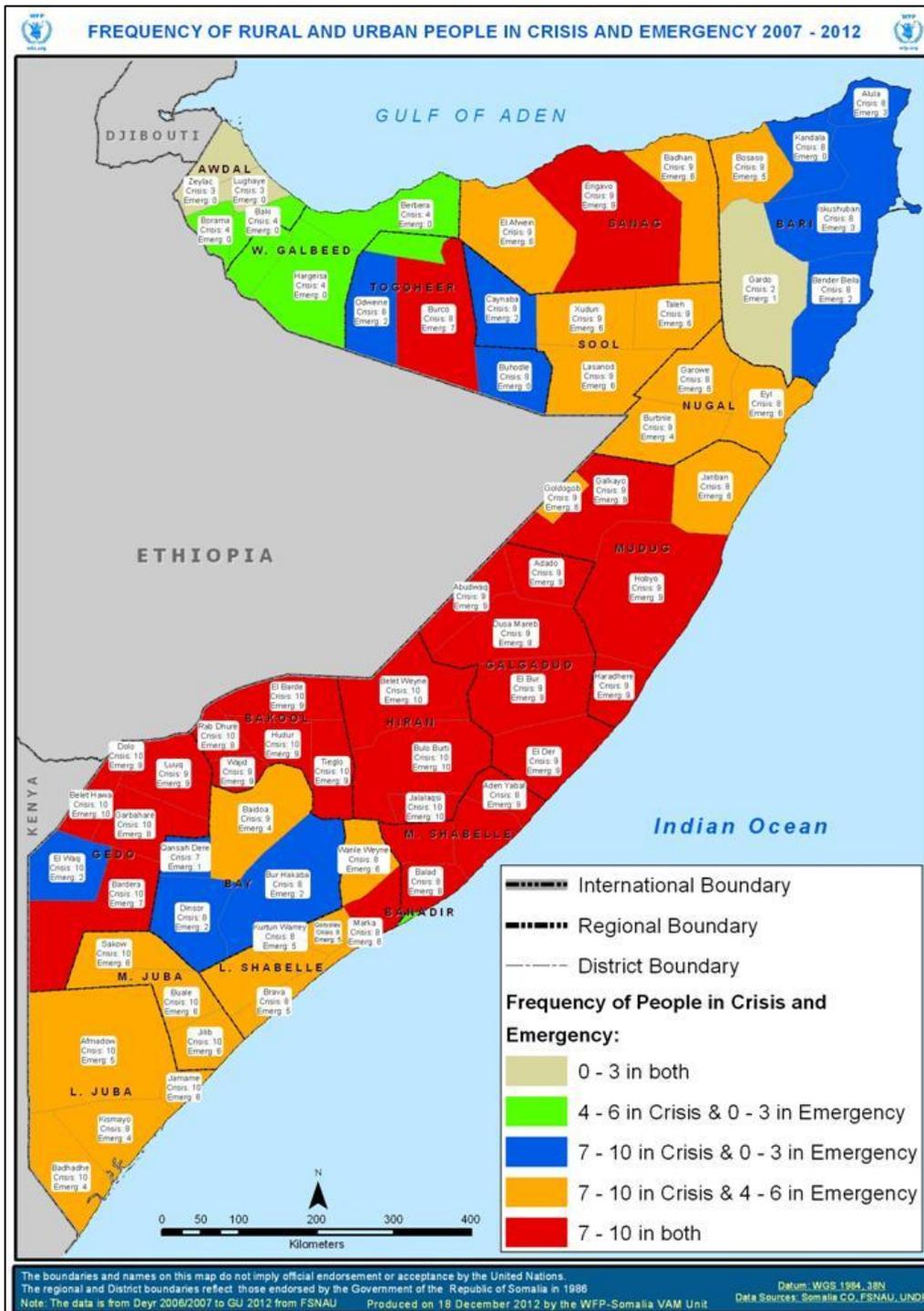
Map 10: Frequency of rural and urban people in Emergency



Map 11: Frequency of rural people in Crisis



Map 12: Frequency of rural people in Emergency



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.

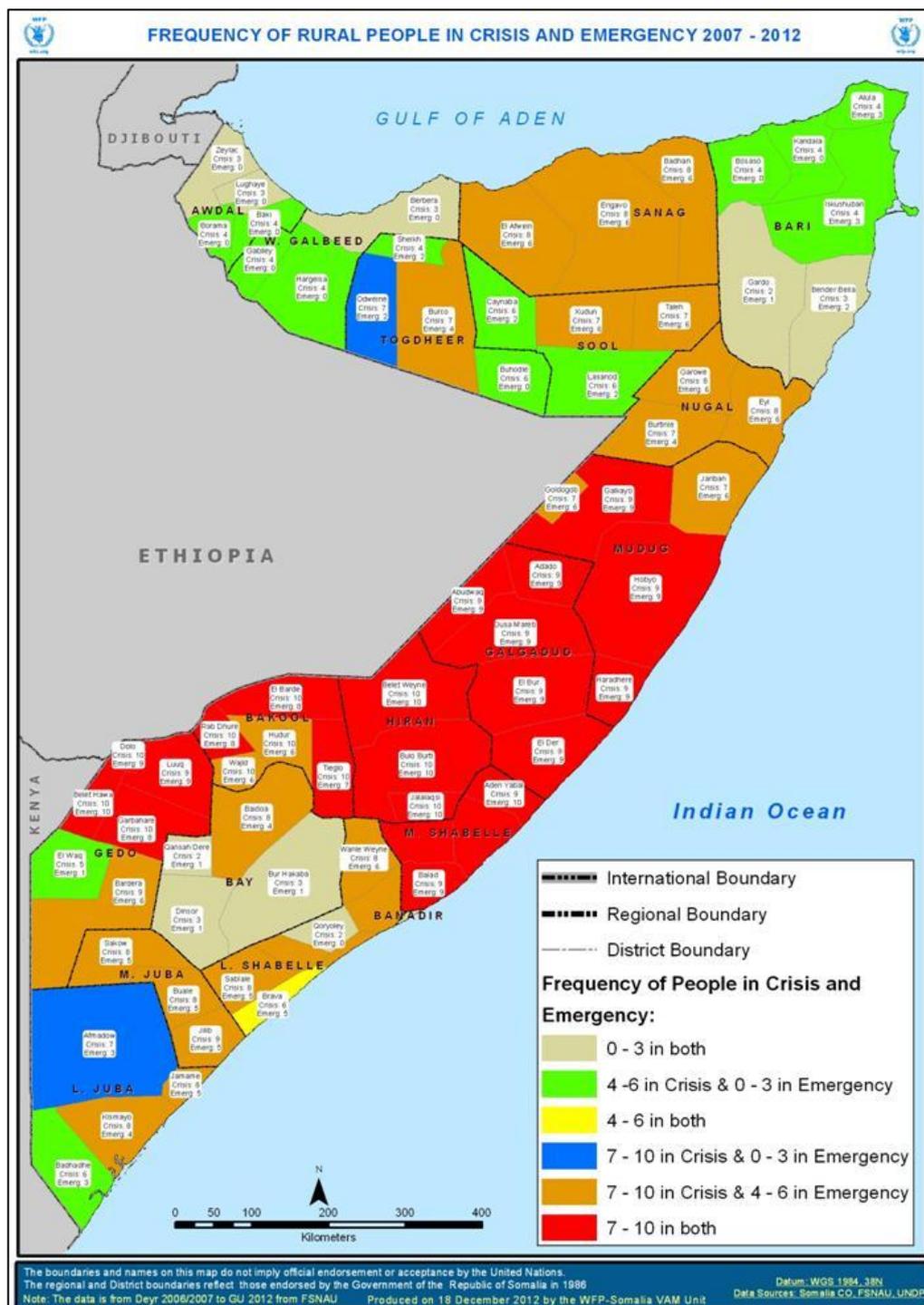
Action/Conclusion:
The frequency of Crisis and Emergency classification is an indicator for the recurrence, persistence and severity of food insecurity. Programming needs to take this into account, in the sense that programme design in an area affected by recurrent food insecurity must be different than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

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

Process:
Is the same as with map 13, but only 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.

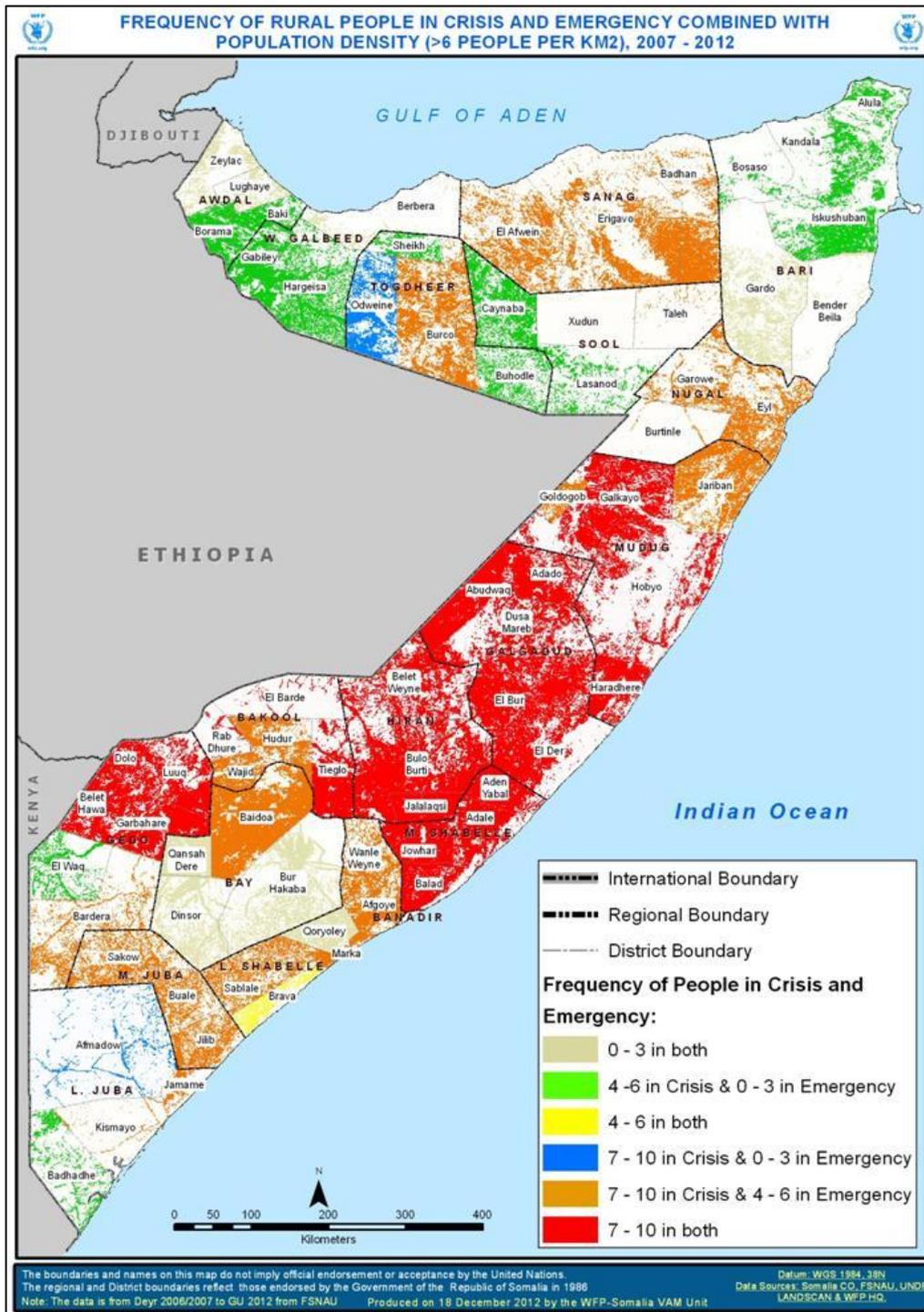
Action/Conclusion:
Pastoralist areas in central and southern Somalia are particularly affected by recurrent food insecurity. It can be assumed that the resilience of these populations has been severely affected over the last few years. The differences between map 13 and 14 with (Bay and northeast) suggest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



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 understanding 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.⁶

⁶ 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 for more information).



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. Sanag and parts of Togdheer in the north also have a high population density combined with relatively high recurrence of food insecurity.

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

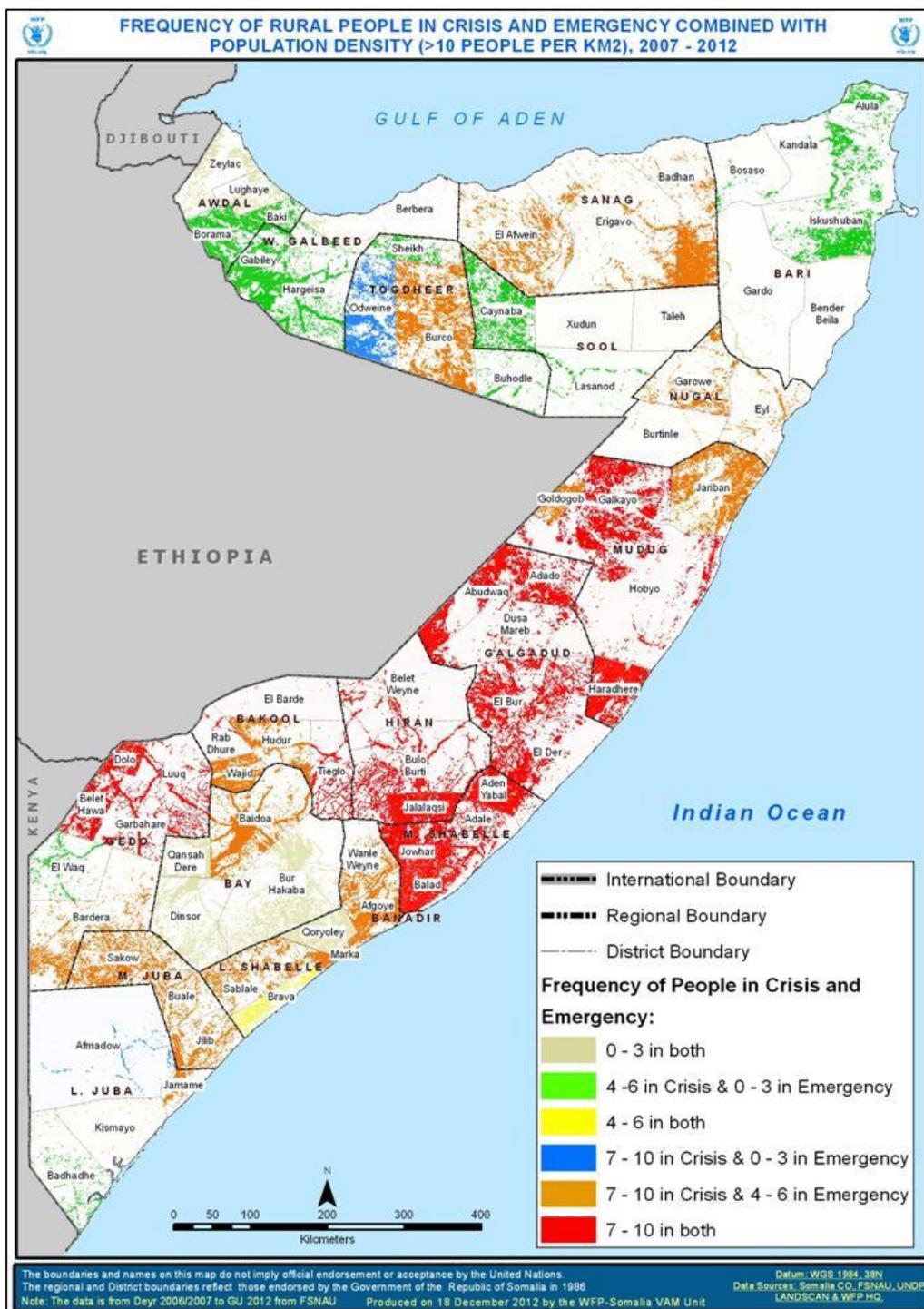
Process:
 The recurrence of food insecurity for rural populations (map 14) is illustrated in relation to the population density. A filter showing a medium population density (>10 people/km²) is applied.



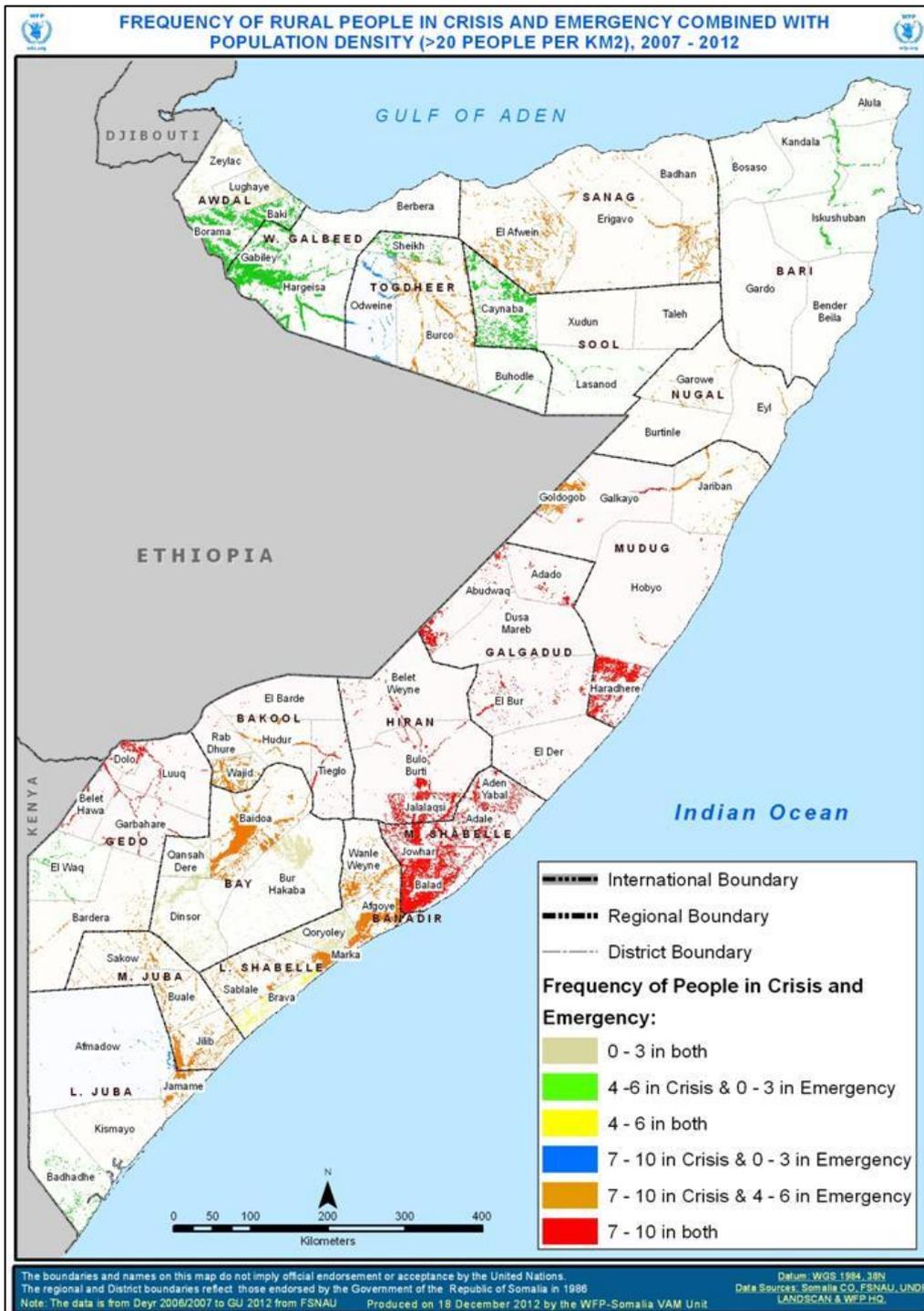
Analysis:
 The application of the second filter indicates which areas are more densely populated and more frequently affected by recurrent food insecurity. Findings are similar to those from map 15, with the densely populated and recurrently food insecure areas being located mainly in the southern and 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 high population density and are hit by recurrent food insecurity, as well as some parts of northern Somalia.



Map 16: Frequency of rural people in Crisis and Emergency combined with population density (>10 pax/km²)



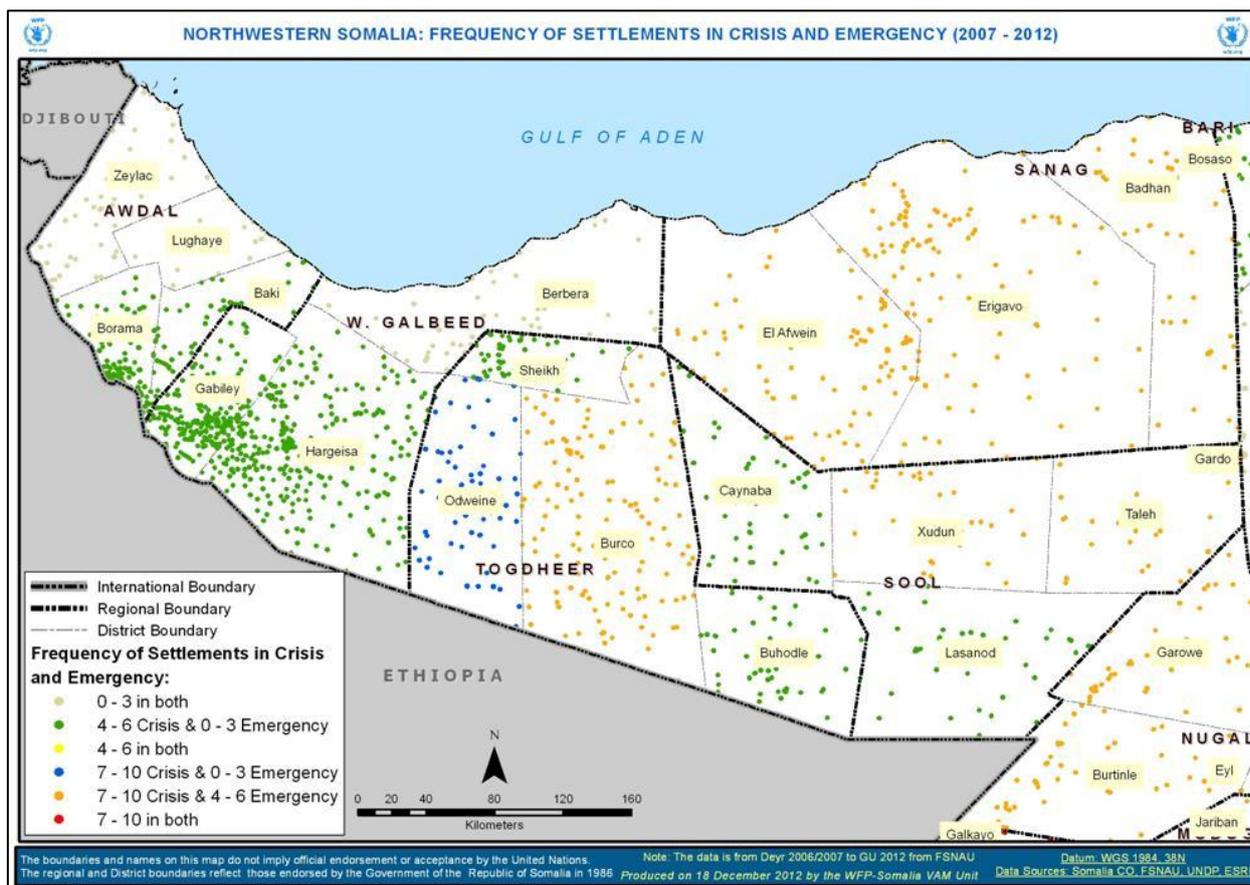
Process:
The recurrence of food insecurity for rural populations (map 14) is illustrated in relation to the population density. A filter showing a high population density (>20 people/km2) is applied.

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/km2)

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 km2), 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 also is 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.oni.gov/sci/landscan/>.



Process:
 The frequency of districts being classified in Crisis and Emergency over the last 5 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.

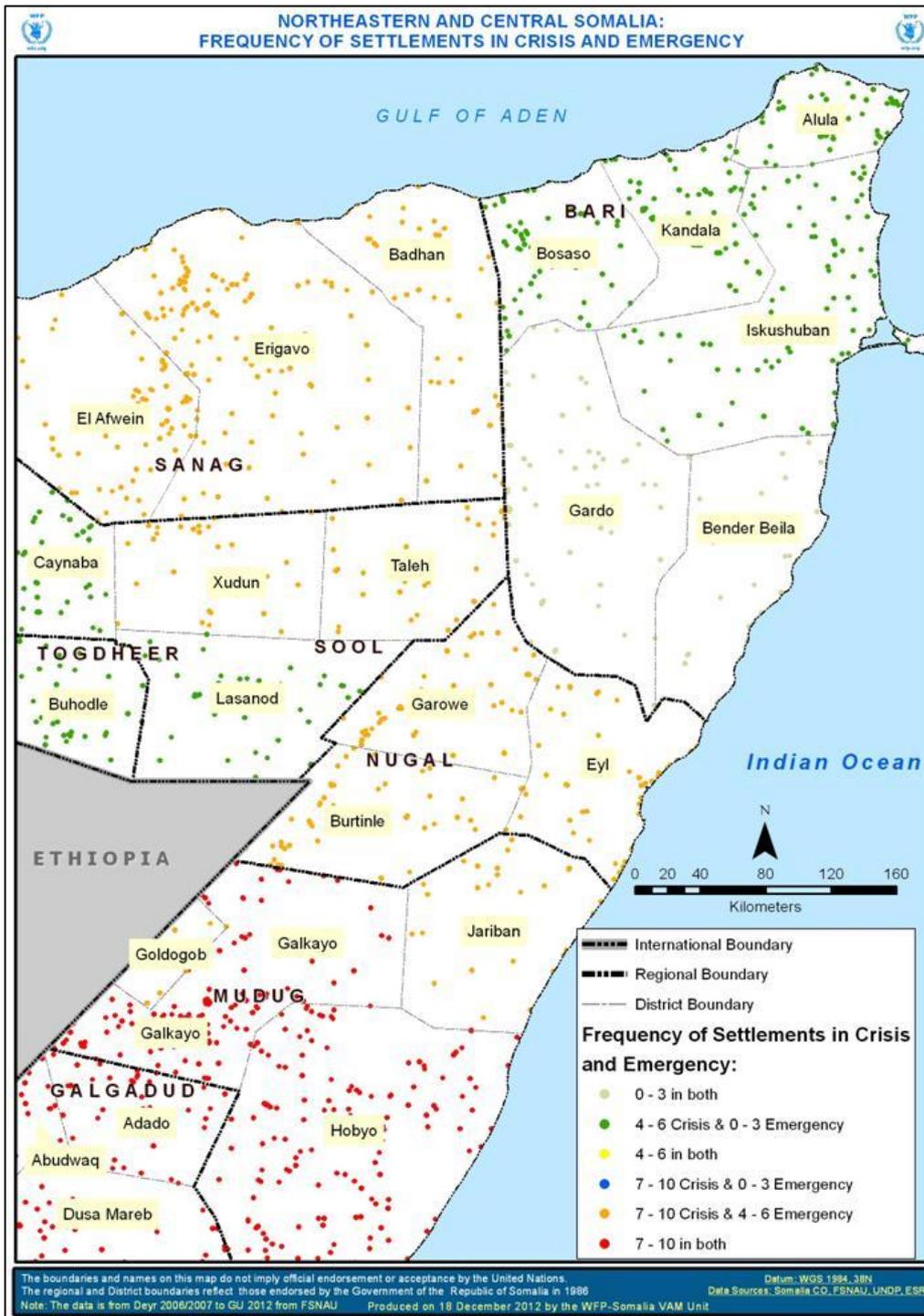


Analysis:
 As highlighted in earlier maps, northwestern Somalia is less affected by recurrent food insecurity. In particular, the most densely settled areas, including parts of Awdal and W. Galbeed, are relatively food secure. However, Togdheer region has a relatively high density of settlements, and is affected by relatively frequent food insecurity. Other areas in the region which are recurrently food insecure, but less densely populated, are Sanag and parts of Sool regions.



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 Burco districts of Togdheer region (cf. Seasonality section).

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



Process:
The frequency of districts being classified in Crisis and Emergency over the last 5 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 also having a low density of settlements due to its pastoralist character, is however affected by a high recurrence of food insecurity over the last 5 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 Burco districts of Togdheer region (cf. Seasonality section).

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

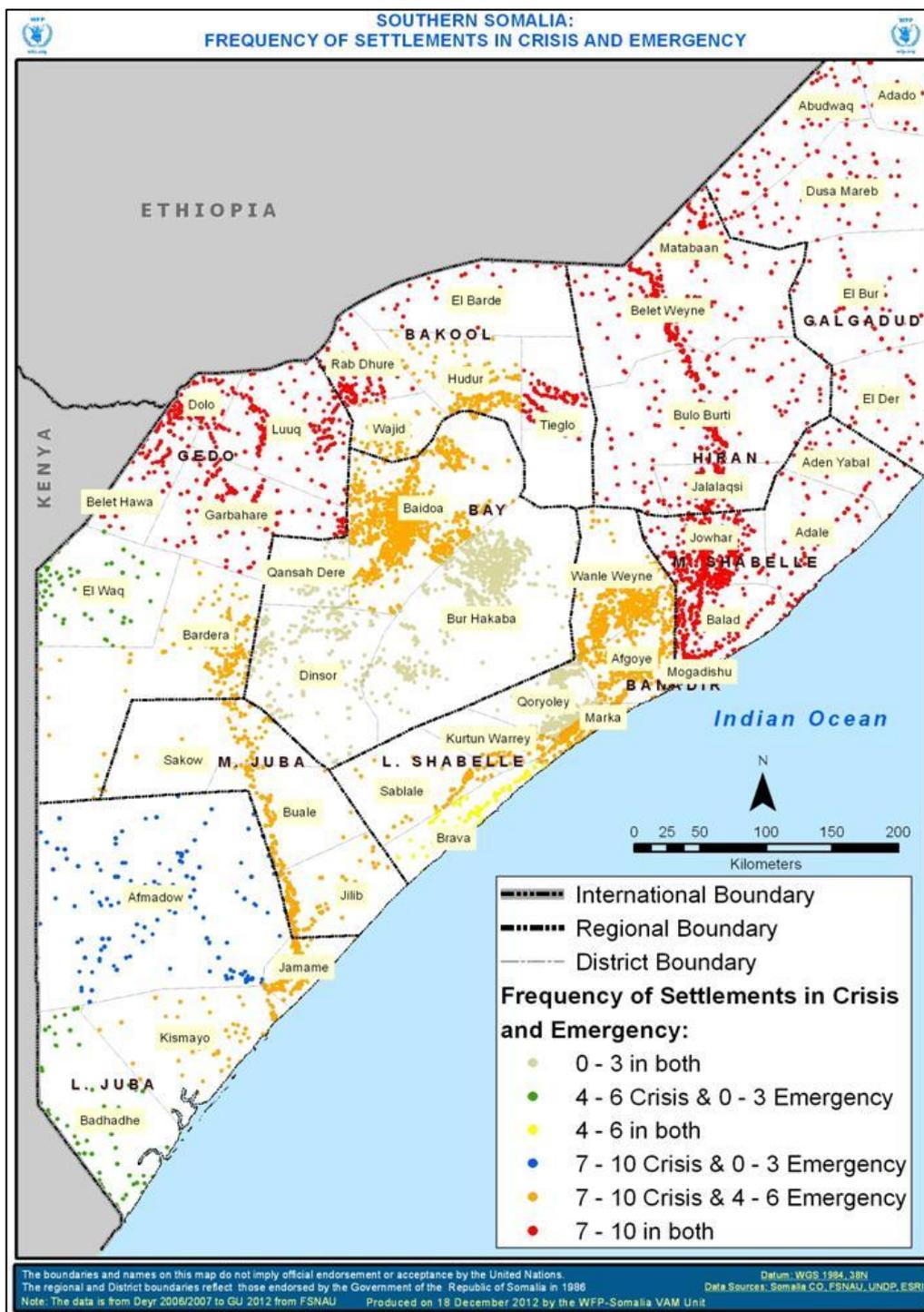
Process:
 The frequency of districts being classified in Crisis and Emergency over the last 5 years was overlaid with settlement data from OCHA (P-Code list), in order to illustrate the distribution of settlements affected by recurrent food insecurity. This complements the population density map with a more detailed breakdown at settlement level.



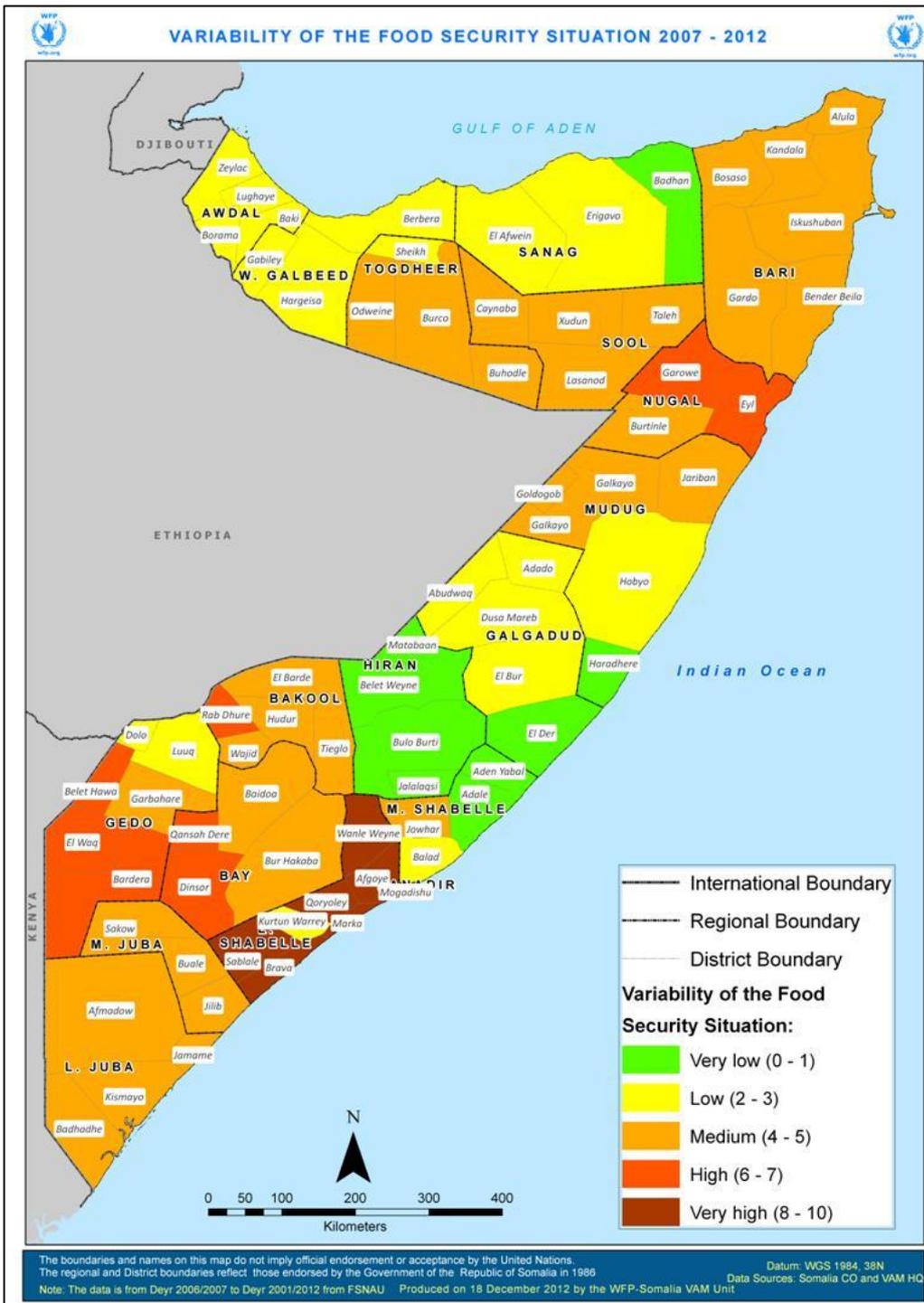
Analysis:
 Southern Somalia has several areas which combine a high density of settlements and recurrent food insecurity. This applies particularly to riverine areas along the Juba and the Shabelle rivers, e.g. in Hiran, Middle and Lower Shabelle, Gedo and Middle Juba region. Agro-pastoral areas of Bay 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 Burco districts of Togdheer region (cf. Seasonality section).



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



Process:
The magnitude of changes in the food security situation over the past five 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 first is the area where food security has been the most severe and recurrent over the last 5 years, 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:
As the map illustrates, there are some areas which over the last 5 years have been recurrently food insecure, but where the situation hasn't 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.

Map 21: Variability of the food security situation

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. First, the trends over the last five years 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.⁷ Since 2000, the FSNAU Technical Series Reports published twice a year have documented in a systematic manner the evolution of the nutrition situation in the country.⁸ The figure below shows how the nutrition situation gradually deteriorated in Somalia between 2007 and 2012.

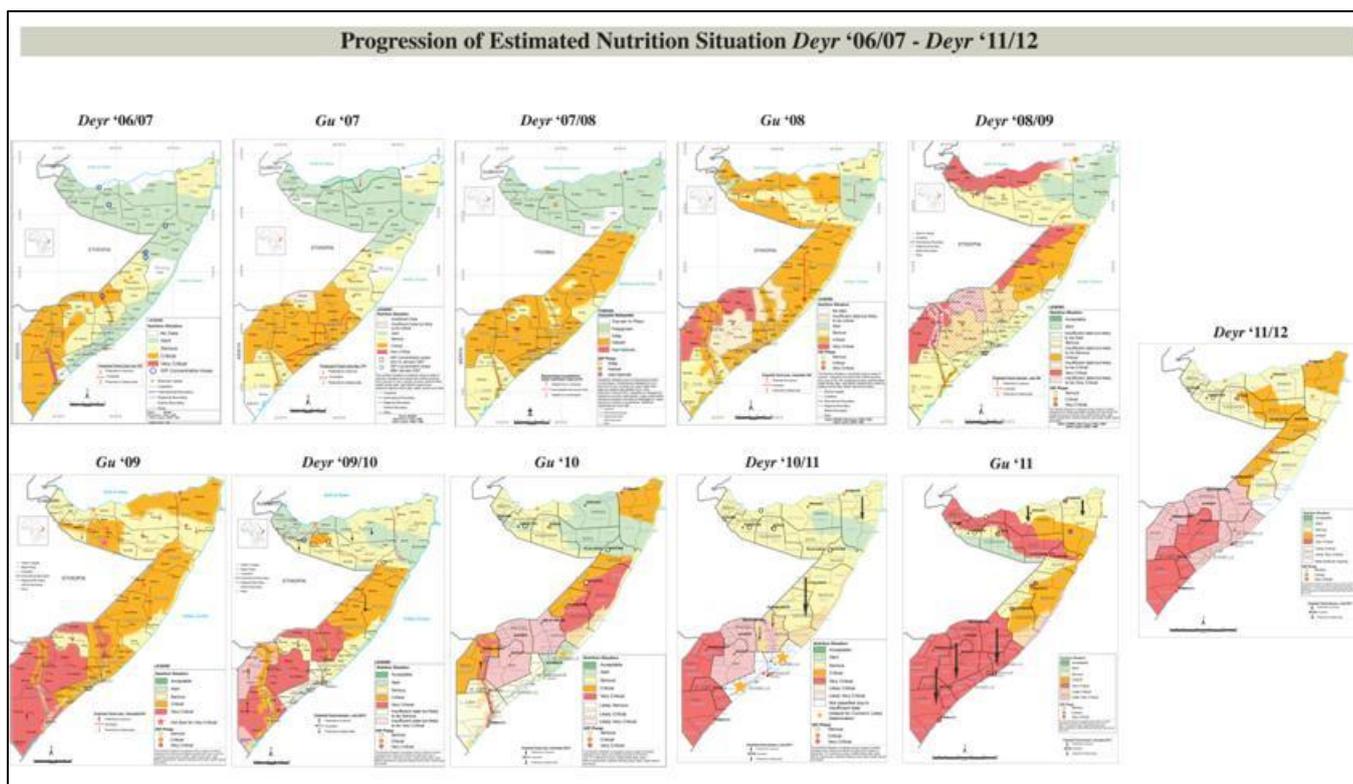


Figure 3: Progression of estimated nutrition situation, 2007-2012 (Source: FSNAU)

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 driving 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.

From 2006 onward, the nutrition crisis has spread to nearly all regions of southern and central Somalia. GAM prevalence exceeded 20% 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 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 in the last couple of years.

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

⁸ FSAU, Technical Series, 2004.

An analysis of the mean prevalence of GAM and SAM since 2007 (Figure 4) reveals that the mean GAM prevalence has consistently remained above the 15% 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% to nearly 20%.

In the past 5 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 on the international markets; the second one internal with a severe drought compounded by conflict and access restrictions for humanitarian actors in southern Somalia.

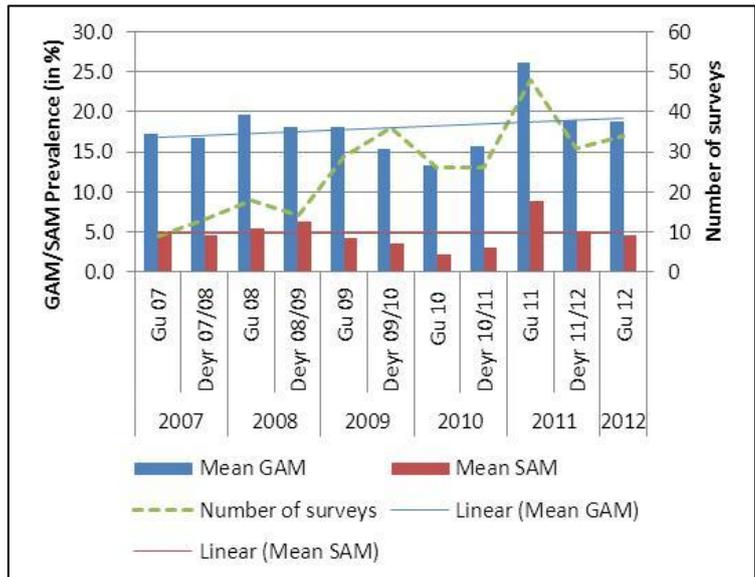


Figure 4: Trends in mean prevalence of GAM/SAM, 2007-2012

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

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 around Galkayo, 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 from host communities, which limits their access to the labour market and to basic services.

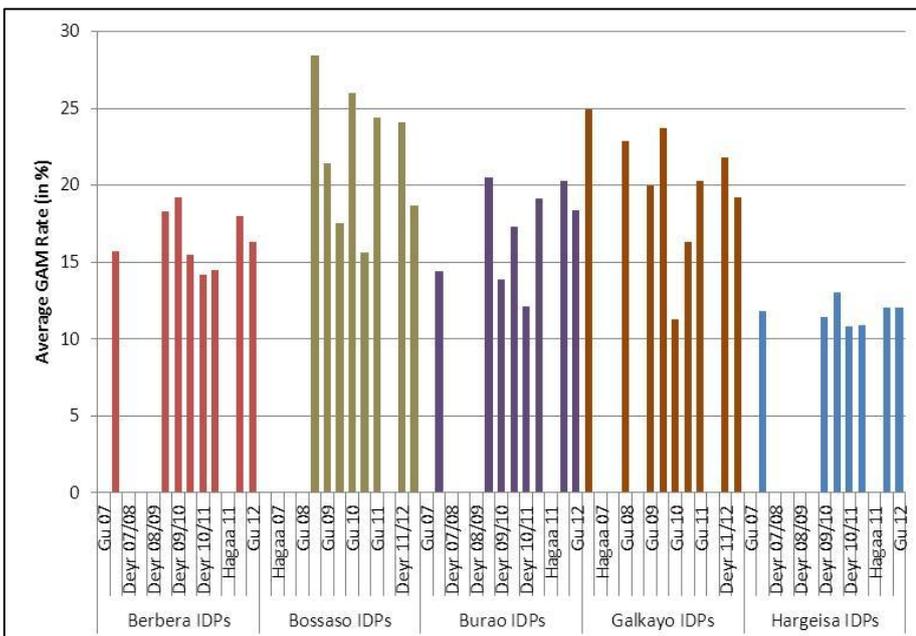


Figure 5: Trends in GAM prevalence in major IDP settlements of northern Somalia

In spite of significant food, health, nutrition and WASH interventions over the past five years, the mean GAM prevalence in all major IDP settlements has remained above 15%, with the exception of Hargeisa (11.8%), (Figure 5).

In Bossaso and Galkayo, the two cities with the largest concentration of IDPs, the median GAM rate has been at 22.8% and 20.3% respectively over the last six years. Linear trends however show a tendency to improvement in these two major IDP hubs, while the situation is stable in Hargeisa and Berbera. The situation of IDPs in Burao, on the other hand, has deteriorated over the same period. The reasons for this deterioration are unclear and it is counter-intuitive given that the overall nutrition situation of the host community has been relatively good since 2007 (cf. Map 22).

The reasons for this deterioration are unclear and it is counter-intuitive given that the overall nutrition situation of the host community has been relatively good since 2007 (cf. Map 22).

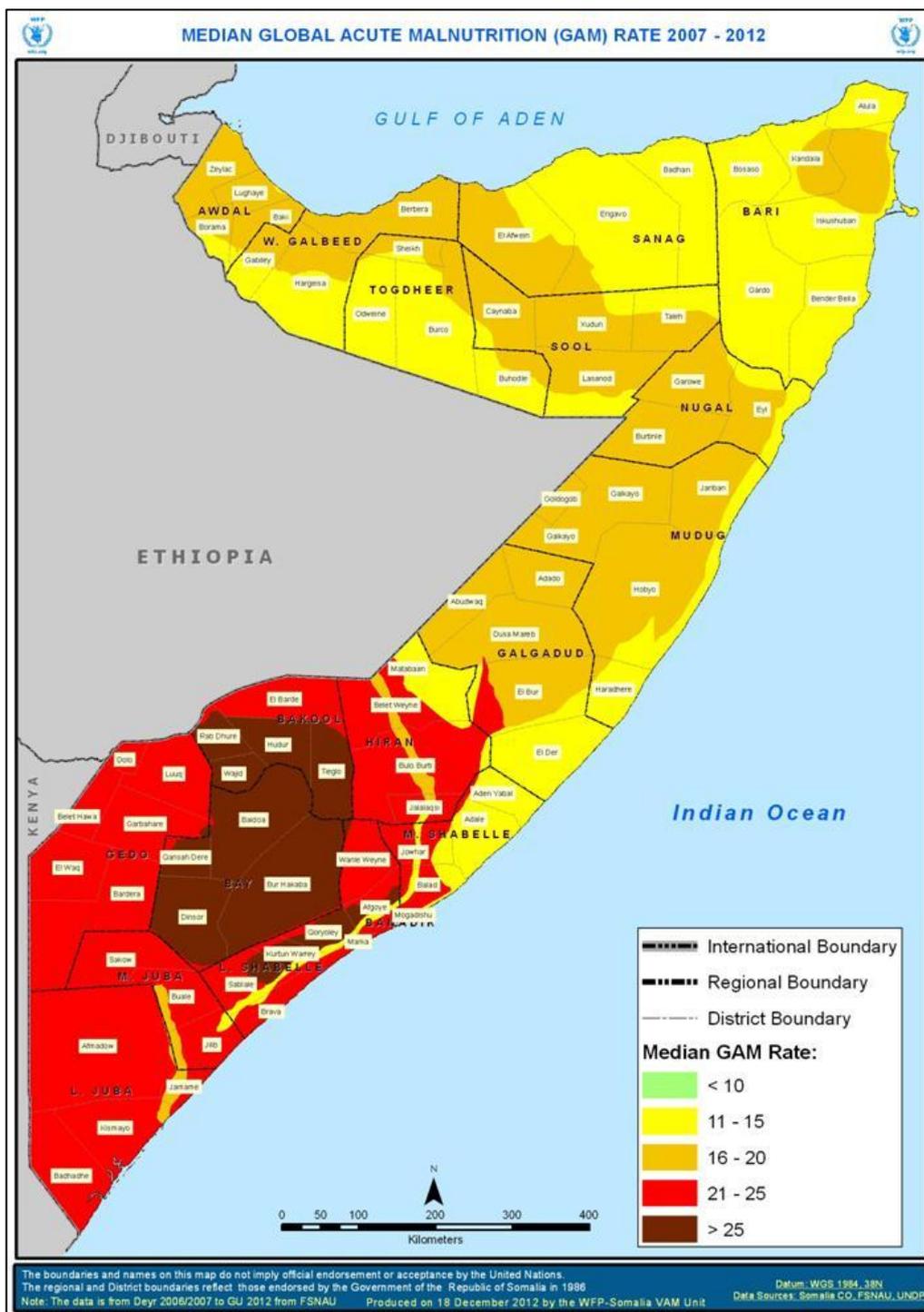
Process:
 The median GAM rate between 2007 and 2012 was calculated and mapped by livelihood zone, after being classified into: Acceptable (0-10%); Serious (10-15%); Critical (15-20%); Very Critical (20-30%); Extreme (>30%).



Analysis:
 The map illustrates how most parts of southern Somalia have median GAM rates above 20%, the worst being Bay region with a median rate of over 30%. 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.



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 6). 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.

Despite the macro level relationship, the average nutrition and food security situation maps over the last 6 years (Figure 7) clearly show that the epicentre of the food security crisis and that of nutrition do not match. As already mentioned the nutrition crisis has been persistently more acute in the southern regions, whereas food insecurity has been highest on average in central Somalia and the Juba riverine communities.

Bay region, a major sorghum producing region which was less affected by recurrent food insecurity than, for instance, Galgaduud region, has experienced the highest median prevalence of GAM over the last six years. It is important to stress that food security shows a medium to high variability in Bay, whereas the nutrition situation has persistently remained bad throughout in the 2007 to 2012 period (cf. Map 21 and Map 23).

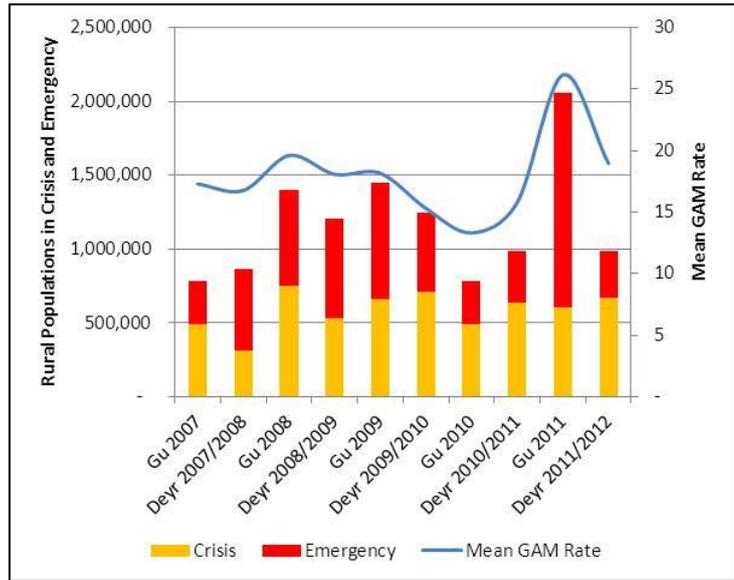


Figure 6: Food insecure populations and mean GAM rate, 2007-2012

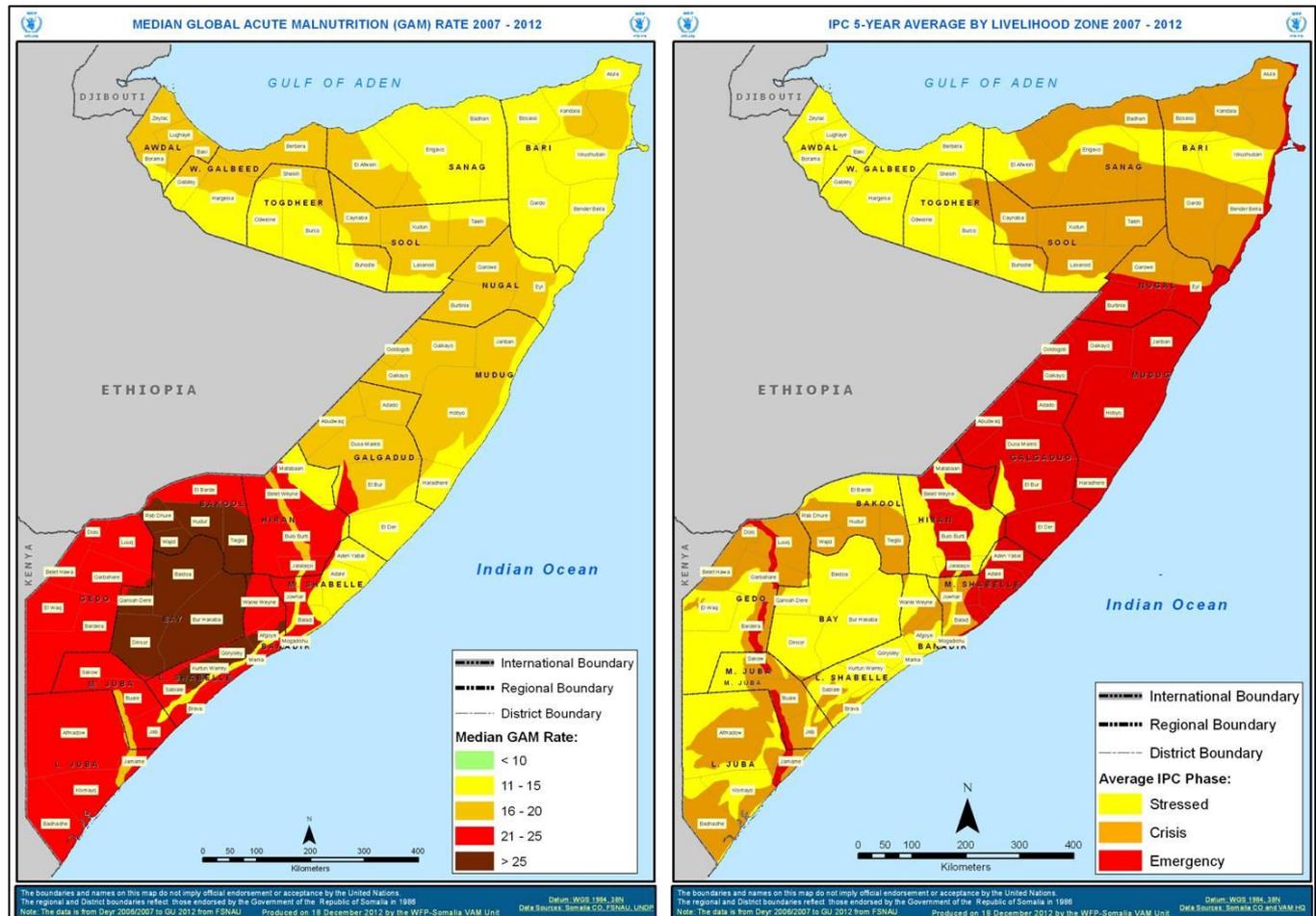


Figure 7: Median GAM rate and prevalence of food insecurity by livelihood zone

Under 'normal' circumstances, food security, access to health care and caring practises all impact on the nutrition situation. The relative contribution of each one of these underlying causes depends on structural factors influencing them. For instance, with a mean prevalence of approximately 24% over the last 6 years, Bay region has one of the highest mean prevalence of diarrhoea in the country. The reasons behind this are multifaceted, but it can be assumed that in many parts of the south, the intensity of the conflict, continued population displacements and temporary restrictions on movement of goods and people have heavily impacted on the availability and quality of health services. By contrast, northern Somalia, which has enjoyed a relative political stability, has had the opportunity to strengthen its health systems through the development of infrastructures and the capacitation of staff. Access to health care in Puntland and, particularly, Somaliland is thought to be much better compared to the rest of the country.

As a result of differences in structural causes, food insecurity may not be the main contributor to chronically high levels of acute malnutrition observed in the south. However, as was demonstrated during the 2011 famine, severe food security shocks have a compounding effect on the nutrition situation due to the synergistic relationship of food insecurity, health and care. Worsening food security conditions influence not only dietary patterns but also the social and care environment as well as access to basic services, as they disrupt the social fabric of communities. As the crisis deepens, food insecurity has an exponential impact on acute malnutrition.

2.4. Diet Quality in Somalia

The *Food Utilisation in Somalia* study conducted by FSAU in 2002 revealed that for all livelihood types (riverine, pastorals, agro-pastorals, and urban) even 'outside times of particular food stress, [consumption patterns] provide the minimum requirements or less than the minimum requirements for a household'.⁹ 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 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 ten years.

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%, while almost 70% of the assessed population had a good FCS.¹⁰ In Awdal and Togdheer regions, approximately 25% of the assessed households had poor food consumption profiles. It has to be highlighted though that in Awdal, 60% of people with a poor FCS were in the West Golis Livelihood Zone part of that region. 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%).

2.4.2. Puntland

A baseline study conducted in Puntland in April 2007 highlighted major differences between the regions. In Bari, more than 40% of the assessed households had very poor food consumption, and in Sool almost 50% of respondents had poor or very poor food consumption profiles.¹¹ 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 protein, 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% of the assessed population had either good or fairly good consumption profiles.¹²

2.4.3. Central Somalia

Although approximately 65% of the population in central Somalia was 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% and 4% of households

⁹ FSAU/FAO, *Food Utilisation in Somalia*. 2002.

¹⁰ WFP, *Somaliland Food Security & Vulnerability Assessment*, October 2008.

¹¹ 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'.

¹² WFP, *Puntland Food Security & Vulnerability Assessment*, April 2007.

with a poor FCS respectively, against 30% 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% respectively). In terms of livelihood zones, the Addun livelihood zone was found to be slightly better off, with only 5% of households having a poor and around 71% having a good FCS. In the Hawd livelihood zone, only 63% of households had good food consumption, while the proportion of the population with a poor FCS was significantly higher at 19%.¹³

2.4.4. Mogadishu

The analysis of the FCS in Mogadishu shows that 84% of the population had acceptable food consumption in April 2012. Only 7% were found to have a poor FCS, and around 9% had a borderline FCS. In terms of residency status, IDPs were considerably more affected by poor food consumption. While 13 and 15% of IDPs have a poor or borderline respectively, this only applies to 1 and 4% of residents. Nearly all resident households (95%) interviewed as part of the survey had a good food consumption, against 72% of IDPs.

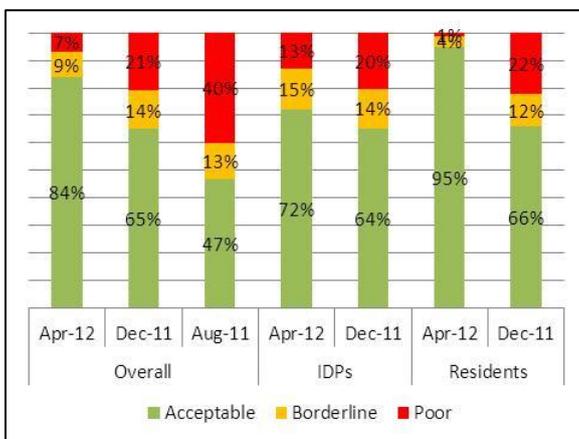


Figure 8: FCS in Mogadishu

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% in August 2011 to 65% in December 2011, to 84% at the present time. On the other hand, the proportion of households with a poor FCS dropped considerably, from 47% in August 2011 to 21% in December 2011, to 7% 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% with good FCS, against 64 to 72% 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

might further be exacerbated by the recent wave of displacements (approximately 11,000 people as of 31 May 2012) which resulted from the joint TFG/AMISOM military offensive in the Afgoye corridor.

2.5. Morbidity and Mortality

Under-five mortality in Somalia has recently been revised upwards to 200 per 1,000 live births¹⁴ 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.¹⁵ 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. 90% of deliveries take place at home, without professionally skilled attendance or mandatory follow-up at health care units.

During the remaining infancy and childhood, infections are the primary cause of deaths. Pneumonia and diarrhoea each contribute to around 20 to 25% 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.

Surveys 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 5 attend health care facilities for respiratory infections, followed by diarrhoea, intestinal problems, skin conditions, eye infections and anaemia. The reliance on traditional medicine, gender issues and the poor access and utilisation of health infrastructure are some of the factors that likely contribute to the high incidence, severity and duration of illness episodes among children. The intensity of the conflict in southern Somalia since 2008 impacted severely on the state of the health infrastructure as well as on people's ability to access and utilise health services, making the health environment a key contributor to persistently high levels of acute malnutrition.

¹³ WFP, Central Somalia Food Security & Vulnerability Assessment, January 2011.

¹⁴ Source: WHO, 'Child Health in Somalia: Situation Analysis', December 2011.

¹⁵ *ibid.*

It is difficult however to establish clear linkages at population level between morbidity and acute malnutrition patterns. Figure 9 and Figure 10 illustrate the mean morbidity prevalence annually and seasonally between 2009 and 2012. Data used for this analysis was collected through nutrition surveys conducted by FSNAU and is heavily affected by methodological weaknesses on the reliability of disease-specific morbidity, as well as by the number of data points available.

Nonetheless, the overall morbidity prevalence declined over the period from 40.2% to 33.5%, but remained at alarming levels. Disease specific morbidity also declined for all diseases under consideration with the exception of measles, which contribute very little to overall morbidity. However, seasonal patterns show a dramatic increase in the prevalence of febrile illnesses (including malaria) starting during the Deyr'09/10 and throughout the year 2010, whereas a peak in respiratory infections is noted during the Hagaa'11 season following the famine declaration. Empirical linkage can be established with weather patterns. The year 2010 was considered by most as a very wet year leading to bumper harvests, while 2011 was a very dry year (failed Deyr 2010/11 and poor Gu 2011 rains). Increasing levels of food insecurity and the intensification of conflict with its cohort of forced migration – or conversely movement restrictions – in southern Somalia could have had a compounding effect on the health environment and social fabric of communities trapped in conflict zones, translating into a dramatic increase in morbidity prevalence.

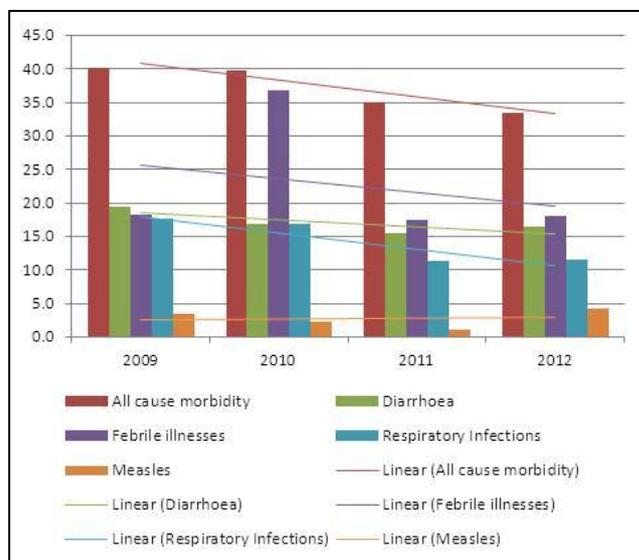


Figure 9: Annual trends in mean morbidity, 2009-2012
 (Source: FSNAU)

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 9 the overall morbidity tended to decrease over the period 2009-2012 whereas the median prevalence of acute malnutrition tended to increase (Figure 6). The seasonal analysis (Figure 10) 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.

Pervasive morbidity due to a lack of access and utilisation of basic health and water services certainly contributes to persistently high level 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.

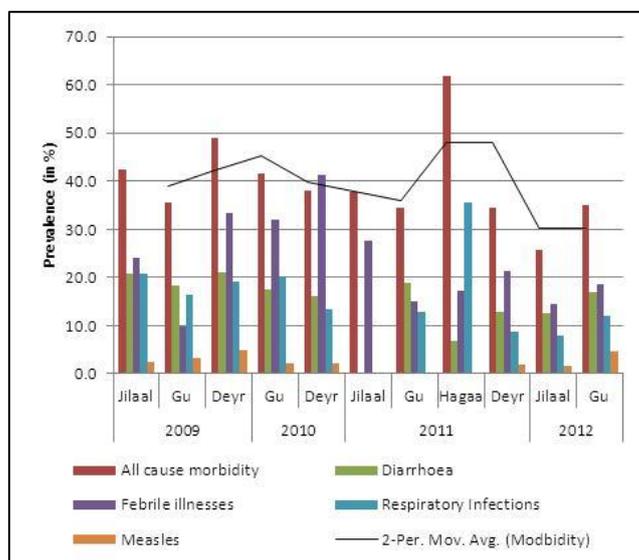


Figure 10: Seasonal trends in morbidity, 2009-2012 (Source: FSNAU)

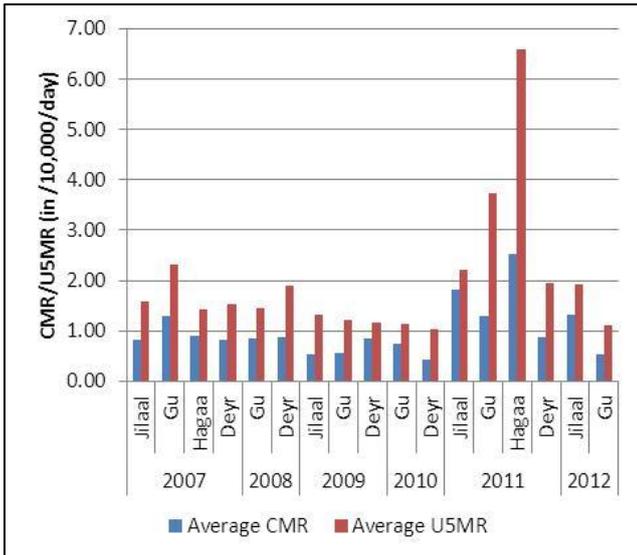


Figure 11: Crude and under-5 death rates, 2009-2012

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.

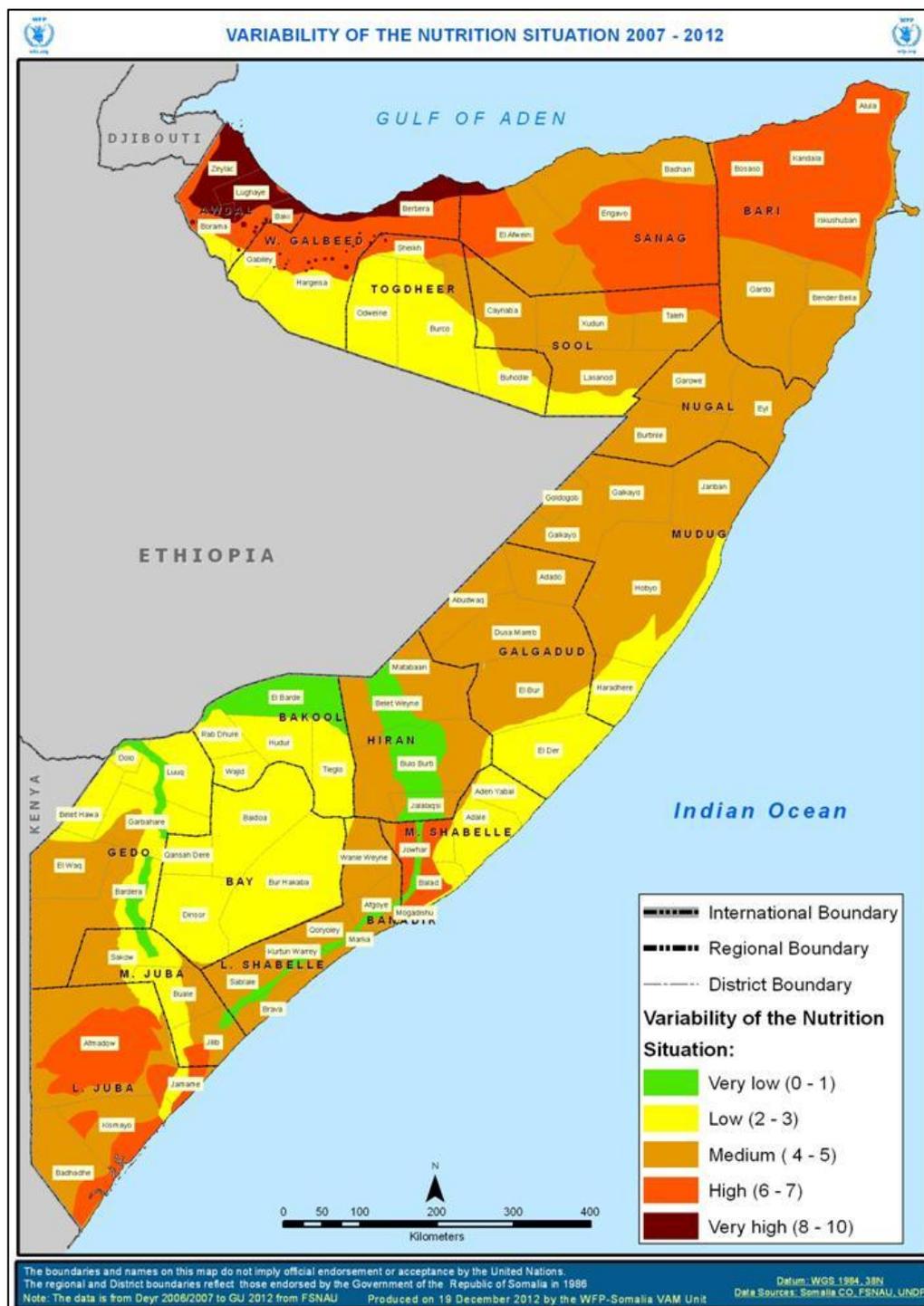
Process:
 This map illustrates the variability of the nutrition situation, by summing up the number of times and amplitude of the change in the nutrition phase classification over the last 5 years. A low variation means that the nutrition situation has remained stable, independently of the actual classification. 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 which tackle acute malnutrition as a short-term phenomenon, as opposed to programmes that address chronically high levels of malnutrition in other areas.



Map 23: Variability of the nutrition situation

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. 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 Hydrological¹⁶) are wide-spread. In the context of Somalia the meteorological drought is the most frequent.

- Meteorological drought – this type of drought all about 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 isn't 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 five 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.

¹⁶ <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.

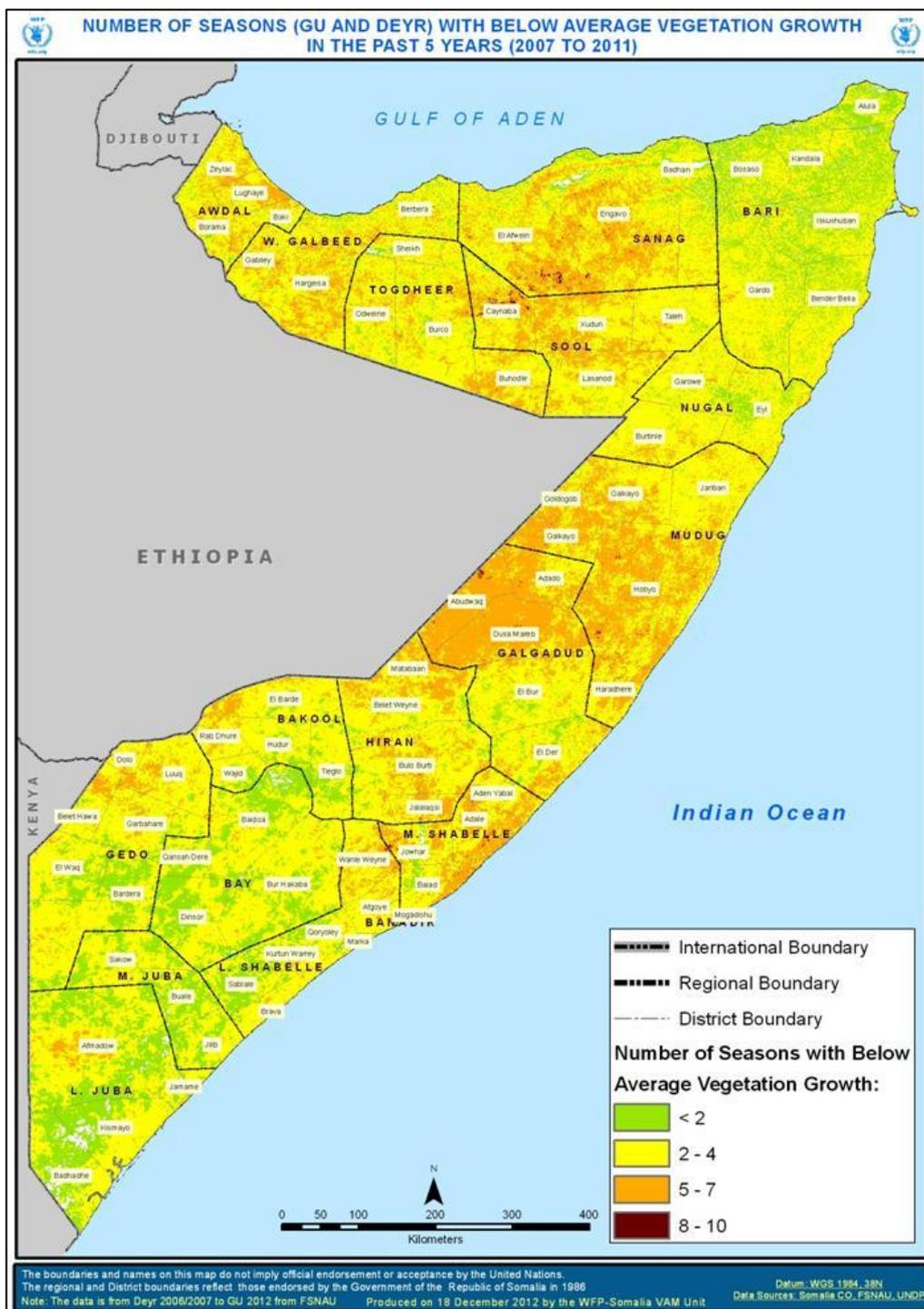
Process:
 The number of times the seasonal vegetation growth was over the last 11 seasons was below the average of the same period was mapped. The categories were chosen based on the recovery length between events, as follows: 1 below average season represents less than 1 year out of 5; 2-4 seasons represent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



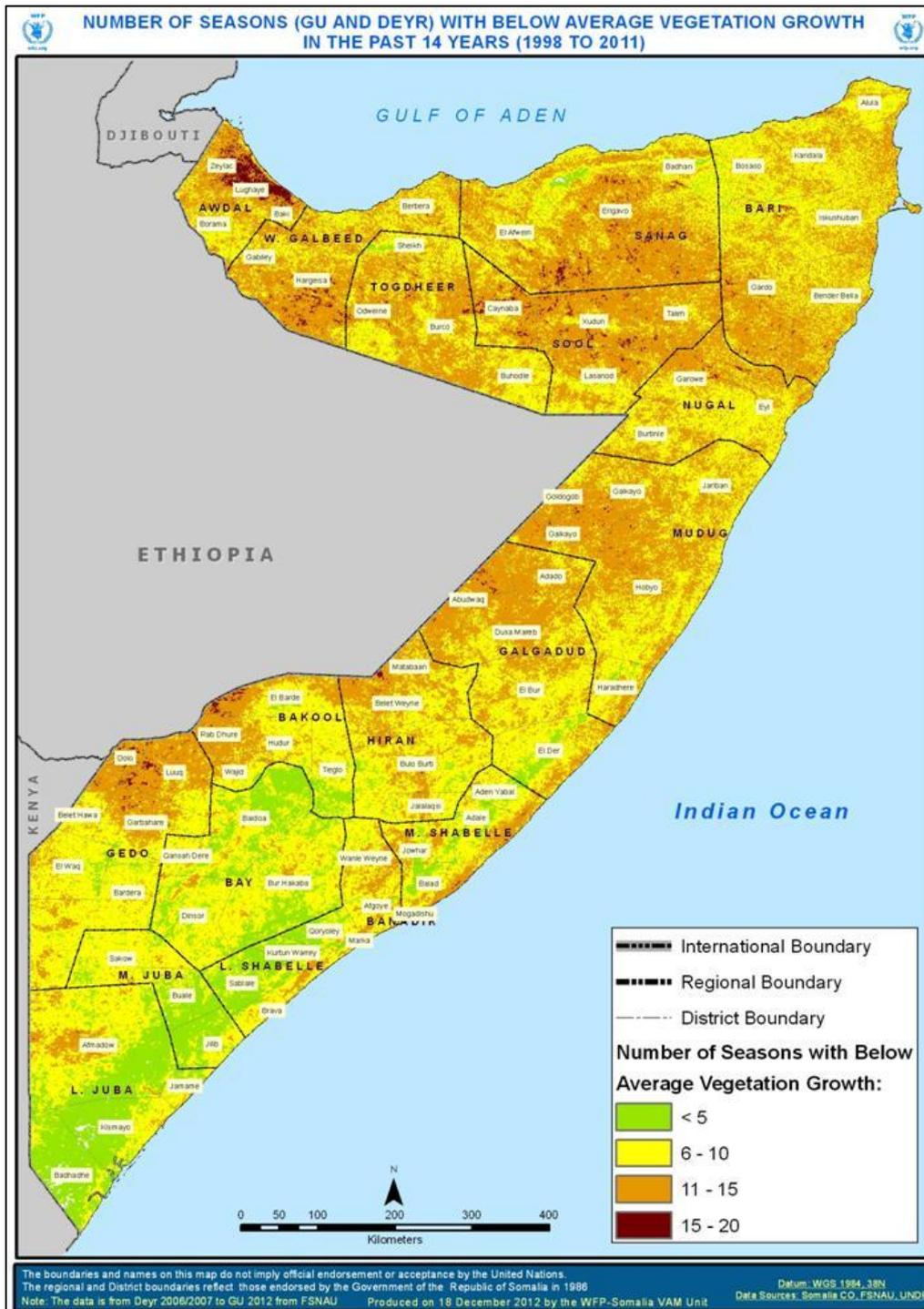
Action/Conclusion:
 The information depicted in this map is important for programming purposes when linked to food security information. It allows for the identification of areas affected by recurrent below average vegetation growth/drought and food insecurity, and to establish in how far the two are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



Map 24: Number of seasons with below average vegetation growth in the past 5 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 on year fluctuations becoming wider). The latter has profoundly different implications from the first and needs to be ascertained.

One point that needs to be stressed is that 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 by, which were used as to create the map above.



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.

Map 25: Number of seasons with below average vegetation growth in the past 14 years

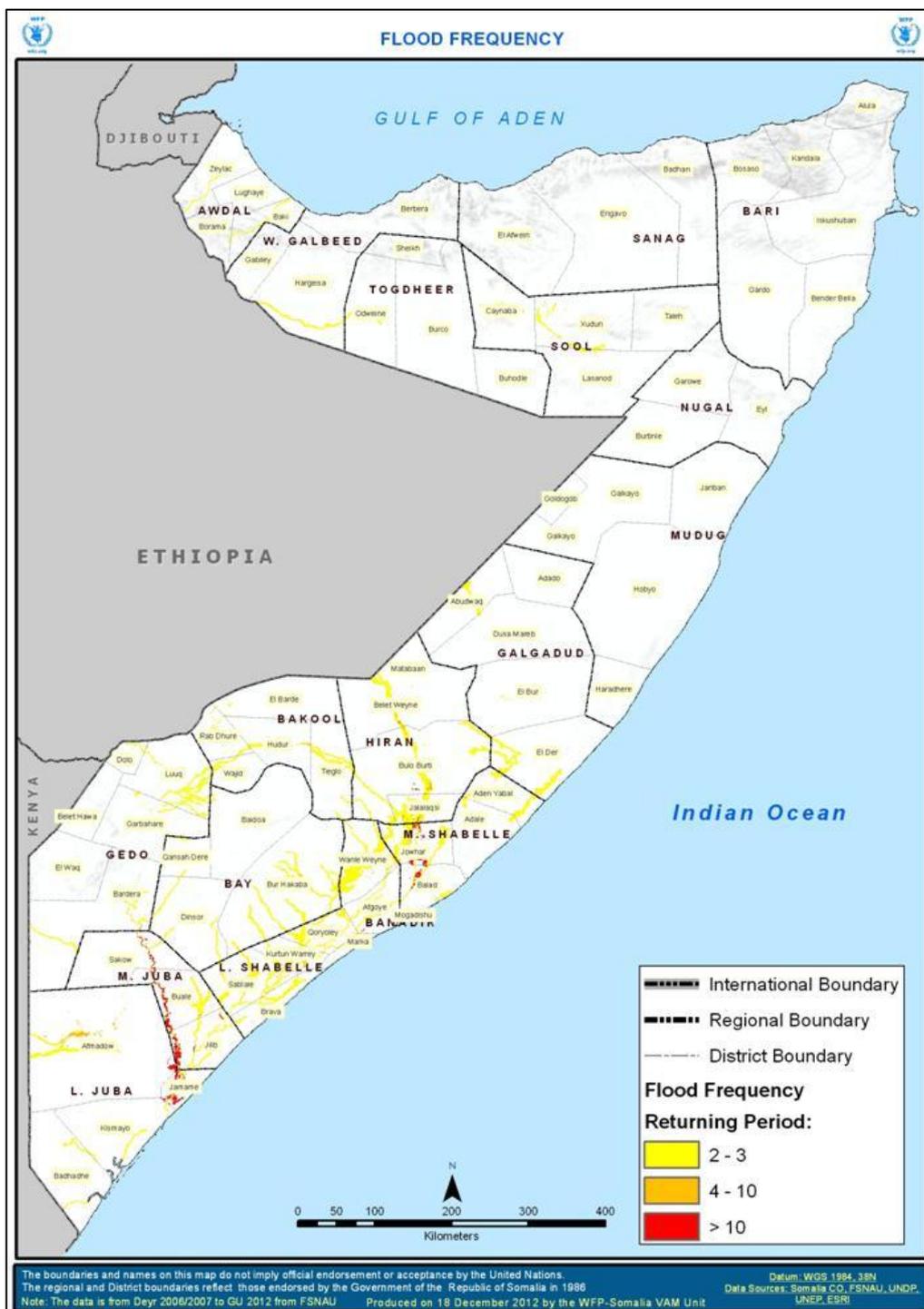
3.2. Floods

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.¹⁷

Process:
 Limited historical data prevented determining the frequency and areas of flood occurrence in the last 5 years. Hence, the modelled flood risk from UNEP was used to create a map indicating the returning period (or the expected frequency of flood occurrence).

Analysis:
 The highest flood risk can be encountered along the two main rivers in southern Somalia. Particularly the lower parts of the Juba and Shabelle rivers located in Middle Shabele and Middle Juba seem to be highly flood prone.

Action/Conclusion:
 Floods in Somalia are mostly flash floods that occur after the rainy seasons. Rainfall over vast, sloping areas with sparse vegetation can lead to the rapid accumulation of large amounts of water. Primarily, settlements close to river beds and adjacent agricultural lands are most affected by flash floods. The map shows that there are some flood prone riverbanks that stretch across Shabelle and Hiran, which are also densely populated areas.



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 per 100 years.

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

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 breakdown of the central government, localised systems of governance have emerged in Somalia, which vary significantly across the country. In the northern parts, the self-declared independent Republic of Somaliland and the semi-autonomous region of Puntland have been able to ensure a modicum of stability. However, the capacity of these administrations is limited and the security situation remains tense, particularly in the Sool and Sanag regions, due to an on-going border dispute between the two entities. In central Somalia, several local authorities have emerged over time, the most notable being Ahlu Sunna Waljama'a (ASWJ), which has been able to oust al-Shabaab from some parts of the country, as well as the Himan and Heeb and Galmudug state administrations. Most parts of southern Somalia have been controlled by al-Shabaab since 2008, but the group's influence is diminishing as a result of the military offensive by the internationally supported TFG, which is backed by the African Union Mission in Somalia (AMISOM) and, at present, the Kenyan and Ethiopian armies. Since the withdrawal of al-Shabaab from Mogadishu in August 2011, the TFG has also been able to extend its control to most parts of the capital.

Conflict has been one of the key contributing factors to food and livelihood insecurity in the country¹⁸ and resulted in massive population displacements¹⁹ and restrictions on trade and market activities in some areas. It is characterised by low-intensity fighting over resources, and heavier fighting in the south-central part of the country, where the military confrontation between al-Shabaab and the TFG has intensified over the last year. The military interventions in support of the TFG by the Kenyan and Ethiopian armed forces have resulted in heavy fighting along the frontlines in parts of the south, including Gedo, Juba and Hiran regions, affecting the functioning of markets and the civil security situation in general.²⁰ Intense fighting between pro- and anti-TFG factions is also on-going in Galgaduud region in central Somalia. While Mogadishu has long been the epicentre of the Somali conflict, the situation has improved since the withdrawal of al-Shabaab. This has had positive effects on the food security and nutrition situation in the capital, as market activities have resumed and humanitarian access has improved. The positive evolution of food security trends has been confirmed by a series of assessments conducted by WFP with partners between August 2011 and April 2012.²¹ Nonetheless, the situation in the capital remains tense, both with regards to food security and nutrition and civil insecurity. Moreover, a military TFG/AMISOM offensive to secure the control over Afgoye in May 2012 has resulted in the displacement of approximately 11,000 people from the Afgoye corridor – home to the largest IDP concentration in the world – towards Mogadishu between 22 and 25 May 2012.²²

In the central and northern parts of the country, localised clan conflicts over land ownership and access regularly occur in rural areas. In Somaliland and Puntland, the security situation is generally better than in southern Somalia. However, the on-going border dispute between the two entities, as well as 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. Finally, although diminishing, piracy activities still represent a major challenge in the coastal areas of central Somalia and Puntland.²³ 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 has been pushed into the hinterland, generating new sources of insecurity.

3.3.2. Humanitarian Access

One main consequence of conflict and insecurity is reduced humanitarian access. This particularly applies to southern Somalia, which is in great parts controlled by al-Shabaab. In these areas, the ability to operate of humanitarian actors in general and WFP in particular is very limited. For instance, WFP has not been present in al-Shabaab controlled areas since it pulled out of southern Somalia in early 2010.

¹⁸ FSNAU Post Deyr 2011/12 Technical Series Report No VI.43, March 2012.

¹⁹ UNHCR Population Movement Trends for Somalia, <http://data.unhcr.org/horn-of-africa/somalia.php>.

²⁰ Cf. Somalia Report, Trade Returns to the Gedo Region, 14 May 2012.

²¹ Cf. WFP's Food Security and Nutrition Assessments in Mogadishu, October 2011 and January 2012. The trends identified in these two assessments were confirmed by a more recent (April 2012) assessment carried out in cooperation with FEWS NET, FSNAU and NGO partners.

²² UNHCR Somalia Population Movement Trends, 29 May 2012.

²³ WFP Country Office Early Warning Sheet, May 2012.

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 databases 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).²⁴ The graph to the left shows the distribution of attacks against aid workers by type of organisation and year, from 1997 to 2012.²⁵ 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 has experienced a peak in 2008, which corresponds to the expansion of al-Shabaab in southern and central Somalia, and with increased international efforts to limit the group's influence, such as the labelling of the group as terrorist organisation. 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.

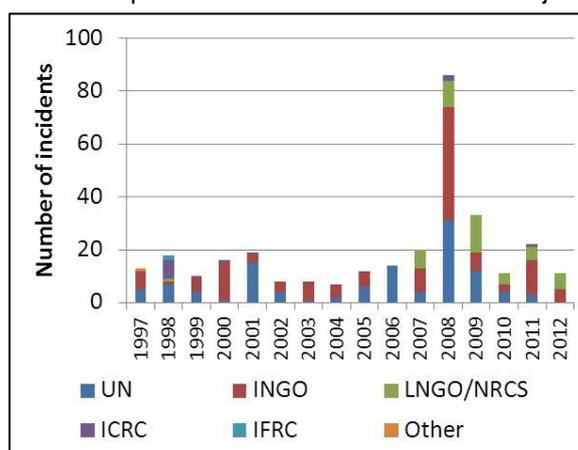


Figure 12: Incidents against aid workers in Somalia, 1997-2012

Incidents increased again in 2011, which might be related to the scale-up of the humanitarian response following the famine declaration in July 2011.

Following the ban imposed by al-Shabaab on WFP in the south in January 2010, nearly 20 more agencies have been expelled from al-Shabaab-controlled areas, including UN agencies and the International Committee of the Red Cross (ICRC). The areas accessible to WFP personnel are mainly concentrated in the north, while the south remains in large parts inaccessible, with the exceptions of the border areas of Lower Juba, Gedo, Bakool and Hiran. 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, it can be a 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 Dynamics²⁶

The clan is one of the major internal cultural divisions in the Somali society. Clan patterns largely correspond to the division between pastoralists – which constitute the majority of the population – and communities relying on agriculture as 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.’²⁷ 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, which is 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’.²⁸ 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.²⁹ 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

²⁴ <https://aidworkersecurity.org/>.

²⁵ 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.

²⁶ This section is largely drawn from Ioan Lewis, Understanding Somalia and Somaliland, Hurst & Co., London, 2008, particularly pp.3-16.

²⁷ Lewis, Understanding Somalia and Somaliland, p. 4.

²⁸ Ibid.

²⁹ For a more detailed overview of the clan distribution, cf. annex 5.

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.³⁰ Moreover, this minority group is often affected by food insecurity, as highlighted by a recent WFP Food Security Assessment in Kismayo.³¹ 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.³² 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.³³ 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.

4. Livelihoods³⁴

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 will be conducted, 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 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 commodity amongst the Somali population. In terms of seasonality, fishing activities are limited during the monsoon season (July to October), which is associated with high seas.
- According to the 2005 UNDP population estimates, around 40% of Somalis live in urban centres, although this number might vary in function of the seasonality, given the predominantly nomadic or semi-nomadic nature of pastoralists in the country. 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 live in Mogadishu and in the Afgoye corridor, where many people have fleeing 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.

³⁰ Joakim Gundel, Clans in Somalia, ACCORD Lecture Report, December 2009, p. 16, <http://www.unhcr.org/refworld/pdfid/4b29f5e82.pdf>.

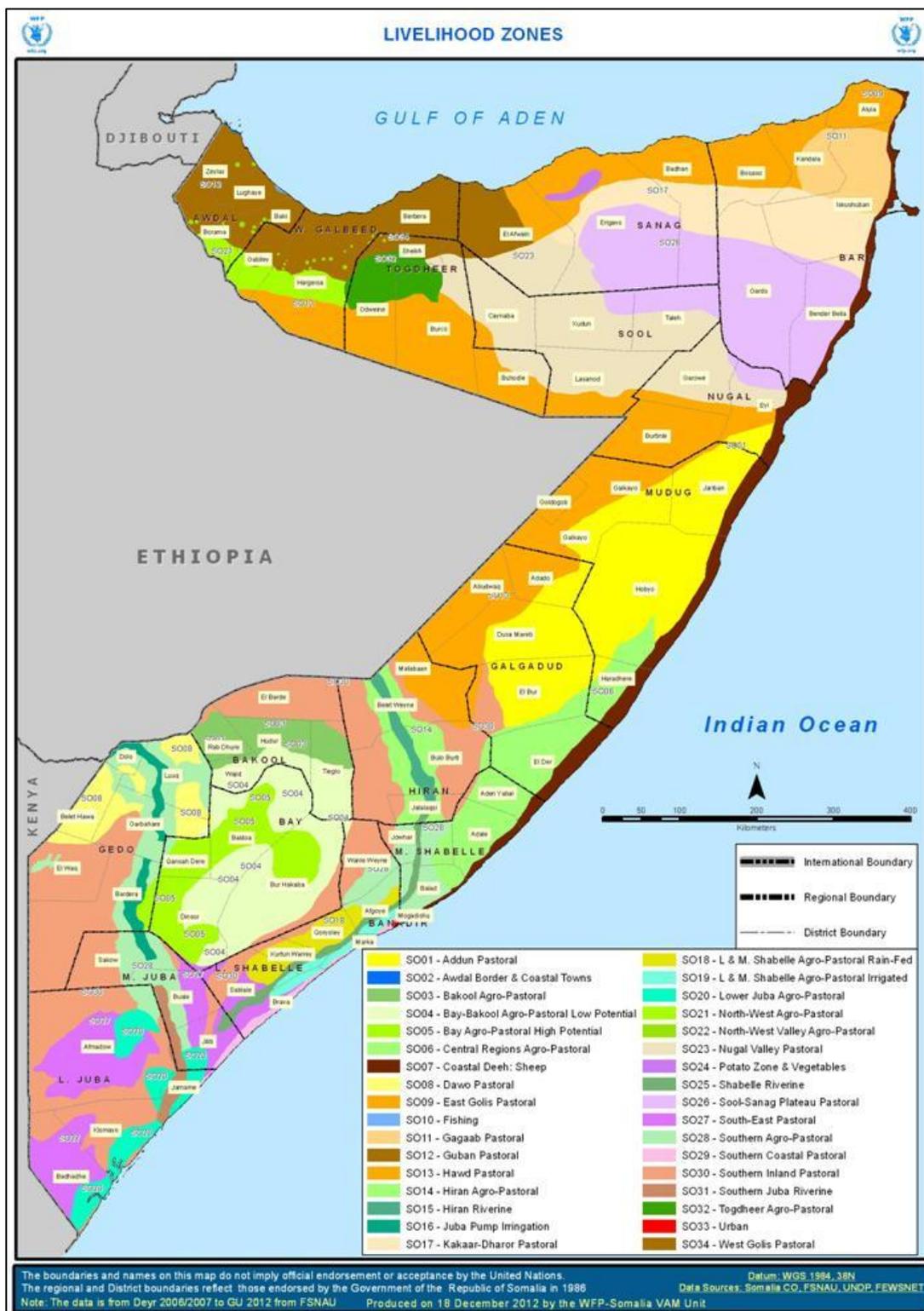
³¹ WFP Rapid Food Security and Nutrition Assessment Kismayo, November 2012.

³² Ioan Lewis, Understanding Somalia and Somaliland, p. 6.

³³ Ibid, p. 12.

³⁴ Sources: WFP, SWALIM, FEWS NET, UNDP.

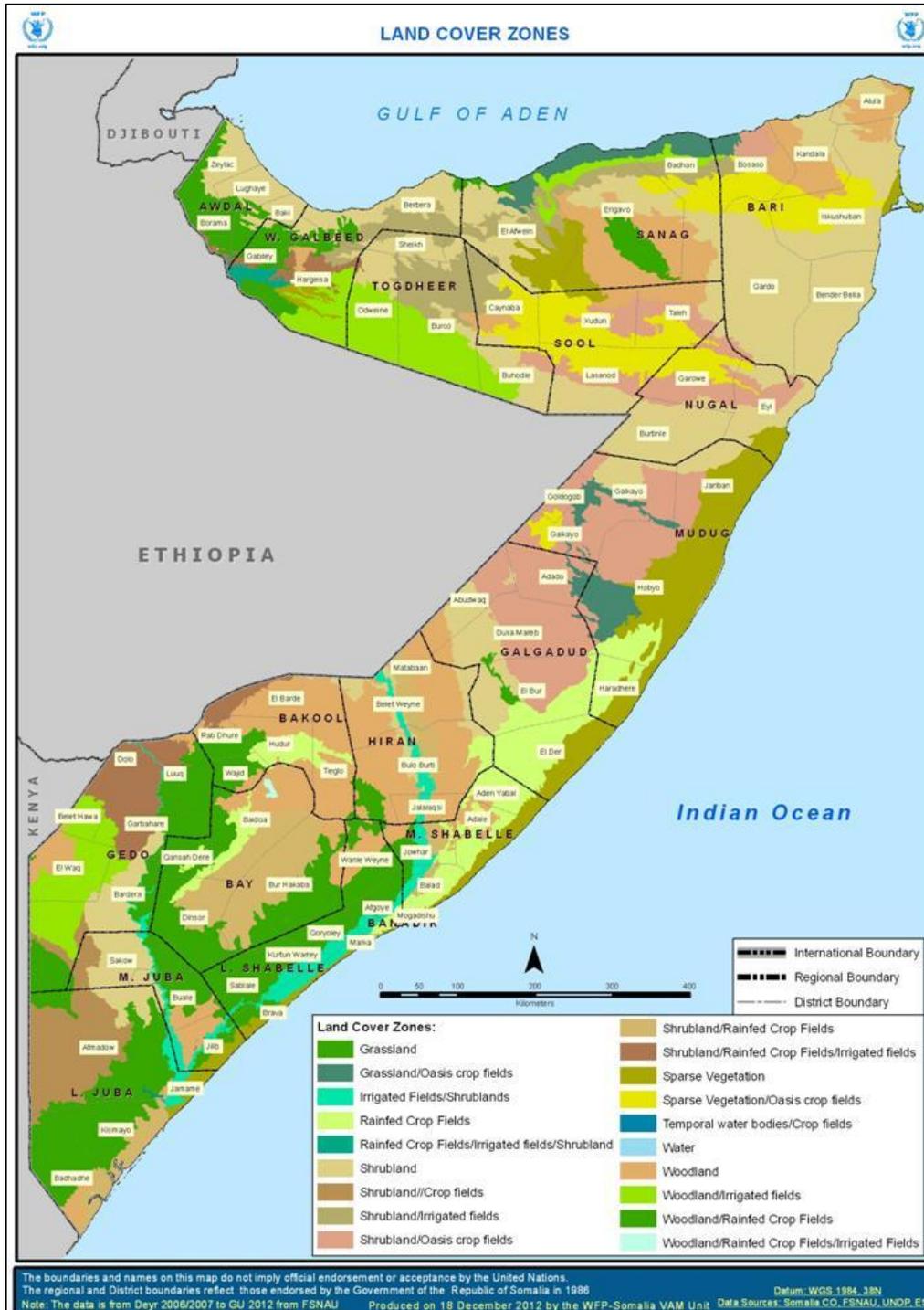
The following two maps illustrate the livelihood zones and water points in Somalia. The first map reflects the discussion of livelihood zones above. There are two main agro-pastoral zones, one in southern Somalia in the area along and between the Juba and Shabelle rivers, and the other one in northern Somalia (Togdheer, W. Galbeed and Awdal regions). The rest of the country is predominantly pastoralist.



Map 27: 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.



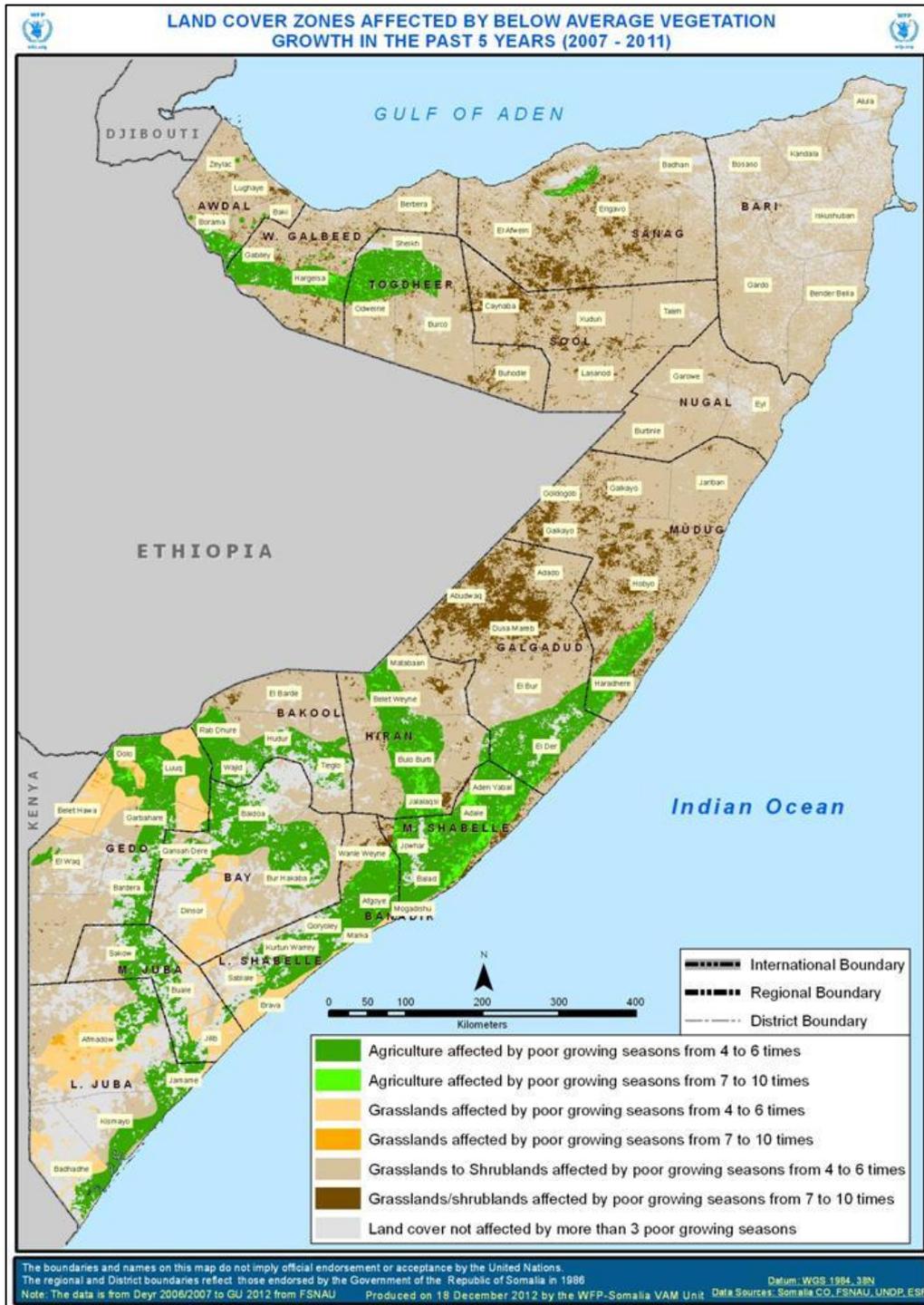
Map 28: Land cover zones

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).

4.3. Land Degradation



Map 30: Land cover zones affected by below average vegetation growth in the past 5 years

Process:
The previous analyses of vegetation growth performance over the last 5 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 5 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 4 to 6 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.

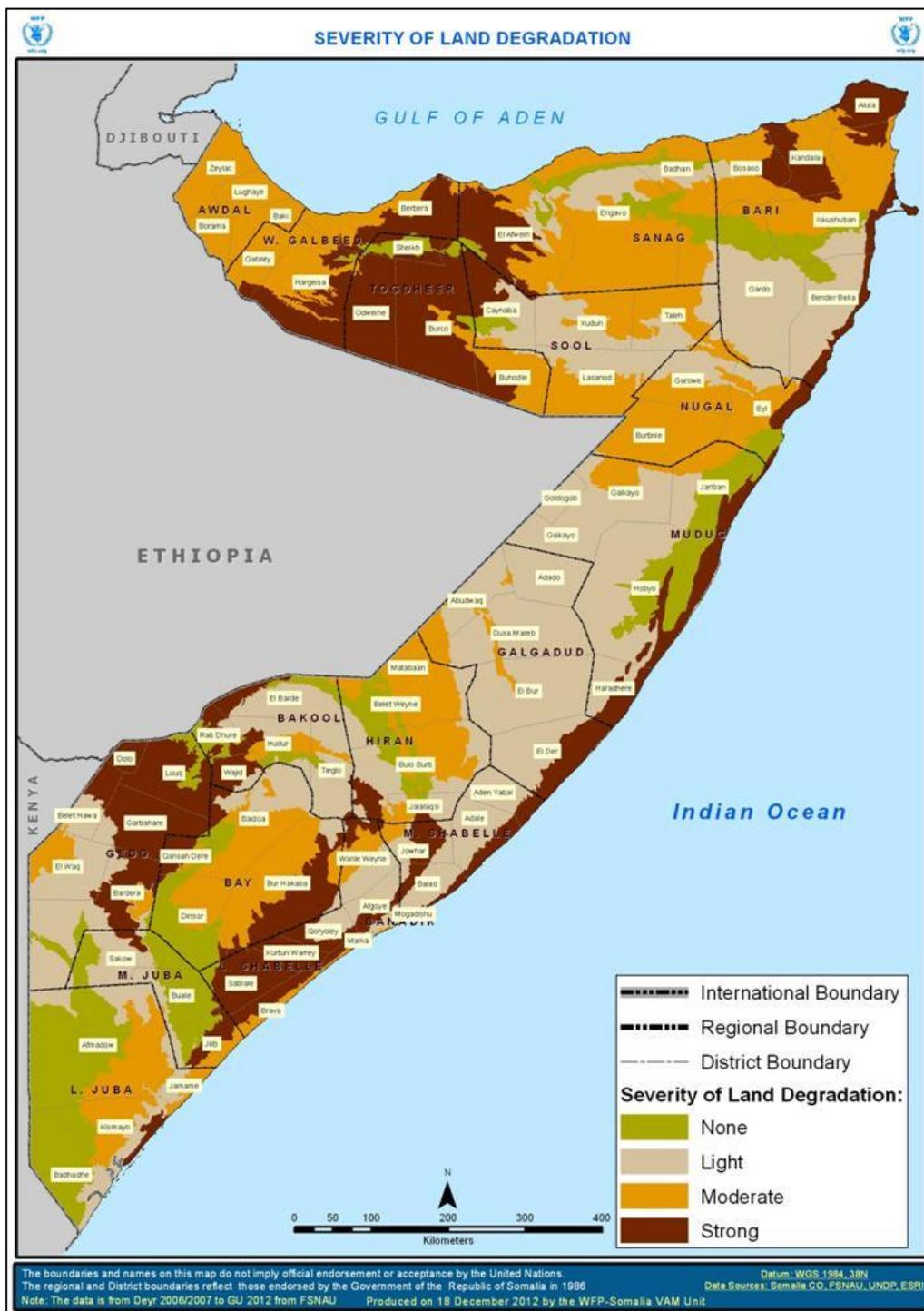
Process:
 Existing data on soil degradation levels (source: SWALIM) was mapped and then overlaid with the land cover zones map, in order to show the level of land degradation that the different livelihoods are exposed to.



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.

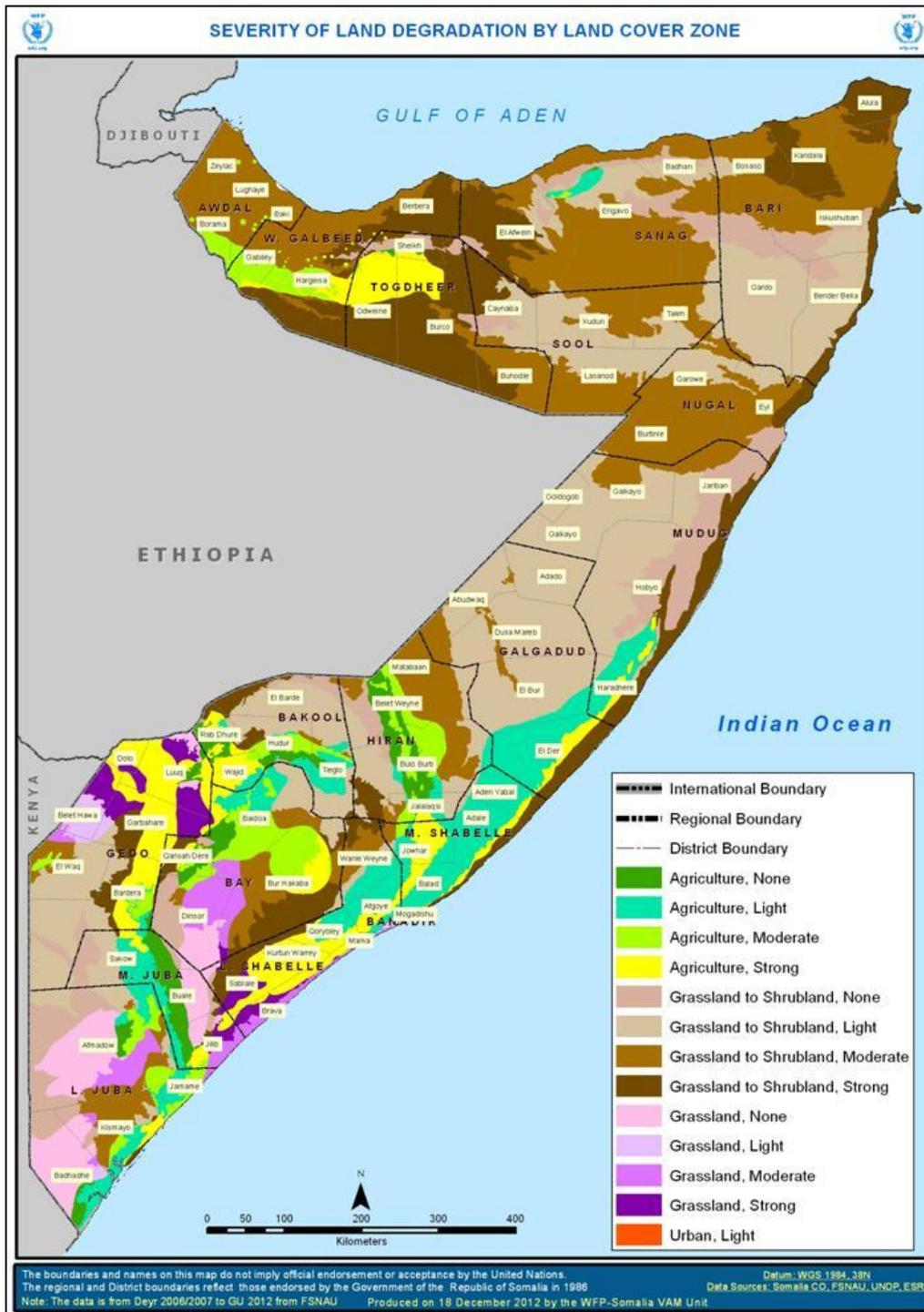


Action/Conclusion:
 The type and severity of land degradation should inform the respective livelihoods interventions.



Map 31: 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, which are often affected by droughts, repeatedly over-grazed, and are 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.



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 32: Severity of land degradation by land cover zone

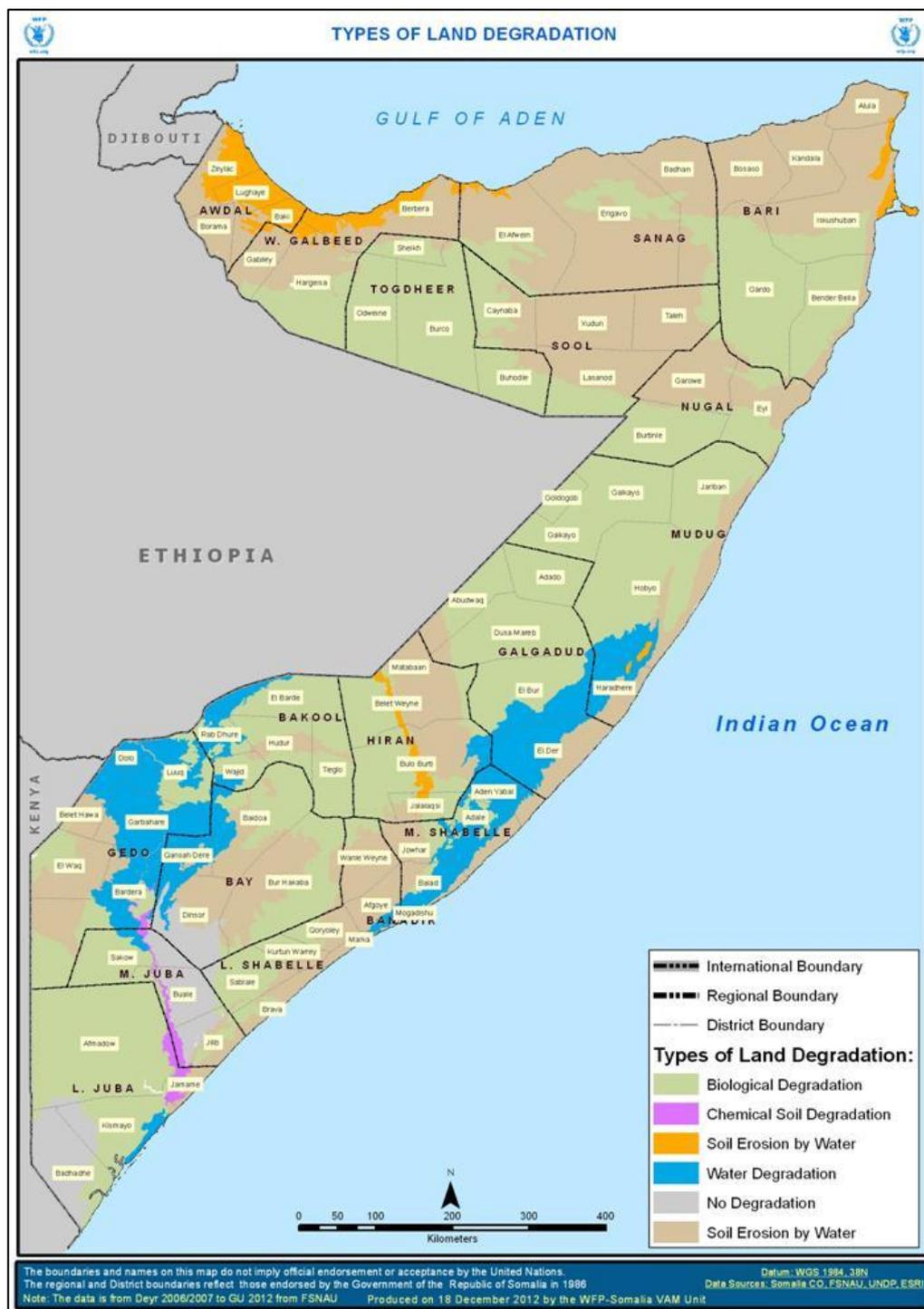
Process:
 The map depicts the types of land degradation (biological, water degradation, chemical etc.) by district, based on a SWALIM Land Degradation Assessment carried out in 2009.



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.



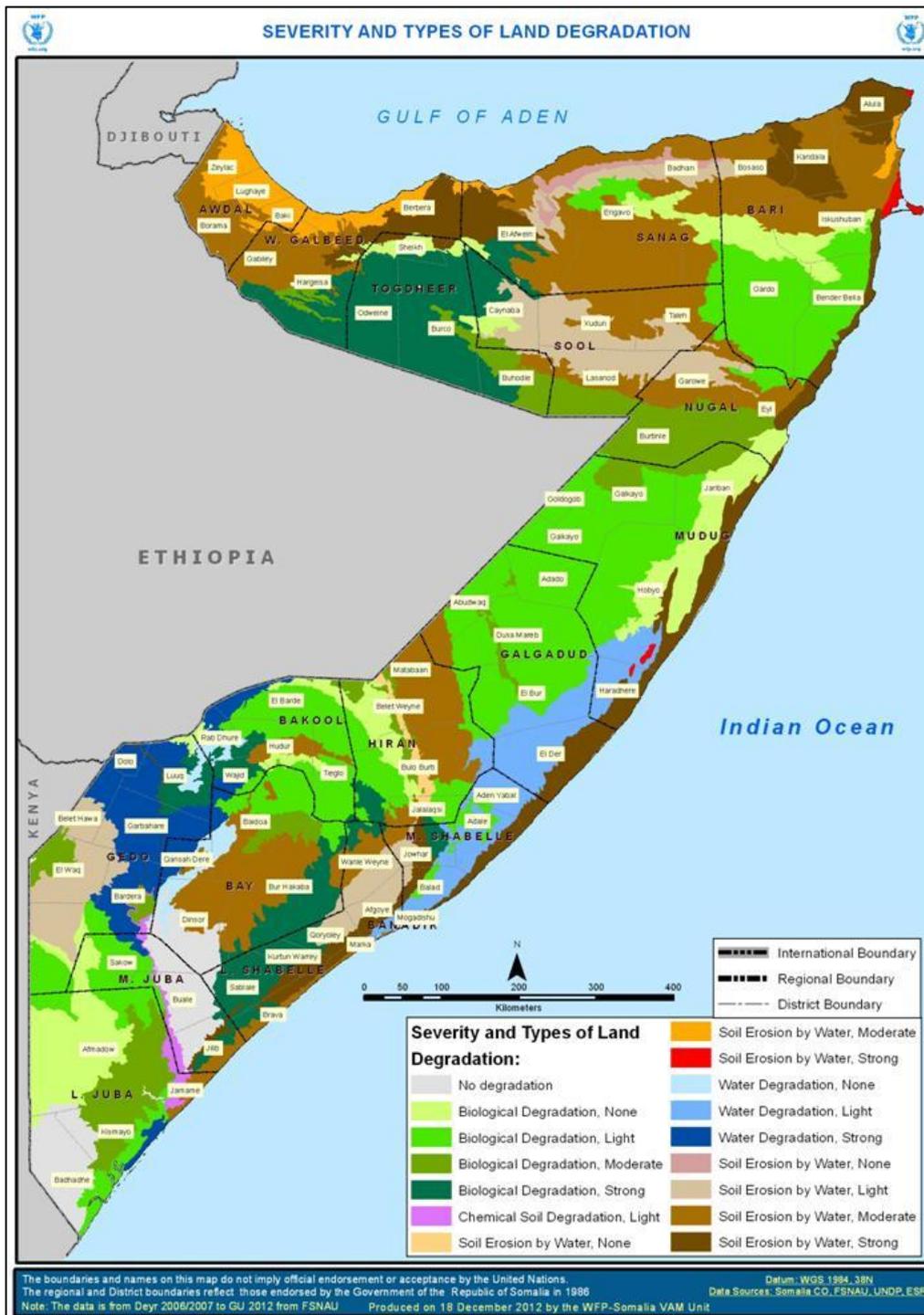
Action/Conclusion:
 This analysis combined with the other factors (food insecurity, NDVI etc) could provide an entry point for programmes such as Food-for-Assets (FFA).



Map 33: 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.³⁵

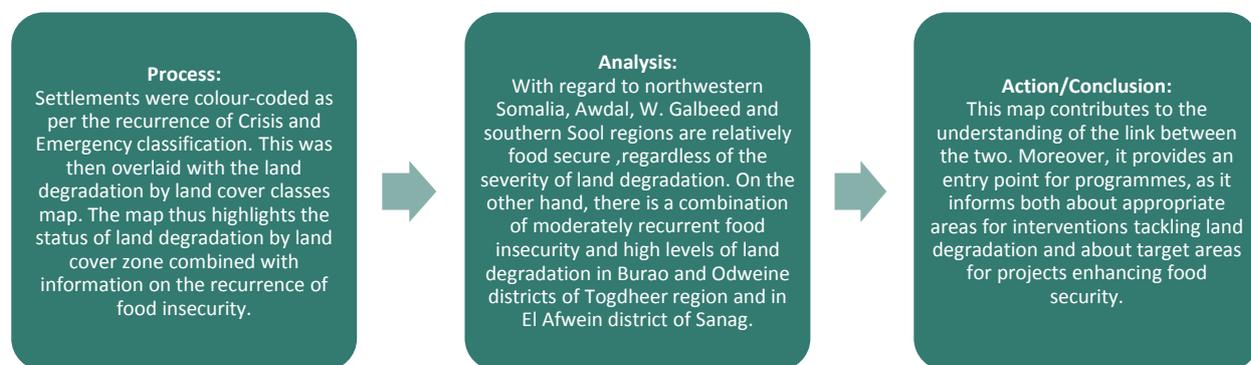
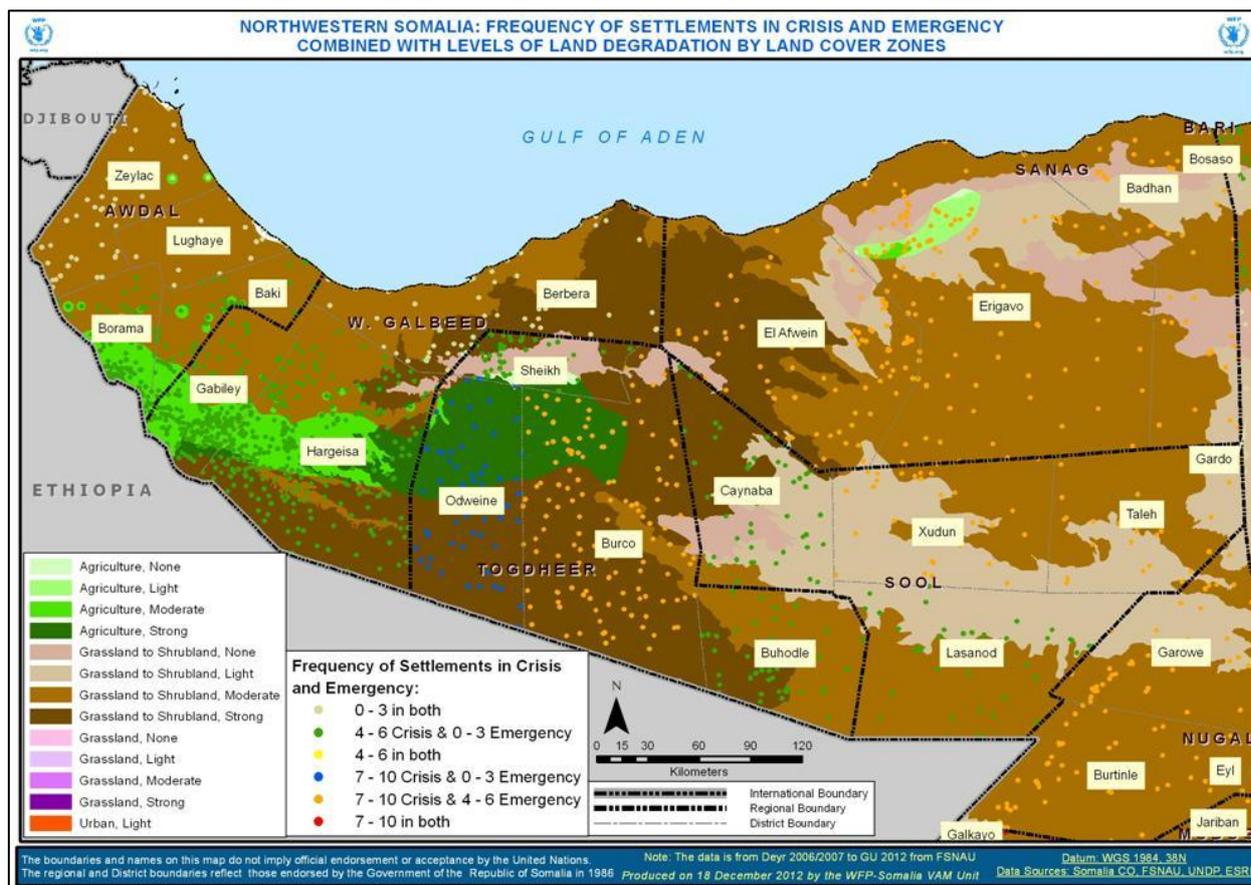
³⁵ SWALIM, Land Resources Assessment of Somalia, Project Report No L-12, August 2007.



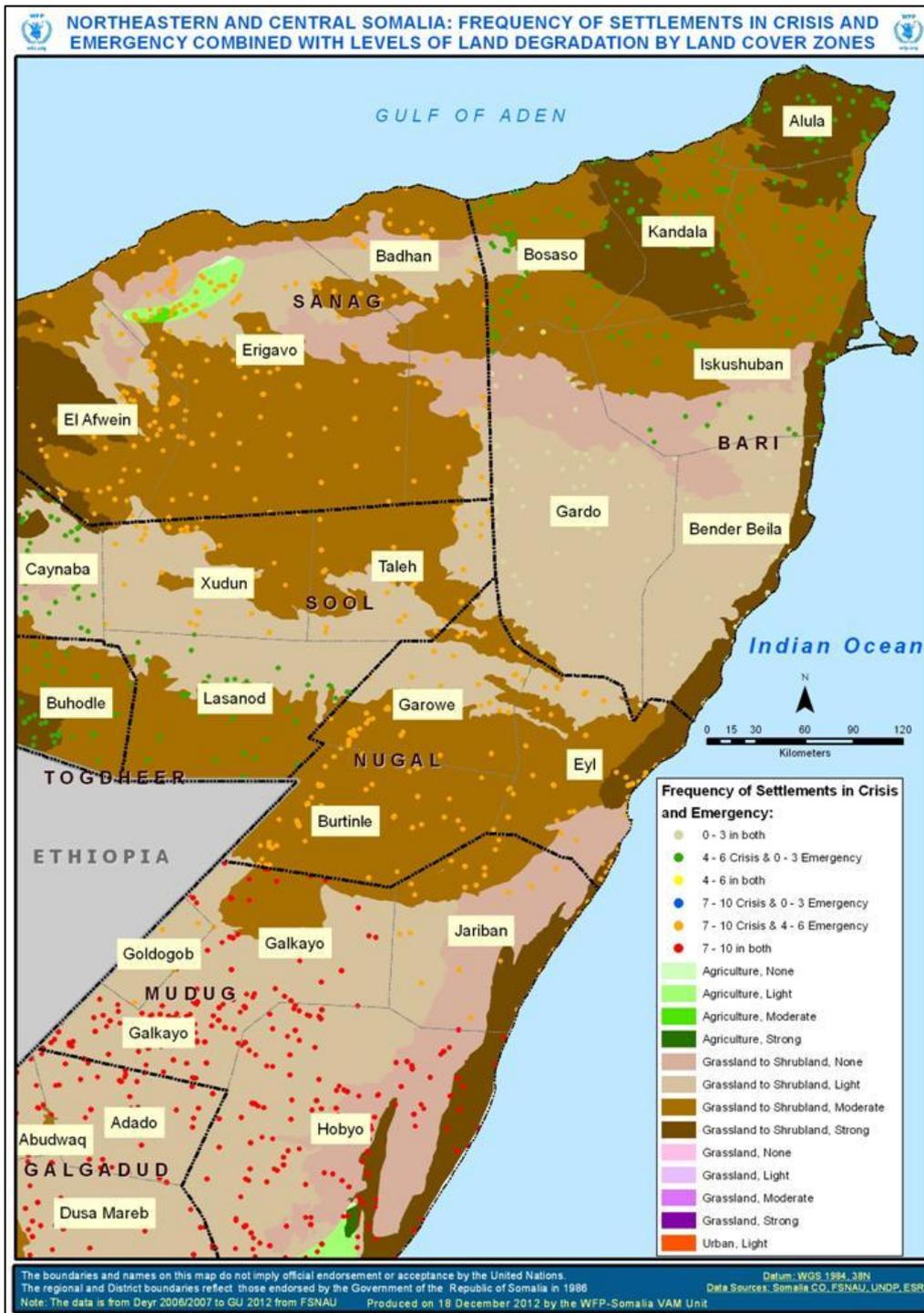
Process:
This map combines information on type and severity of land degradation.

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 (L. 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 35: Frequency of settlements in Crisis and Emergency combined with levels of land degradation by land cover zones (NW Somalia)

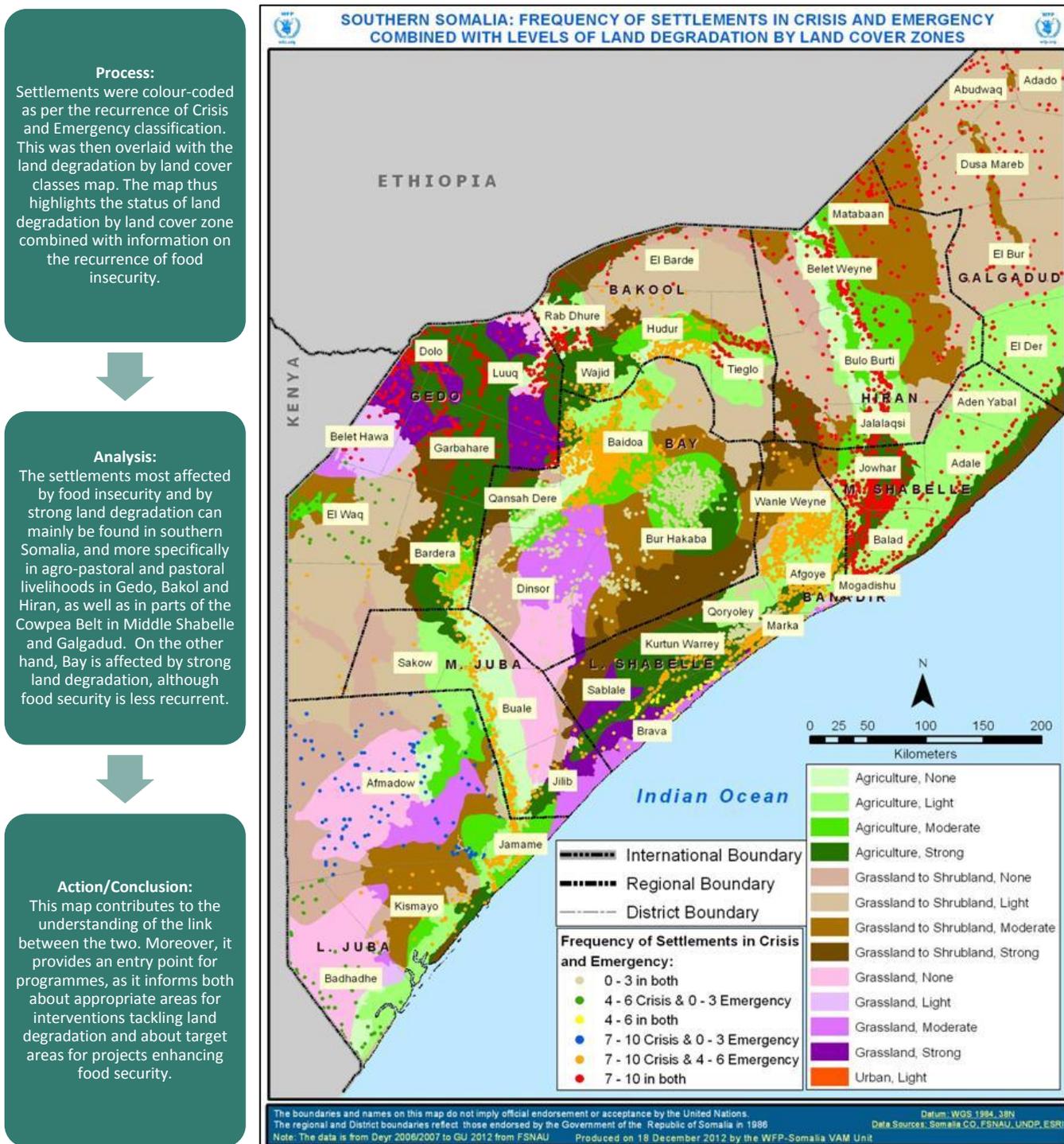


Process:
Settlements were colour-coded as per the recurrence of Crisis and Emergency classification. This was then overlaid with the land degradation by land cover classes map. The map thus highlights the status of land degradation by land cover zone combined with information on the recurrence of food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

Analysis:
The areas most affected by strong land degradation 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 Sanag, 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 36: Frequency of settlements in Crisis and Emergency combined with levels of land degradation by land cover zones (NE and central Somalia)



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

5. Seasonality³⁶

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 Haggaa (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% 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% of the yearly agricultural production. Conversely, in 2010, over 90% 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% of per capita cereal needs.³⁷ 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% 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% 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 1.4 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.

- 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

³⁶ 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.

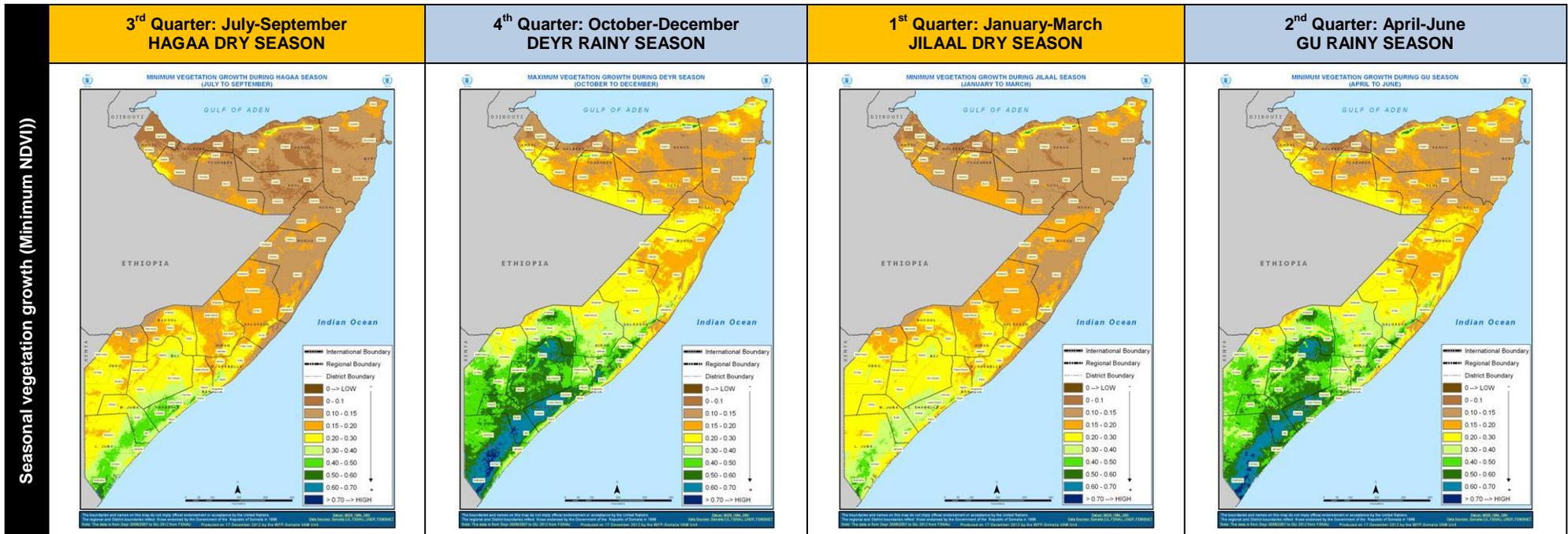
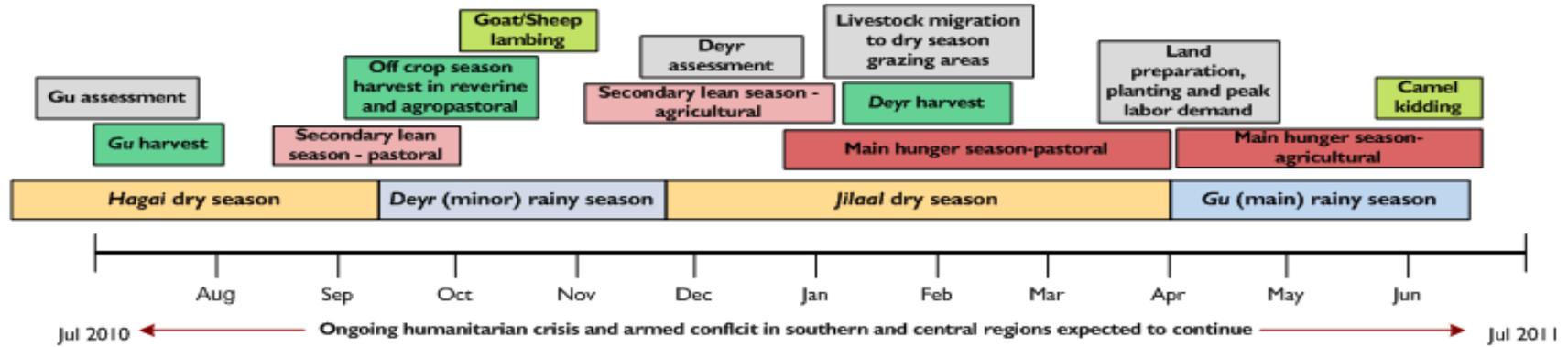
³⁷ WFP, PRRO 200443 Project Document, November 2012.

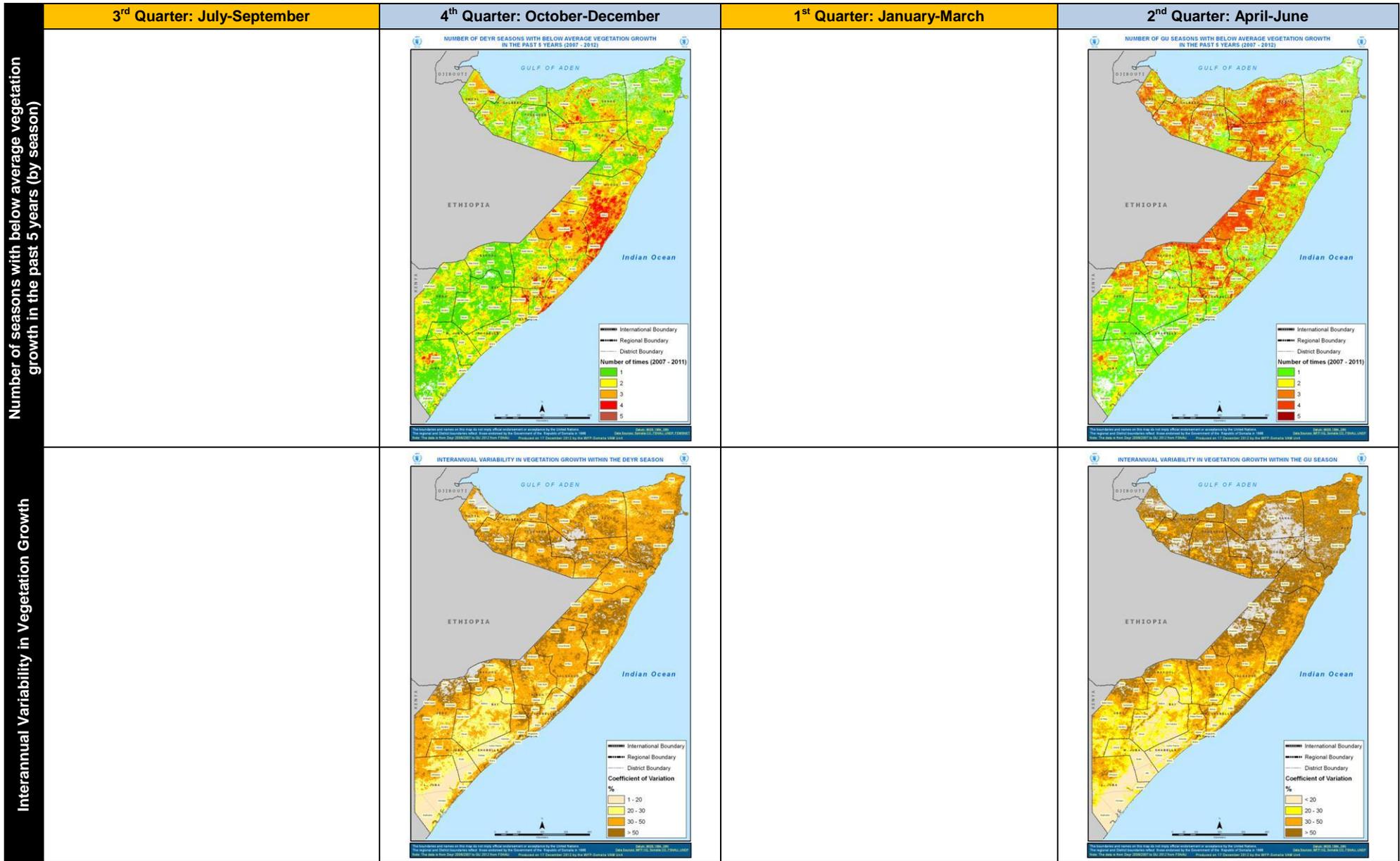
flash floods. However, floods can also lead to excess moisture and have a positive impact on off-season harvests.

- 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 1.36 million IDPs in Somalia.³⁸ 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.

³⁸ UNHCR, May 2012.

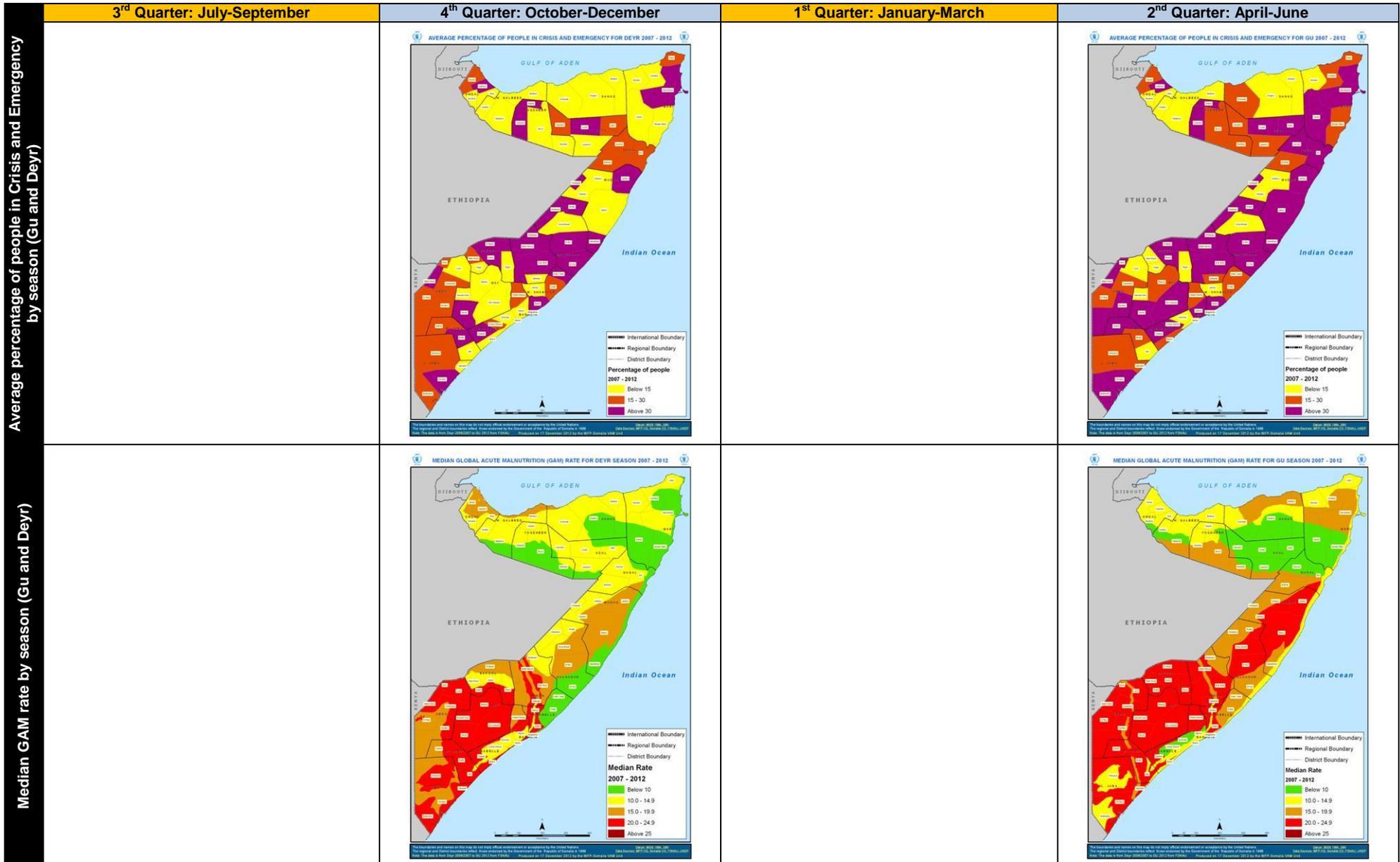
5.1. Seasonality in Vegetation Growth, Food Security and Nutrition





5.1.1. CONCLUSIONS – SEASONAL TRENDS IN VEGETATION GROWTH

| | 3 rd Quarter: July-September | 4 th Quarter: October-December | 1 st Quarter: January-March | 2 nd Quarter: April-June |
|-----------------------------------|---|--|---|--|
| Minimum NDVI | <p>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 Sanag region, where vegetables are cultivated.</p> | <p>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.</p> | <p>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 Sanag and the agro-pastoral livelihood zones in Awdal. Similarly to the Hagaa season, there is a low level of vegetation on the Sool Plateau.</p> | <p>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.</p> |
| Incidence of Poor Growing Seasons | | <p>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.</p> | | <p>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.</p> |
| Variability in Vegetation Growth | | <p>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.</p> | | <p>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.</p> |



5.1.2. CONCLUSIONS – SEASONAL TRENDS IN FOOD AND NUTRITION INSECURITY

| | 3 rd Quarter: July-September | 4 th Quarter: October-December | 1 st Quarter: January-March | 2 nd Quarter: April-June |
|--------------------|---|--|--|---|
| Conclusions | | <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 strong seasonal fluctuation of malnutrition rates 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

| | 3 rd Quarter: July-September | 4 th Quarter: October-December | 1 st Quarter: January-March | 2 nd Quarter: April-June |
|--------------------|--|--|--|--|
| Conclusions | <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 Costal 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 pastoral areas, 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 riverine and agro-pastoral livelihoods, 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 north-western agro-pastoralist livelihood 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 pastoralists. 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 Coastal Deeh 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 Jilaal season, agro-pastoralists 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 pastoral areas, 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 hunger season in agricultural areas. 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 agro-pastoral 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>Cereal prices 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 for 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 HH asset ownership so they do not fall into deeper vulnerability. The productive period during the Gu can be used to maximise HH 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 HH's 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 HH's 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 of asset loss that can compromise future HH capacities. This then becomes a critical period to protect lives and livelihoods. For the rest of the year, programmes can be geared towards helping HH's 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 | | Gu - main rains | | | | | | Deyr - short rains | | | | | |
| Dry seasons | ... | | | | Hagaa - dry season | | | | | Jilal - long dry season | | (Khalil...) | |
| General & health | | | | | | | | | | | | | |
| School terms | Attendance is affected, especially during seasonal movements | | | | | | Young girls collecting water, enrolment issue | | | Attendance is affected due to water/firewood collection | | | |
| Zakat | | | | | peak (based on nb of HH members) | | peak (based on assets) | | | | | | |
| Celebrations | Wedding peak; dances; community issue discussions | | | | Eid (one day) | | Wedding peak; Hadj | | | Molud (one day) | | | |
| Physical road access | Roads can be blocked in rainy seasons, hampering vehicle access to markets/other infrastructure (e.g. health posts - though there are not many). Access possible by foot if distances short. | | | | | | | | | | | | |
| Market price: Sorghum (local) | prices at peak level but much less demand from pastoralists | | | | harvest | | low price | | | harvest and low price | | increasing prices | |
| Market price: Rice (imported) | peak (waiting for boats shipping the imported rice) | | | | | | | | | | | | |
| Water shortages | Increasing difficulties | | | | | | | | | | | | |
| Acute Malnutrition (observ.) | Highest - milk still not available, and consumption shortfalls | | | | | | | | | | | | |
| Acute watery diarrhoea | Peak AWD | | | | | | | | peak AWD (and other diseases) | | | | |
| Malaria | | | | | peak | | | | | | peak | | |
| Pastoralists | | | | | | | | | | | | | |
| Most difficult/best months (W) | Same responses from women and men | | | | | | | | | | | | |
| Most difficult/best months (M) | Same responses from women and men | | | | | | | | | | | | |
| Food stresses | Peak hunger gap | | | | peak | | | | | start of hunger gap | | | |
| Seasonal movements | Movements 15-20 km from homestead, either with the whole family members (2/3) or men/young adults only (1/3) | | | | | | | | | | | | |
| Farmer/pastoralist conflict | All year but mainly during movements (e.g. land closing, new settlements on pastoral lands, etc.) | | | | | | | | | | | | |
| Animal diseases | Diseases linked to wetter season | | | | | | Higher disease transfers occur at concentrated waterpoints | | | | | | |
| Camel reproduction | Conceive/birth anytime during rainy seasons | | | | | | | | | | | | |
| Sheep & goats reproduction | Peak - sheep & goats birthing | | | | Peak - only goats reproduce twice a year; sheep kidding in Deyr will be from conception during the previous Deyr | | | | | | | | |
| Camel milk & dairy sales | Highest production & sales - lowest prices | | | | Low production & sales - higher prices | | | | Highest production & sales - lowest prices | | | | |
| Sheep/goat milk & dairy sales | Peak during rainy seasons | | | | Peak during rainy seasons | | | | Low production & sales - higher prices | | | | |
| Camel sales | | | | | peak for the Hadj, 4/5 years male camels for export, highest prices | | | | Highest sales (incl productive female) - low quality & low prices | | | | |
| Sheep & goats sales | | | | | Highest sales, low prices (local market) | | | | High sales for Hadj, male, prices high | | | | |
| Camel slaughtering | No slaughtering during a typical year, unless for funerals and ceremonies | | | | | | | | | | | | |
| Skins/Hides sales | Throughout the year, no specific peak | | | | | | Throughout the year, no specific peak | | | | | | |
| HH expenditure patterns | Peak (food, water, but also clothing, etc) when people come to town | | | | | | | | | | | | |
| Agro-Pastoralists | | | | | | | | | | | | | |
| Most difficult/best months (W) | Less work, milk prod., water is avail. | | | | Hunger period+chasing birds and other tasks | | | | Some cereals in stock, water not far | | | | |
| Most difficult/best months (M) | Water scarcity+assist land preparation+other tasks | | | | | | | | | | | | |
| Food stresses | Hunger gap increases (slight easing with Gu and milk production) and becomes acute before the harvests | | | | | | | | | | | | |
| Sorghum (qty) duration | 3 months own consumption+sales | | | | | | | | | | | | |
| Maize (qty) duration | 2 months own consumption+sales | | | | | | | | | | | | |
| Fodder (residues) | 2 months own consumption+sales | | | | | | | | | | | | |
| Sorghum/Maize production | Planting (men/women) | | Weeding m/w | | Chase birds | | Harvest (m) | | Land prep | | Planting | | |
| Cash crop: Watermelon | | | | | Harvest in July (mainly men) | | Watermelon sales | | | | | | |
| Cash crop: Tomatoes etc | Land prep | | | | Planting | | | | Harvest | | | | |
| Cowpeas | Could not get a clear picture | | | | | | | | | | | | |
| Labour (hiring) | No casual labour hired for above activities | | | | | | | | | | | | |
| HH expenditure patterns | peak - farm inputs (seeds and tools) | | | | | | | | | | | | |
| Barlawe | (Note: there were no representative from this group during the consultation, so the Barlawe were not explored in detail) | | | | | | | | | | | | |
| Income | Main sources related to casual labour where it can be found, kinship support and remittances, assistance from others (e.g. Diaspora or Agency/NGO funds and programme support) | | | | | | | | | | | | |
| Women: Labour opportunities | Charcoal making, petty trade and teashops, housekeeping, casual labour, etc. | | | | | | | | | | | | |
| Men: Labour opportunities | Charcoal, hired labourers in construction, portering and livestock markets - e.g. export trade to the Gulf (e.g. grass collection & bundling for fodder, watering animals, loading on boats, etc) | | | | | | | | | | | | |
| Difficulties | It was noted that Barlawe are linked to an urban economy, are highly poor, and would experience year-round hardships, thereby requiring long-term targeted investments to ensure access to basic services and to build/support livelihoods | | | | | | | | | | | | |

5.2.2. Bad Year

| Burao & Oodweyne Districts - Somaliland - Bad Year Calendar | | | | | | | | | | | | | | |
|---|---|--------------|------------------------|--|--------|--|--|-----------------|-------------------------|---|----------|-------------|-------------------------|--|
| Months | April | May | June | July | August | September | October | November | December | January | February | March | | |
| Rainy seasons | Gu failed - very sporadic and less rains in qty in Apr/May | | | | | | Deyr failed - very sporadic rains, much less rains in qty | | | | | | | |
| Dry seasons | ... | Jilal longer | | Hagaa longer | | | | | | Jilal more severe | | (Khalil...) | | |
| General & health | | | | | | | | | | | | | | |
| School terms | | | | | | | enrolment issue (movement, cannot pay fees, etc.) | | | | | | | |
| Zakat | | | | | | | peak (based on nb of HH members) - but might be less | | | peak (based on assets) but might be less | | | | |
| Celebrations | Wedding peak (lower) | | Eid (one day) | | | Hajj; Wedding peak (lower) | | Molud (one day) | | | | | | |
| Physical road access | In bad years, there is year-round vehicle access to roads - hence to infrastructures (e.g. markets, health posts, etc.). Health posts/centres however are limited in coverage. | | | | | | | | | | | | | |
| Market price: Sorghum (local) | Prices remain high until there is a harvest | | | | | | | | | | | | | |
| Market price: Rice (imported) | | | | | | | peak (waiting for boats shipping the imported rice) | | | Overall increase in price due to increased demand | | | | |
| Water shortages | increased peak difficulty | | water for 2 months max | | | Difficulties starting much earlier during the year | | | Increasing difficulties | | peak | | | |
| Acute Malnutrition (observ.) | Reached a peak during the previous Jilal. Constant increase. | | | | | | | | | | | | | |
| Acute watery diarrhoea | no AWD peak | | | | | | peak AWD and other diseases | | | | | | | |
| Malaria | no peak | | | | | | | | | peak (but less) | | | | |
| Pastoralists | | | | | | | | | | | | | | |
| Most difficult/best months (W) | Difficulties increase incrementally throughout the year - if the Gu fails the Hagaa is the worst, if the subsequent Deyr also fails Jilal is the most severe period | | | | | | | | | | | | | |
| Most difficult/best months (M) | Difficulties increase incrementally throughout the year - if the Gu fails the Hagaa is the worst, if the subsequent Deyr also fails Jilal is the most severe period | | | | | | | | | | | | | |
| Food stresses | | | | | | | | | | | | | | |
| Seasonal movements | Men/young men don't come back until there is a 'typical' Gu | | | | | | Out-migration to towns is observed | | | | | | | |
| Farmer/pastoralist conflict | More disputes during movements especially where there is pasture/browse/water. These resources don't last long and disputes stop. | | | | | | | | | | | | | |
| Animal diseases | Livestock diseases occur & increase throughout the year: higher disease transfer occurs at concentrated waterpoints and greater susceptibility due to poor & weakened body condition | | | | | | | | | | | | | |
| Camel reproduction | No conception. Calving (young do not survive) | | | Spontaneous miscarriage (previous Deyr conception) | | | No conception | | | | | | | |
| Sheep & goats reproduction | Birthing lower - young do not survive | | | | | | No conception of goats | | | | | | | |
| Camel milk & dairy sales | Reduced milk production - limited sales, kept for HH consumption | | | | | | No milk (no calving) | | | | | | | |
| Sheep/goat milk & dairy sales | No sales - any milk production kept for HH consumption | | | | | | | | | | | | | |
| Camel sales | Sales begin and gradually increase throughout the year but at low prices | | | | | | Low sales (for export) - can be sold only if in good condition | | | Highest sales - low quality & low prices | | | | |
| Sheep & goats sales | Sales begin and gradually increase (low prices) | | | | | | Low sales (for export) - if in good condition | | | Sales continue as required by individual HH's | | | | |
| Camel slaughtering | Camels slaughtered as a last resort (unless for ceremonies/funerals) - would need to be three failed rains in a row before conditions severe enough for slaughtering | | | | | | | | | | | | | |
| Skins/Hides sales | Occurs throughout the year - no specific peaks | | | | | | | | | | | | | |
| HH expenditure patterns | Continue to rise throughout the year for food, water, HH essentials, medicines etc. - income & food primarily from sales of animals, loans (kin/shopkeepers), & kinship support | | | | | | | | | | | | | |
| Agro-Pastoralists | | | | | | | | | | | | | | |
| Most difficult/best months (W) | Difficulties increase incrementally throughout the year - if the Gu fails the Hagaa is the worst, if the subsequent Deyr also fails Jilal is the most severe period | | | | | | | | | | | | | |
| Most difficult/best months (M) | Difficulties increase incrementally throughout the year - if the Gu fails the Hagaa is the worst, if the subsequent Deyr also fails Jilal is the most severe period | | | | | | | | | | | | | |
| Food stresses | | | | | | | | | | | | | | |
| Sorghum (qty) duration | | | | | | | no harvest | | | no harvest | | | | |
| Maize (qty) duration | | | | | | | no harvest | | | no harvest | | | | |
| Fodder (residues) | | | | | | | no harvest no residus | | | no harvest no residus | | | | |
| Sorghum/Maize production | Planting (m/w) (land prep was in March) | | | no harvest | | | Land prep (m) | | Planting | | | no weeding | | |
| Cash crop: Watermelon | planting was in March | | | Much lower harvest. Not sold, for own consumption | | | | | | no harvest | | | Planting, by men mainly | |
| Cash crop: Tomatoes etc | Land prep | | | Planting | | | Much lower harvest. Not sold, for own consumption | | | | | | | |
| Cowpeas | Could not get a clear picture | | | | | | | | | | | | | |
| Labour (hiring) | No casual labour hired for above activities | | | | | | | | | | | | | |
| HH expenditure patterns | Continue to rise throughout the year for food, water, HH essentials, medicines etc. - income & food primarily from sales of animals, loans (kin/shopkeepers), & kinship support | | | | | | | | | | | | | |
| Barlawe | (Note: there were no representative from this group during the consultation, so the Barlawe were not explored in detail) | | | | | | | | | | | | | |
| Income | Main sources related to casual labour where it can be found, kinship support and remittances, and assistance from others (e.g. Diaspora or Agency/NGO funds and programme support) | | | | | | | | | | | | | |
| Women: Labour opportunities | Charcoal making, petty trade and teashops, housekeeping, casual labour, etc. | | | | | | | | | | | | | |
| Men: Labour opportunities | Charcoal, hired labourers in construction, portering, and livestock markets - e.g. export trade to the Gulf (e.g. grass collection & bundling for fodder, watering animals, loading on boats, etc) | | | | | | | | | | | | | |
| Difficulties | It was noted that Barlawe are linked to an urban economy, are highly poor, and would experience year-round hardships, thereby requiring long-term targeted investments to ensure access to basic services and to build/support livelihoods. | | | | | | | | | | | | | |

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 | | | | | Deyr - short rains | | | | | |
| ...) | | | Hagaa - dry season | | | | | | Jilaal - long dry season | | (Khalili... |

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| <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 HH 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 1 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>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 HH expenditures.</p> <p>The entire HH will be around the homestead, as those moving have returned with the animals and are using the browse and pastures in land they had 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 HH 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</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,</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 HH 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 HH 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> |
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|---|---|---|--|
| <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 HH 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>HH expenditures at this time are mainly for human and animal health, non-food HH needs and investments, and obligations surrounding celebrations.</p> | <p>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>HH expenditures at this time are mainly for food, medicines, school fees, and other non-food HH needs.</p> | <p>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>HH 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 HH's, and for human and animal health, non-food HH needs and investments, and obligations surrounding celebrations.</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 HH's, 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>HH's 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> |
|---|---|---|--|

5.2.4. Agro-Pastoralists – Typical Year

| Burao & Oodweyne Districts - Somaliland - Typical Year Calendar | | | | | | | | | | | |
|---|-----------------|------|--------------------|--------|-----------|--------------------|----------|----------|--------------------------|----------|-------------|
| April | May | June | July | August | September | October | November | December | January | February | March |
| | Gu - main rains | | | | | Deyr - short rains | | | | | |
| ...) | | | Hagaa - dry season | | | | | | Jilaal - long dry season | | (Khalili... |

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|--|---|--|--|
| <p>The Gu is regarded as a difficult period by men and women, due to high food stresses and agricultural activities. This increases as the Gu progresses and the difficulties peak in the Hagaa.</p> <p>The hunger gap starts with the Gu, and their limited livestock ownership is insufficient for them to fully rely on milk and meat production, despite the better conditions for animals that rains bring.</p> <p>Food needs to be purchased from the markets at higher prices. There is a need to purchase farming inputs and seeds which further increase HH expenses.</p> <p>A better period is noted by women in the middle of the Gu, linked to reduce workloads collecting water and because of milk production. Cash crops are harvested at the end of the Gu.</p> <p>Other indicators – such as health (AWD and malaria), livestock and cereal market prices, road access to infrastructure and services, conflict over land closure, celebrations etc. remain the same as those of pastoralists (and will not be repeated here).</p> | <p>The beginning of the Hagaa is seen as the most difficult period, following on from the difficulties of the Gu. Once the sorghum/maize harvest come in August / September, conditions greatly improve.</p> <p>Women consider July as the most difficult month due to high workloads, and food and water shortages.</p> <p>Food needs to be purchased, and cereal prices are at their highest before the harvests. They own less livestock, and high market supply from pastoralists lowers the prices, so their purchasing power and terms of trade are low.</p> <p>The harvests provide immediate relief, improving income and consumption, and lowering market prices – men perceive this to be one of the best times of the year. Crop residues are cut and stored as livestock fodder for use in the Jilaal, which helps maintain animal conditions.</p> <p>Other indicators – those related to health (malaria), livestock production, and cultural obligations (Eid and zakat) remain the same as those of pastoralists (and will not be repeated here).</p> | <p>The Deyr is regarded as the best time of the year, due to the cereal harvests from the Hagaa, and the second harvest that will come in at the end of the Deyr. It is also a time of celebrations.</p> <p>The onset of the rains relieves stress over water shortages and improves animal conditions and subsequent production. Livestock is birthing and increasing HH assets.</p> <p>Although there will be a period of high workloads in the fields linked to the second harvest, women feel that this a good period as water is close, there are good food stocks from the harvests and animal production, and there is a rest period once the harvest is in.</p> <p>Other indicators – such as health (AWD and malaria), livestock and cereal market prices, road access to infrastructure and services, conflict over land closure, celebrations etc. remain the same as those of pastoralists (and will not be repeated here).</p> | <p>The first half of the Jilaal is regarded as a relatively good period by the agro-pastoralists as it corresponds to a post-harvest period.</p> <p>However, the end of the Jilaal (the Khalili) begins to see hardships related to water shortages and high temperatures, and the start of food stresses as stocks from the harvest are exhausted.</p> <p>Additionally, land preparation begins at this time, and workloads increase – particularly for women who have to spend more time collecting water as well as working in the fields.</p> <p>This period corresponds to a peak of expenditures for agro-pastoralists who need to purchase farm inputs (e.g. seeds and tools), etc.</p> <p>Other indicators – those related to health (malaria), livestock production and increased HH food expenditures at higher prices, water purchases and expenses etc. remain the same as those of pastoralists (and will not be repeated here).</p> |
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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 HH 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. 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 HH food needs would be met. Men on the other hand indicated a preference for cash based programming, given that bad years bring about increased HH expenditures both on food and non-food needs.

| 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 | | | | | | Deyr failed - very sporadic rains , much less rains in qty | | | | | |
| Jilal longer and more severe | | | Hagaa longer and more difficult | | | | | | Jilaal 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 HH. 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>The Hagaa 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>The failure of the Deyr 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>The Jilaal 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, HH's 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> | | |

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| <p>HH expenditures increase – 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>Agro-pastoralists will still work on preparing lands for the Deyr harvest period, in the event that these rains come. Similarly, there will be HH 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>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> |
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6. Markets

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, this is not the case for Somalia. 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 a significant activity.

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, which are inaccessible for WFP in southern Somalia. The following market analysis is mainly based on a WFP Study on 'Food Market and Supply Situation in Southern Somalia', published in October 2011, and a WFP 'Analysis of the Structure, Conduct and Performance of the Cereal and Sugar Market' in Somalia, published in January 2010.³⁹

6.2. Market Structure and Trader Response Capacity

Trade is well established throughout Somalia. Big traders who have the financial and logistic capacity to deal with restrictions on movement in order to ensure supply from import sources to wholesalers and retailers through their networks secure supplies. While individual retailers may play a limited role in any supply-side intervention, those organized in associations (including women trader associations) could play a role in supplying local staple commodities (maize or sorghum) to the beneficiaries of humanitarian interventions.⁴⁰

6.3. Food Supply Situation

More than 60 per cent of the Somalia food supply is imported. The share of rice imports in the total cereal supply has remained stable between 17-21 per cent in recent years (2005-2010), including during the global food price crisis of 2008. Recent increases of rice and wheat flour imports have not had any major impact on domestic retail prices due to transmission effect of global prices. Furthermore, imported cereals, rice in particular, are consumed mainly by urban and better-off households. Imported cereals and cross-border trade inflows are not enough to fill the overall domestic cereal (mainly maize and sorghum) supply gap. Although being very high, FSNAU estimates the 2012 cereal production of the main harvest (Gu) at 386,000 tons (190% of the 5-year average 2007-2011), while cereal imports (commercial and food assistance) are estimated at 537,000 tons. Thus, the 2012 domestic cereal supply gap is estimated at nearly 200,000 tons.⁴¹

6.4. Market Integration

Cereal markets are well integrated with global and regional markets. Domestic cereal-market integration has, however, been hampered by trade restrictions from neighbouring countries, internal trade-restrictions due to increased insecurity and domestic supply-failure in the main local-cereal source markets of the Shabelle and Juba Valleys and the Sorghum Belt. In general, markets are weakly integrated within Gedo region. However, the re-opening of the main highway linking Gedo to Mogadishu in April 2012 has facilitated the resumption of increased market activity and integration in the region.⁴² The situation has also deteriorated between Mogadishu and the rest of Middle Shabelle since 2008 compared to 2003-2007. The districts of Adan-Yabal, Luuq, Belet Hawa are also weakly integrated with the rest of Southern Somalia. Alongside interventions to meet nutrition, health, WASH and livelihoods needs, free food distribution would be an appropriate response in areas where humanitarian access is granted and markets are weakly integrated.

6.5. Price Volatility

In 2011, Somalia – and particularly southern Somalia – experienced a food price crisis which was by far more severe than in 2008, and which contributed to the July 2011 famine. Cereal prices more than tripled in major markets of southern 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 markets and the red sorghum market in particular seem to be recovering from the 2011 crisis, although they remain well above the 2003-2007 average. Compared to 2011, red sorghum prices are considerably lower in the south (up to 70% lower), while they are slightly lower in central Somalia and Puntland. In Somaliland, markets

³⁹ WFP, 'Food Market and Supply Situation in Southern Somalia', October 2011.

⁴⁰ Ibid.

⁴¹ FSNAU Post Deyr 2011/12 Technical Series Report No VI.43, Cereal Balance Sheet, March 2012.

⁴² Noor Ali Farah, 'Trade Returns to the Gedo Region', Somalia Report, 14 April 2012.

are more stable than in the south, and the region has experienced no major abnormal price developments since the 2008 food crisis.⁴³

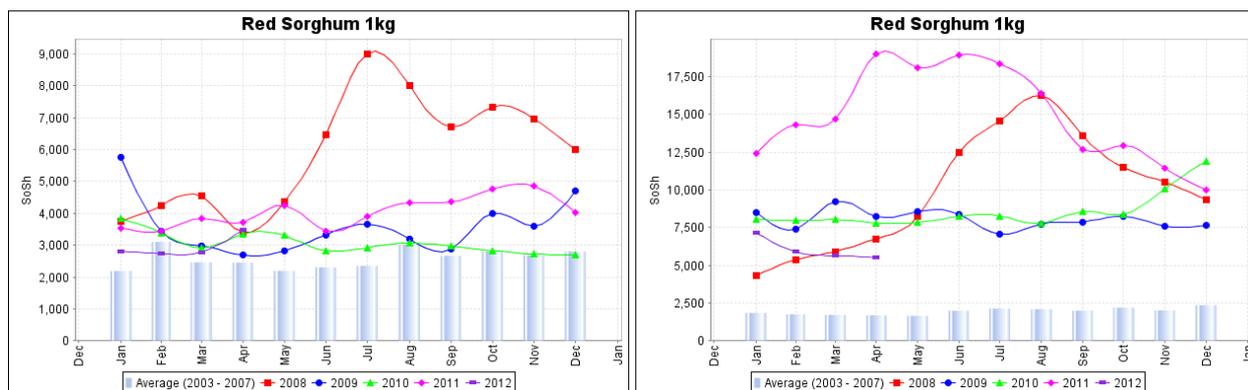


Figure 13: Sorghum prices in the Sorghum Belt (left) and Somaliland, right (Source: FSNAU)

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.⁴⁴

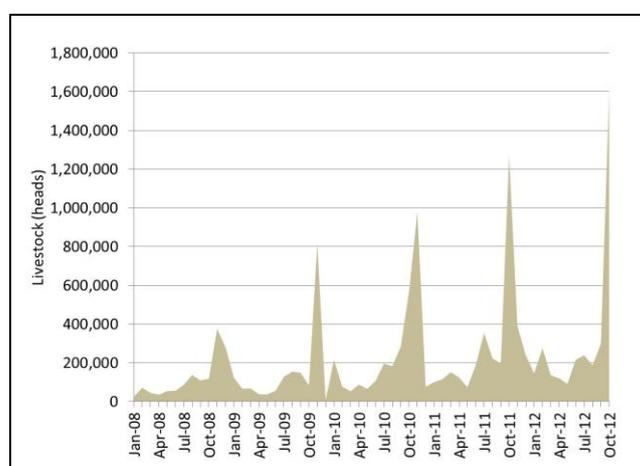


Figure 14: Livestock exports from Berbera and Bossaso, in heads (Source: WFP Somalia)

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 \$1.3bn-\$2bn a year.⁴⁵ However, the distribution of access to remittances varies across the country. According to FSNAU, 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 they were only reported as major income source by 1-2% of IDP households in Puntland and 4-7% in Somaliland.⁴⁶ 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.⁴⁷

⁴³ Price calculations are based on market data from FSNAU.

⁴⁴ FEWS NET Special Report: Livestock exports from northern ports in the Horn of Africa, 11 January 2012.

⁴⁵ Laura Hammond, 'What role for the diaspora in Somalia's future?', The Guardian, 20 February 2012.

⁴⁶ FSNAU Post Deyr 2011/12 Technical Series Report No VI.43, March 2012.

⁴⁷ Rebekah Curtis, 'Q&A Horn of Africa transfer firm on remittances to Somalia', AlertNet, 24 February 2012.

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, with the former one having recently reopened after having been affected by years of civil conflict in the capital.



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.

Map 38: Road network

Conclusion and Implications for Programming

1. Patterns of Underlying Causes of Food and Nutrition Insecurity

The following conclusions are meant to raise discussions between partners and bring together all the analyses explained throughout the document. The goal is to identify focus areas and look for patterns between them that will help to inform programme opportunities by studying the recurrence of shocks, the degradation of the natural environment and food insecurity. This will draw a profile of the population, identifying those communities most at risk, and help to understand what type of assistance would be most appropriate. This will also help to inform WFP's decision when to focus on emergency assistance and when to invest in longer-term programmes.

The entry point for WFP is to provide food assistance based on the food security and/or nutrition situation, in those geographical areas that are found to be food insecure, or which are at risk of having – or have – a poor nutritional status. This is coupled with the relevance of shocks to household food security, and whether geographic areas are more or less prone to shocks (seasonal or more severe). The households' stage of recovery – responding to a shock, recovering from a shock or mitigating future shocks – also plays an important role in this analysis. 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.

When combining the map showing the occurrence of people in Crisis and Emergency with the map showing the average percentage of people in Crisis and Emergency, districts with a high frequency of Crisis and Emergency in the last 5 years combined with a high percentage of the population affected by food insecurity can be identified. The purpose of this is to identify areas where more significant levels of support may be required along the entire spectrum of relief to recovery to enhancing resilience. The patterns found were the following:

- In central Somalia, the livelihood zones where there is both 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.
- Conversely, the parts of the Hawd situated in Somaliland seem to be less often affected by food insecurity, with the exception of Odweine and Burao districts.
- In southern Somalia, the most affected areas include parts of Gedo, Bakool, Middle Juba, as well as Lower and Middle Shabelle regions. Conversely, 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 5 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 and relevant response options differ.

When combining Map 24: Number of seasons with below average vegetation growth in the past 5 years with Map 14: Frequency of rural people in Crisis and Emergency, 2007-2012 we can identify the following patterns:

- The two analyses match in central Somalia, as well as in Sool region in the north and in parts of Gedo, Bakool and Hiran in the south. However, patterns do not match in Lower and Middle Juba. While parts of Lower Juba (Afmadow district) seem to be affected by a high frequency of below-average growing seasons, they are less affected by food insecurity.
- Middle Juba and Lower Shabelle are less affected by the frequency of below-average vegetation, but are highly affected by frequent food insecurity. In Somaliland (Awdal, W. Galbeed), the situation is reversed, as these areas have experienced frequent below-average vegetation growth, while they were generally food secure. This indicates that other factors – in this case probably insecurity – have an impact on food security.

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.

When combining Map 24: Number of seasons with below average vegetation growth in the past 5 years with Map 32: we see the following patterns:

- Generally, agro-pastoral areas seem to be the most affected by land degradation, but are less affected in terms of frequency of poor growing seasons in the last 5 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 5 years. This also matches current 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” in grasslands to shrublands, while in Gedo it is “water degradation”, 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 of central Somalia, as well as 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.
- 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.
- With regard to the impact of floods, it is important to note that Somalia is generally not a very flood prone country; however, populations in the riverine areas (Hiran and Shabelle) are more vulnerable due to the combination of flood proneness, population density and food insecurity.

2. Linking Analysis Results with WFP’s Strategic Objectives

This section aims to link the results of the analysis with the WFP Strategic Objectives (SOs) in support of the development of the WFP Somalia PRRO (2013 to 2015) and contribute to country and area specific strategies. The main affected areas identified in this analysis will be analysed with regard to the most appropriate intervention types.

The objectives of the PRRO are to enhance resilience in the medium-term and long-term in communities and households affected by recurrent shocks, and to ensure WFP is in a position to continue to save lives in emergencies, as well as protect livelihoods. More specifically, WFP will target vulnerable pastoralists, agro-pastoralists, IDPs and urban poor by:

- enhancing medium-term and long-term resilience in vulnerable communities through Food-For-Assets (FFA) interventions and complementary activities through increased engagement with stakeholders;⁴⁸
- rebuilding food and nutrition security in households affected by shocks through nutrition activities, School Meals and FFA interventions;⁴⁹ and
- protecting livelihoods during shocks and seasonal vulnerabilities through blanket supplementary feeding (BSFP) and targeted relief as appropriate.⁵⁰

WFP with its partners also aims to enhance government and local authority systems and capacities to prepare for, assess and respond to acute hunger arising from disasters. It will continue to build operational capacities in counterpart ministries for planning, oversight and implementation of health, nutrition and education activities.⁵¹

2.1. SO2: Prevent acute hunger and invest in disaster preparedness and mitigation measures

Under this objective, the PRRO incorporates late recovery and resilience building measures. In the WFP Strategic Plan framework and its’ application to the Somalia PRRO, only FFA falls under SO2. Locally, however, it is important to note that the FAO/WFP/UNICEF strategy for enhancing resilience in Somalia essentially takes an approach of SO2. As such, activities which fall under SO1 and SO3 within the PRRO log frame can also contribute to this strategy and the overall efforts to reduce the risk of shocks (including seasonal) for beneficiary communities and households.

⁴⁸ Strategic Objective 2: Prevent acute hunger and invest in disaster preparedness and mitigation measures.

⁴⁹ Strategic Objective 3: Restore and rebuild lives and livelihoods in post-conflict, post-disaster or transition situations.

⁵⁰ Strategic Objective 1: Save lives and protect livelihoods in emergencies.

⁵¹ Strategic Objective 5: Strengthen the capacities of countries to reduce hunger, including through hand-over strategies and local purchase.

FFA for resilience building and disaster risk reduction can be relevant for robust disaster mitigation and adaptation to increased climate variability. In this regard, FFA interventions can be implemented as major efforts to reduce environmental hardships and increase access to food, while restoring natural and physical assets. Coalitions of partners need to be developed based on their respective comparative advantage for more integrated and complementary FFA interventions. The main aims of SO2 are to:

- Support and strengthen resilience of communities to shocks through asset creation;
- Support and strengthen capacities of governments to prepare for, assess and respond to acute hunger arising from disasters.

This can be applied in the following contexts:

- **Stability:** Areas of greater stability, which allow for longer-term engagement with minimal risk of hampered or unpredictable access, to ensure that resilience efforts are not compromised; and/or areas where governance is stronger and local and regional authorities are (or could be supported to become) engaged in a coordination and strategic role, and where technical capacity exists and can be strengthened.
- **Timing:** All complementary programmes are seasonally aligned and technical capacity and planning exists to implement programmes without delays. Given the longer timeframe involved in developing SO2 activities, they are appropriate only where food distribution is not immediately urgent to address relief needs.
- **Capacities:** Areas where partnership opportunities exist to ensure complementarity of WFP activities with other sectors, agencies or organisations activities. Existing and potential NGO Cooperating Partners capacities are adequate to ensure technical oversight of FFA activities and/or that can facilitate a community planning process. Community organisation/committees must also exist to ensure full community engagement in the entire process from planning, prioritising, implementing and maintaining community assets.

In terms of geographical targeting, areas eligible for project activities under the SO2 are:

- Districts where people have been exposed to 1-3 years of Crisis and Emergency over the last 5 years, either in terms of individual seasons (e.g. every Jilaal) or successive seasons (e.g. the failure of consecutive Gu and Deyr seasons).
- Districts exposed more regularly to Crisis and Emergency, but with a combination of good access/security, strong technical partners, complementary activities (including areas prioritised for the FAO/WFP/UNICEF strategy) and ideally engagement by government/authorities.

Through this analysis, areas identified that may be more applicable for launching SO2 activities are located mainly in Somaliland and Puntland, where the relative political stability allows for a longer-term engagement. A number of districts of the north could be included. Moreover, the areas where SO2 activities may be more relevant also seem to be strongly affected by land degradation (cf. Map 29) – this could be an entry point for specific FFA activities aimed at tackling the causes and consequences of land degradation. Northern Somalia is also affected by a strong seasonal variation of the nutrition situation (cf. section on seasonality). Nutrition programmes under SO3 should aim at tackling the causes for the seasonal variation, as malnutrition affects livelihoods in the north particularly during the Gu season. In this context, however, the underlying causes of seasonal nutrition insecurity still need to be explored further.

Projects developed should have the capacity to absorb any additional populations that fall into Crisis or Emergency in the event of a poor season shock (cf. Map 5) or other activities should also be in place to cater for any additional shocks.

Opportunities for these approaches can also be explored in south central Somalia. For example, parts of the Gedo region (i.e. Dolow) have strong access and a number of agencies and organisations that can allow for a more holistic approach to providing assistance through an SO2 lens. Such opportunities should also be actively explored.

2.2. SO3: Restore and rebuild lives and livelihoods in post-conflict, post-disaster or transition situations

Over recent years, WFP Somalia has been increasing the emphasis of a number of early recovery activities on education, nutritional or livelihoods oriented outcomes with strengthened partnerships and integration with complementary activities. The PRRO intends to undertake a more clear-cut framing of early recovery-oriented programmes as opposed to the EMOP where all activities were under SO1. WFP Somalia recognises the importance of linking activities aimed at restoring and rebuilding lives and livelihoods with relief activities as well as setting the stage for an eventual transition to longer term efforts designed to enhance resilience. As such, SO3 serves as a bridge between the lifesaving interventions of SO1 and efforts to mitigate future shock under SO2. Furthermore, these activities play an important role within the context of the FAO/WFP/UNICEF strategy for enhancing resilience in Somalia. Within this strategy, there are three pillars: (1) Strengthen productive sectors, (2)

provision of basic services and (3) promote safety nets for a minimum of social protection. Activities under SO3 within the WFP Somalia PRRO contribute to all three pillars.

Mechanisms for restoring and rebuilding lives and livelihoods in this context may be through:

- Food-for-Assets to increase access to productive assets at the community (or possibly household) level;
- School meals, including daily meals or snacks and take home rations for girls to promote attendance and enrolment as well as retention of primary school children;
- Preventative nutrition programmes through the MCH centres as well as targeted supplementary feeding programmes to reduce acute malnutrition with an emphasis on designing programmes in coordination with other nutrition cluster stakeholders and Ministries of Health (where relevant); and
- Provide support to malnourished ART and DOTS treatment clients and their families to increase access to such services, improve household food security and improve the nutrition recovery of clients.

In this context, such activities can contribute to restore and rebuild lives and livelihoods in post-disaster and transitional situations. FFA (cash and/or food-based) is particularly relevant to restore and rehabilitate key productive and social assets following multiple shocks or conflict and to provide transitional investments following protracted crises and the return to stability. School meals, nutrition programmes and support to ART and DOTS clients contribute to increasing access to important basic social services while also providing a safety net for vulnerable households.

These SO3 activities and approaches could be applied in a context which has the following attributes:

- **Stability:** In areas of relative stability and where access is generally not a problem. Such stability should allow for a more predictable longer-term engagement with communities, allowing for the development and implementation of more robust community action plans; and/or areas where governance is stronger and local and regional authorities have (or can take on with some support) a stronger coordination and strategic role in the provision of assistance.
- **Timing:** Basic planning processes and community plans need to be put in place, allowing for the implementation of more technical programmes without causing response delays to affected or needy populations. Given the longer timeframe involved in developing SO3 FFA compared to SO1 FFA, SO3 activities are appropriate only in situations where food distribution is not immediately urgent to address relief needs, or in cases where projects have already been identified in advance and can be quickly rolled out at a time of crisis.
- **Capacities:** Areas where partnership opportunities exist to ensure complementarity of WFP activities with other sectors, agencies or organisations activities. Existing and potential NGO Cooperating Partners capacities are adequate to ensure technical oversight of FFA activities and/or that can facilitate a community planning process.

In terms of geographical targeting, the areas identified where these types of approaches and interventions should be planned for in the mid-term include:

- Areas with functioning health or education facilities receiving support from other health/nutrition or education cluster stakeholders as well as line ministries in the case of facility based MCHN, school meals and TB/HIV assistance. Areas with partners capable of providing basic nutrition education, adequate screening and other related activities for TSFP, ideally linked with OTP and other nutrition cluster stakeholder assistance.
- In the case of FFA, districts where people have been exposed to 2-3 years of Crisis and Emergency out of the last 5 years. Districts where the proportions or numbers of people affected are lower could be areas for initial focus to stabilize conditions and move them into SO2 once appropriate.
- In some areas, where people have been exposed to more than three years of Crisis and Emergency over the last 5 years, but where the context is stable with consistent humanitarian access and partner capacity, SO3 FFA activities may also be implemented.
- Wherever possible, projects have been developed that already identify how to absorb any additional populations that fall into crisis or humanitarian emergency in the event of a poor season or shock. This avoids the need for employing SO1 unconditional transfers (provided the conditions as described in SO1 do not apply).

The areas identified for SO3 nutrition, education and health related activities are informed by this analysis, however also consider additional factors. For example, MCHN can only be implemented in functioning MCH centres run by the MoH with support from other actors to ensure that basic health services are available. As of now, MCHN is relevant in Somaliland and Puntland. TSFP can be implemented essentially in any part of the country given the high levels of malnutrition and the large network of TSFP programmes already in place with WFP and other nutrition cluster members. The main prerequisite would be Cooperating Partner capacities and ideally the ability to ensure complementarity with other health and nutrition activities of other organisations (OTP,

micro-nutrient supplementation, nutrition and hygiene education, etc.). Given the community level focus of TSFP, with outreach workers, the TSFP can also complement the MCHN programme in the north to prevent malnutrition or a deterioration in the situation, while at the same time treating identified cases. These nutrition interventions are further complemented by SO1 approaches for both nutrition and relief.

School Meals can only be provided where there are function schools and Community Education Committees (CECs) are in place. Furthermore, basic infrastructure (storage, water, latrines, kitchen) are also required. This analysis can assist in targeting geographic areas where School Meals may be more relevant using a prioritisation based on food insecurity, but these other factors need to be considered. Educational outcomes also need to be factored in when prioritising areas for School Meals as an area with a balanced gender ratio would not require the take home ration for girls, for example.

The areas identified for SO3 FFA activities include areas which are not as affected by recurrent food insecurity as to qualify for projects under SO1, but where the general conditions or the food security patterns do not immediately allow for activities under SO2, however these areas should be viewed in the mid-term as transitional areas moving towards SO2 approaches wherever feasible. These are mainly located in northern, as well as in parts of central Somalia. More specifically, they include Sool Plateau and Nugal Valley, as well as Burao and Odweine districts, which are all affected by recurrent food insecurity. In central Somalia, parts of Mudug region, including Goldogob district, could qualify for this kind of approach. Moreover, the possibility of carrying out projects under SO3 should be explored in Dolow district in southern Somalia, where humanitarian access is relatively good. Nonetheless, programmes in this area should include relief activities, due to the high recurrence of food insecurity (cf. Map 11), and the intensity of conflict in the region, which can generate sudden population displacements and potentially undermine long-term efforts by humanitarian agencies.

SO3 activities are generally designed to reduce the reliance of households on relief assistance (SO1) and to facilitate recovery from shocks. Activities should be planned for in conjunction with each other as well as those under SO1 and SO2 and complementary activities of other stakeholders.

2.3. SO1: Save lives and protect livelihoods in emergencies and protracted crisis

Compared to an EMOP, a PRRO has a more pronounced focus on a balanced portfolio of activities and recognises that the situation is a more protracted crisis rather than a sudden onset emergency which will have impact over a more limited timeframe. A PRRO still recognises the importance of relief and lifesaving interventions, particularly in the volatile context of parts of Somalia, as recognized by the inclusion of WFP Strategic Objective 1 which aims to save lives and protect livelihoods. These lifesaving interventions are typically perceived as comprising large scale general food distributions (GFD) to an entire population or a significant portion of the population. Such perceptions are not always correct as is the case in Somalia. WFP Somalia has placed significant efforts over the past two years on changing the approach in which relief assistance is provided. This has included a significant shift away from GFD provided in a given district based on the IPC classification and percentage of population in crisis with generic targeting criteria. Instead WFP has used programmatic infrastructure in place with other activities (i.e. targeted supplementary feeding) to create a clearer targeting criteria (households with malnourished children under 5 and pregnant and lactating women). In areas where GFD has been provided a more rigorous set of procedures has been developed to determine livelihood zone specific targeting criteria which involves WFPs NGO partners, relief committees and community members.

The PRRO continues with this view of a diversified set of relief-oriented activities as a more appropriate way to respond to both seasonal and more severe shock related relief needs. This trend analysis has contributed to the planning of relief assistance envisioned in the PRRO in order to allow WFP assistance to be more transparent, predictable and timely for those it is meant to support. Programmed as such, relief assistance can serve a strong safety net function allowing households to take greater calculated risks by more actively pursuing higher-income livelihood opportunities and increasing access and utilisation of basic services.

Mechanisms for the provision of relief assistance may be through:

- Food-for-Assets, which can be critical even during emergencies to restore life-saving food supply lines and ensure access to food, while helping people and communities rebuild assets after a shock.
- Family rations provided through the infrastructure of other on-going activities such as targeted supplementary feeding;
- Wet feeding in the context of urban areas such as Mogadishu where the confidence of figures of affected populations are low and insecurity around food distributions remains a concern;
- GFD which in some cases can serve as a temporary mechanism until FFA or other activities can be set up in response to a sudden onset emergency or a seasonal shock in an area not normally affected by shocks; and

- Seasonal Blanket Supplementary Feeding Programmes for communities in areas where there are seasonal variations in GAM and little access to health services, focusing on IDP settlements and vulnerable rural areas to prevent any deterioration of nutrition status.

These SO1 approaches and activities can be applied in a context which has the following attributes:

- **Stability:** Areas of relative instability, where access is not always guaranteed which prevents predictable longer-term engagement and planning with communities; or areas where governance is weak and does not allow for the local authorities to play a strong role in coordination and provision of strategic direction.
- **Timing:** Where the imperative of the intervention is to reach people quickly in order to meet the strategic objective (saving lives), and where delays might occur if this focus is shifted away, e.g. when trying to put in place more high-tech programmes. More predictable assistance can also be provided at different levels throughout the year, with an emphasis on the lean seasons.
- **Capacities:** Areas where partnership opportunities are more limited due to the lack of complementary interventions and/or limited implementation capacity of existing and potential NGO Cooperating Partners.

In terms of geographical targeting, the aim of the analysis was to identify areas where life-saving activities are necessary, and where other kinds of programmes might not be appropriate or feasible. Such areas were identified as:

- Districts where people have been exposed to 4-5 years of Crisis and Emergency over the past 5 years, and where the proportion and number of people affected by food insecurity is high, thus making more nuanced programmes difficult to meet the level of need.
- Areas where a rapid onset shock (e.g. conflict, floods) has newly occurred or is recurrent in nature, and where no existing programmes can be scaled up to absorb additional people that fall into Crisis or Emergency.
- Areas where there is a slow onset shock (e.g. drought) when the area is classified in Crisis or higher, in case the above named conditions (limited access and partner capacities) prevail or where the percentage of the population, or actual number, affected is high.
- Areas with high levels of seasonal variability of malnutrition where early warning information indicates deterioration is likely.

Through this analysis, several areas were identified where activities under SO1 may be more relevant. These areas are mostly located in central Somalia and along the Somali-Ethiopian border in the south (cf. Map 11). Moreover, the political instability of these regions, and access constraints for WFP and other humanitarian agencies limit the opportunities for a longer-term engagement and partnership opportunities which are necessary to carry out activities under SO2 and SO3; however where opportunities exist they will be pursued. In terms of nutrition, these areas are also affected by high malnutrition rates (cf. Map 19 and 20) and a moderate level of variability (Map 21). The nutrition situation is, in these cases, closely linked to the food security situation. Thus, it is recommended to carry out nutrition activities in conjunction with relief activities such as TSFP Family Rations or FFA where feasible.

While the analysis has highlighted the above mentioned areas as being recurrently food insecure, the highly volatile food security context in Somalia necessitates WFP to be ready for SO1 activities even in other parts of the country, to respond to sudden-onset shocks such as conflict-induced population displacements, floods, or other shocks such as droughts. This particularly applies to areas which were identified as having a high percentage of people potentially at risk of food insecurity in the case of a shock (cf. Map 5) – for instance parts of Togdheer region and parts of Puntland. Another district which has not been affected by recurrent food insecurity, but where access constraints and conflict have put some population groups at risk is Buhodle, where at the time of writing WFP can only operate through partners, and where large population displacements have been registered over the last year due to the deterioration of the security situation. Another area highly affected by recurrent food insecurity and where SO1 approaches are relevant is the Coastal Deeh livelihood zone, which should also be targeted through relief activities.

Targeting issues related to FFA activities should be borne in mind when considering whether to use FFA or other relief modalities. Possible risks include the tendency of partners to provide proposals for a few specific communities only within an affected district, while these may not be the worst affected ones, or may have high exclusion errors where the dimensions of the project activity do not allow for all eligible households to be involved. Such issues need to be weighed against the positive and negative effects of other relief modalities on a case-by-case basis.

An important element of this analysis is to contribute to a more predictable provision of relief assistance which can rely more on early warning information (field level monitoring, ad hoc assessments, rapid assessments, rainfall estimates, NDVI, etc.) rather than solely on the seasonal FSNAU-led assessments. Past experience has shown that programming relief assistance levels based on the seasonal assessments can be problematic for a number of

reasons. First, the time between data collection, analysis, presentation of results, WFP response analysis and beginning activities can be as much as four months by which point the situation may have changed and the levels of assistance planned may no longer be appropriate. Instead, it is recommended that where possible, the analysis on the frequency and severity of crisis and emergency be balanced with the situation on the ground to more predictably provide assistance when it is needed most – in the lean seasons. As a potential way forward, the following table provides an example on how this could work, recognizing that any prescriptive approach should be avoided and such examples can serve to inform response analysis discussions:

| IPC Classification (anticipated) | Frequency of Crisis and Emergency | | |
|----------------------------------|--|--|--|
| | High | Moderate | Low |
| Emergency | 80 per cent of the household ration during lean season/reduced ration during productive season | 80 per cent ration during lean season | 80 per cent ration during lean season |
| Crisis | Reduced ration lean and productive season | Reduced ration during lean season | Possible assistance during lean based on response analysis |
| Stressed | Possible assistance during Jilaa lean based on response analysis | Possible assistance during Jilaa lean based on response analysis | None |

Using this approach, the level of assistance would be based on a number of factors including the previous season situation, early warning information and levels of existing project infrastructure (i.e. TSFP) through which relief assistance may be provided. Once the seasonal assessment results are released, the levels could be re-reviewed and scaled up or down or stopped all together depending on the situation in a given district. The possibility of further targeting within the TSFP caseload could also be considered to include more food security specific targeting criteria in addition to the presence of a malnourished child or woman for the provision of the Family Ration. These approaches would be followed for two seasons (one lean and one productive) and then reviewed after each productive season and the subsequent seasonal assessments.

This approach recognises that areas more frequently impacted by recurrent seasonal shocks are more likely to require continuous and regular assistance to help vulnerable households move out of the cycle of recurrent food insecurity. By ensuring relief is programmed through a predictive safety net lens will allow households to protect human capital during crises and prevent negative coping mechanisms. It can allow poor households to continue to prioritize children’s education in difficult times and avoid the irreversible effects of malnutrition in crisis years or seasons. It can also facilitate the first stage of reintegration of returnees and pave the way to sustainable livelihood recovery. By providing a more predictable level of assistance, households have the chance to take greater risks to diversify and enhance their livelihoods. These efforts must be complemented with recovery and, where feasible, resilience building activities planned under SO2 and SO3.

3. Livelihood Seasonality and Programme Implications

An understanding of seasonality is critical for planning various interventions at a national, regional, district and community level. Seasonal analysis informs periods of greatest risk to provide a level of predictability of when relief assistance may be more likely needed. Furthermore, as all WFP activities use food and/or nutrition insecurity as an entry point, it is important to understand which activities may best help meet household needs during different times of the year and which activities may allow households to enhance their capacity to cope with shocks during more difficult seasons. In addition to the timing of interventions, this type of analysis also helps inform longer term sequencing of activities which can cumulatively contribute to improving the lives and livelihoods of beneficiary communities and households. Seasonal analysis can also inform the most preferred transfer modality during different times of year and during both a good and bad year.

A WFP-led seasonal livelihood programming consultation held in Burao, 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 provides 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 including in the approaches and types of support required.

The development of seasonal calendars at local levels are critical to informing what people do and the main challenges they face at different times of the year. It is equally important to understand how seasonality changes between typical, bad and good years.

Using livelihood patterns and key problems experienced by people throughout the year can inform how programming could be geared to provide support during critical times whilst simultaneously finding the opportunities to strengthen household capacities and resilience. As such, seasonal analysis provides an understanding to what overall goals of programming support, at different times, could be. This in turn informs longer-term planning processes to ensure that all aspects of programme support can be maximised. Understanding, for example, the times that households experience less stress and have less expenditures in meeting basic needs, can be used as an entry point to promote programmes that allow them to invest in their own future; knowing the times that people are preparing for difficult times can allow programmes to be geared towards strengthening household preparedness, and so on. Such broad parameters, and knowing what types of programme support rationales exist at different times will provide a longer-term view, within which specific activities can then be selected and structured to complement each other, even if they occur at different times – for example, investing in household preparedness prior to a Jilaal will reduce hardships in the coming season, and allow for subsequent programmes in the Jilaal to be less geared towards emergency and relief and more towards building and strengthening assets, whilst still providing basic needs.

The main differences across the three livelihoods discussed in the Burao consultations are as follows:

- **Pastoralists:** There are two critical periods of difficulties - the dry seasons - and in particular the Jilaal when conditions are most severe. 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, 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:** 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 most 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 household's invest (e.g. after the harvests in the Deyr), and to prepare during the Jilaal for the coming difficult Gu.
- **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 following tables reflect the outcomes of the Burao consultations and while they are specific to livelihood zones in Burao and Odweine, again many of the key aspects are similar in other pastoral or agro-pastoral livelihood zones. The first table provides an overall summary of programmatic approaches recommended each month/season for pastoral and agro-pastoral livelihoods in a typical and bad year.

The second and third tables provide further details the links between the seasonal livelihood patterns and their implications for programming during a typical year. This allows for the broad strokes of programming support goals to be defined.

The fourth table 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.

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.

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 fifth 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.

NOTE: POINTS ON THE PREFERRED CHOICE OF TRANSFER MODALITIES

The choice of the use of vouchers and cash over food is based on the perception of the participants, who provided justifications and rationales for the use and appropriateness of the different transfer modalities at different times. However, determining the feasibility of using vouchers and cash as a programme resource was beyond the scope of the consultation in Burao – ultimate decisions in this regard will need to be guided by market and infrastructure/banking system assessments, resource availability and cost benefit studies, and practicalities of distributions and scale-up, amongst other factors. It is also highlighted here that awareness raising and explanations are provided to communities and partners on the what these modalities actually are and what they provide (for example, the women community representatives understood vouchers not to have commodity restrictions on what can be purchased in shops). Additionally, the overwhelming preference of vouchers over food was due to this perception of unrestricted commodity purchases, and driven by the fact that they do not prefer the food commodities provided in food distributions.

3.1. 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 northern 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) NB: Difficult period for women in June/July (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 |

3.2. 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:

| 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) | | |

3.3. 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 | | |
|--------------------------|---|---|-----|---|---|---|---|---|----------|---|---------|---|
| | Months | April | May | June | July | August | September | October | November | December | January | February |
| All Livelihoods | High malnutrition spike cont. - increase preventative and treatment nutrition programme outreach/coverage. Water scarcity cont. - Possible need for water trucking in bad years. | 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/refresher 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. | | |
| | | 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 DRR 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. |
| | 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) | | |
| | | | | 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 outreach required. Increased incentives for school attendance following failed harvests (agro-pastoralists). | | | AWD and other disease outbreaks - Increase efforts focused on behaviour change communication | | | Training of pastoralist elders on conflict resolution and/or rangeland management | | |
| | 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. | | | HH labour demands for tending to fields and harvest (Dec/Jan) - efforts to increase utilization of services and/or better outreach required. | | | 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 consultation in Burao 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 gender 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 that spend extended time collecting water, which in turn affects child caring practises and nutrition.

Additionally, aligning and sequencing programme activities along seasonal and livelihood lines presents great opportunities for identifying new partnerships, and determining how one programme can be harmonized to support another – that is, harmonizing activities through joint complementary programming. Take for example the following opportunity identified by participants during the consultation:

EXAMPLE: WATER AND GIRL'S ENROLMENT AND ATTENDANCE IN SCHOOLS

Using livelihood gender roles and household needs to inform partnerships and complementary programming through a seasonal lens to support different sectors:

One of the roles of girls in the household is to collect water. The school year starts in September, which is the last month of the Hagaa dry season. Many girls are collecting water during this period and in particular in the final month of the Hagaa – resulting in their not being enrolled. Participants said that parents, although willing to have the girls go to school, and particularly if there is school feeding, feel that if they have already missed the first month of school of the new year then there is no point in sending them after the Hagaa has ended.

Thus, girls may not be getting enrolled simply because they can miss it by a month. For those that are enrolled, there is a high likelihood that they will be pulled out and miss school days during the following Jilaal - however, they are still encouraged to attend and it seems that wherever possible parents will try to make sure they don't miss too much school provided that they are enrolled given that initial investment.

Both dry season's present opportunities for water harvesting asset creation by communities, as they are still able to provide labour and work. The hunger gap periods for pastoralists in this area also coincide with the dry seasons and in particular the Jilaal. If water harvesting asset creation is prioritised for completion during the Jilaal rather than the Hagaa, through labour-based activities that provide food assistance (be it food, cash, or vouchers) then additional benefits beyond the goals of (i) meeting people's food needs and (ii) improving access to water, will be realized – which are, by providing a greater chance of girls to be enrolled in the coming school year and a likely greater attendance during the coming Jilaal, thereby complementing and supporting the education sector's goals yet with no additional resources other than through partnering and aligning on-going programmes.

If however they are programmed during the Hagaa, although providing access to water benefits and supporting girls' attendance in the following Jilaal, they will not contribute to the enrolment of girls' at the start of that school year. This results in a higher risk of girls missing out on an entire year of education, simply because of one month where they are needed to collect water.

This example highlights how different partners can come together and, by considering how individual programme activities can be aligned, will not only meet their individual objectives but further support the actions of others whilst simultaneously delivering a more harmonized package of assistance. In this manner overall longer-term planning approaches between partners can be made which in turn provide greater outcomes to communities, result in more opportunities to indirectly support different sectors of government development plans, whilst maintaining the integrity and primary objectives of partners specific and individual programmes.

In the event that a crisis (or shock) occurs, benefits achieved through own household investments and programme support in a typical year should be safeguarded. To do this, longer-term planning should include the likelihood of a shock occurring – that is, to consider shocks as part of a livelihood system and not as an external event that may or may not occur.

Given that long-term planning by its very nature extends beyond a number of years, then plans should include a bad year. An understanding of what changes need to be made in programming, and whether any additional requirements or options exist, can be used to strengthen long-term plans. Furthermore, advanced planning in some cases could turn negative or difficult times into opportunities for further development advances – for example:

- Many soil and water conservation assets can only physically be built in dry seasons. In years when rains fail, extended dry seasons provide opportunities to increase the number of such programmes and hence more assets can be put in place. In this area, this would mean the ability of extending such asset creation programmes from 6 months in a typical year when considering the Jilaal and Hagaa, to 9 or 12 months in the event of the failure of one or two respectively of the rainy seasons.

Maximising the ability to safeguard gains made in typical years can only be achieved however if advanced plans are in place so it is clear which programmes can be extended in time and/or scaled up to absorb additional vulnerable people, partnerships are already in place, early warning systems and monitoring tools are utilized to their full effect, and planning estimates of potential people that would need to be targeted have been made and which would be adjusted with up to date assessment data as it becomes available – all actions which are possible in the Burao and Odweine Districts and throughout most of Somalia. Such plans however would obviously require donor support and commitments, if they are to be truly implementable.

4. FAO/WFP/UNICEF Joint Strategy for Enhancing Resilience

The previous two sections present the findings of the trend analysis and seasonal consultations in light of WFPs Strategic Objectives and recommended approaches throughout the year. Viewing programme implications in such a manner presents a number of opportunities ranging from better informed resource planning and partnership opportunities. The reasoning and justification for various interventions and approaches both geographically or seasonally was also highlighted in these sections.

The various response options for WFP and others can also be framed within the FAO/WFP/UNICEF joint strategy for enhancing resilience in Somalia. While the section on the SOs made several direct links to this strategy, the section on seasonality highlighted the importance of both timing and sequencing of interventions at the community level which is also a critical aspect to the strategy. The strategy, which is aligned with donors' interest in raising the threshold for emergency assistance, ensures that interventions address long-term issues without invoking emergency responses. The assistance package for communities fosters improved and diversified livelihoods, reliable safety nets and basic services, enabling households to reduce dependence on emergency assistance. All three agencies have aligned or are in the process of aligning their operations around this strategy, including the WFP PRRO. A key aspect of the strategy involves a greater understanding of household and community resilience as well as a greater commitment to communities. Appropriately timed and sequenced interventions across the building blocks of the strategy coupled with this commitment to beneficiary communities will include WFP activities across Strategic Objectives 2, 3 and 1 and is informed by increased community consultation.

5. Next Steps

While this analysis provides a national overview of food security trends and explores potential underlying causes of food and nutrition insecurity in Somalia, the following steps are recommended as a way forward:

- **Urban analysis:** using this exercise as template, a detailed analysis of food security and nutrition trends in urban centres in Somalia should be conducted, as it can be assumed that the needs of urban populations are different from those of the rural populations, and underlying patterns of food and nutrition insecurity are likely to be specific to the urban context.
- **Detailed analysis and profiling at district/livelihood level:** while, as mentioned above, this analysis provided a general overview at the national level, a more in-depth analysis needs to be conducted at the district and/or livelihood level. This analysis should consist of a profiling exercise, which outlines the context in terms of topography, water points, land use etc. for each district/livelihood which qualifies for longer-term project activities, as well as an analysis of underlying causes of food and nutrition insecurity. This exercise should be conducted first in northern Somalia, but could be expanded to other parts of the country if the context allows for it. Moreover, synergies between a district/livelihood-level analysis and the FAO/WFP/UNICEF strategy and similar efforts underway should be further explored.
- **Nutrition:** finally, the linkage 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.
- While the situation of **IDPs** have not been fully analysed within the context of this trend analysis, there are clearly needs within IDP settlements. Traditionally, the international community considers all IDPs as populations in crisis and therefore in need of assistance. WFP on the other hand has often argued that an IDP requires a variety of support and relief food assistance is not the most relevant option. While this analysis may not provide any concrete information which can inform the best response options for IDPs, the standpoint of WFP Somalia has been that IDP needs should be incorporated into the overall response at a district level and IDP assistance integrated with host community assistance wherever possible. More information on the livelihood opportunities of IDPs and the potential types of support required throughout the year is required.

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

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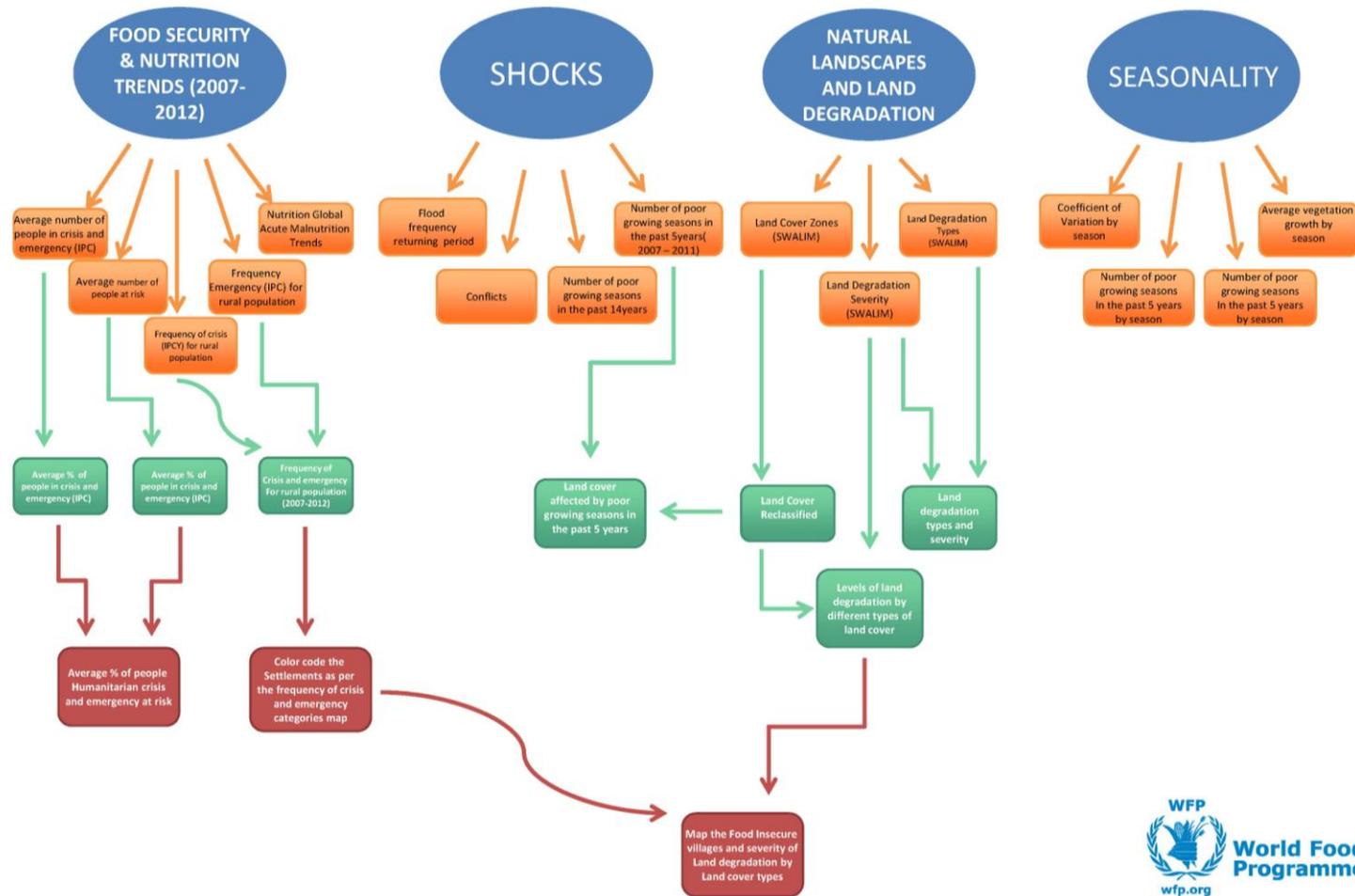
Post Deyr Analysis Nutrition Analysis Technical Series report 2012 No. VI 45 March 9

<http://www.fsnau.org>

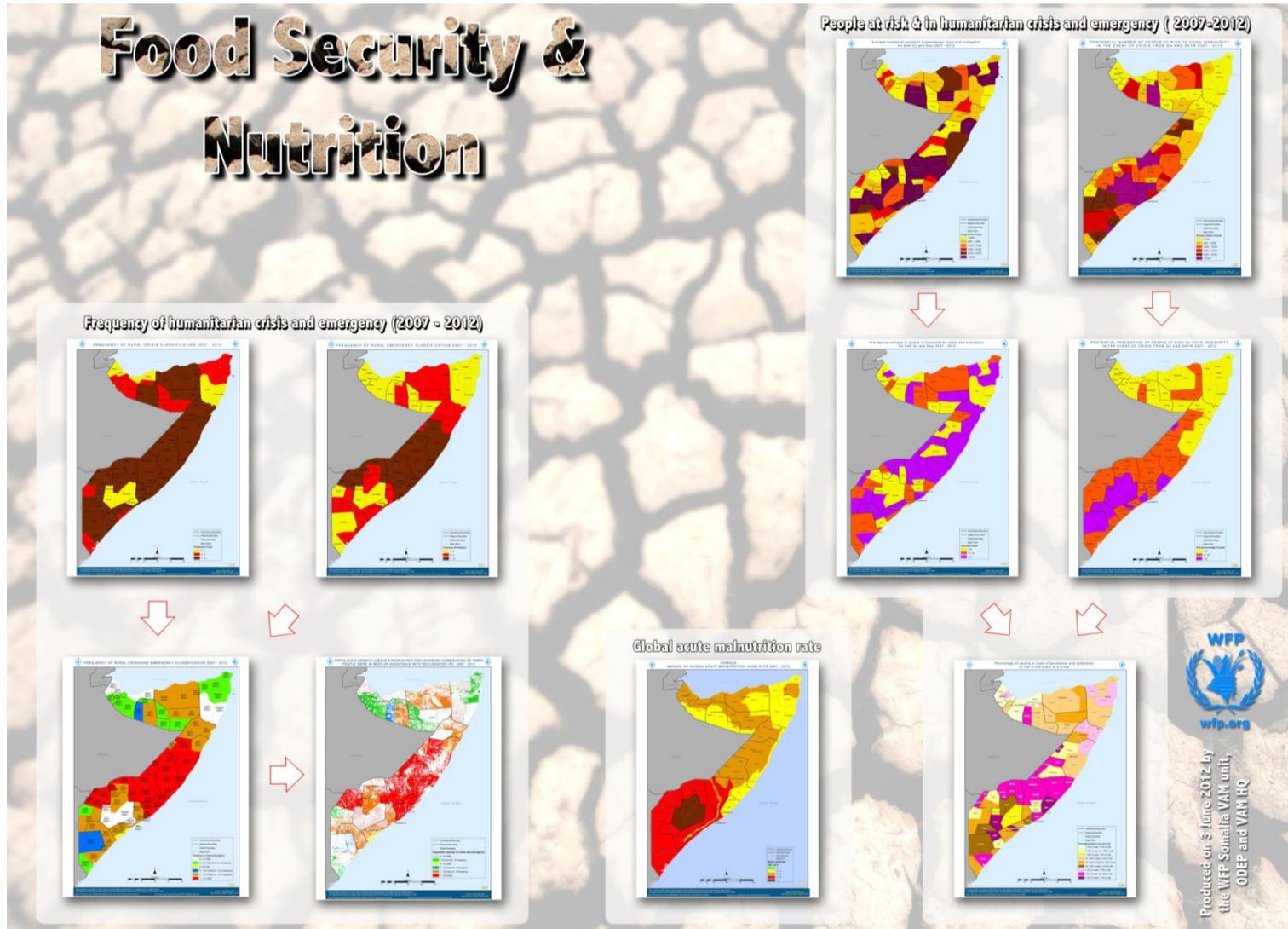
<http://www.faosomalia.org>

Annex

Annex 1: Analysis Plan



Annex 2: Map Flowchart



Annex 3: Affected Populations by Season And Livelihood Type

3.1: Somalia overall

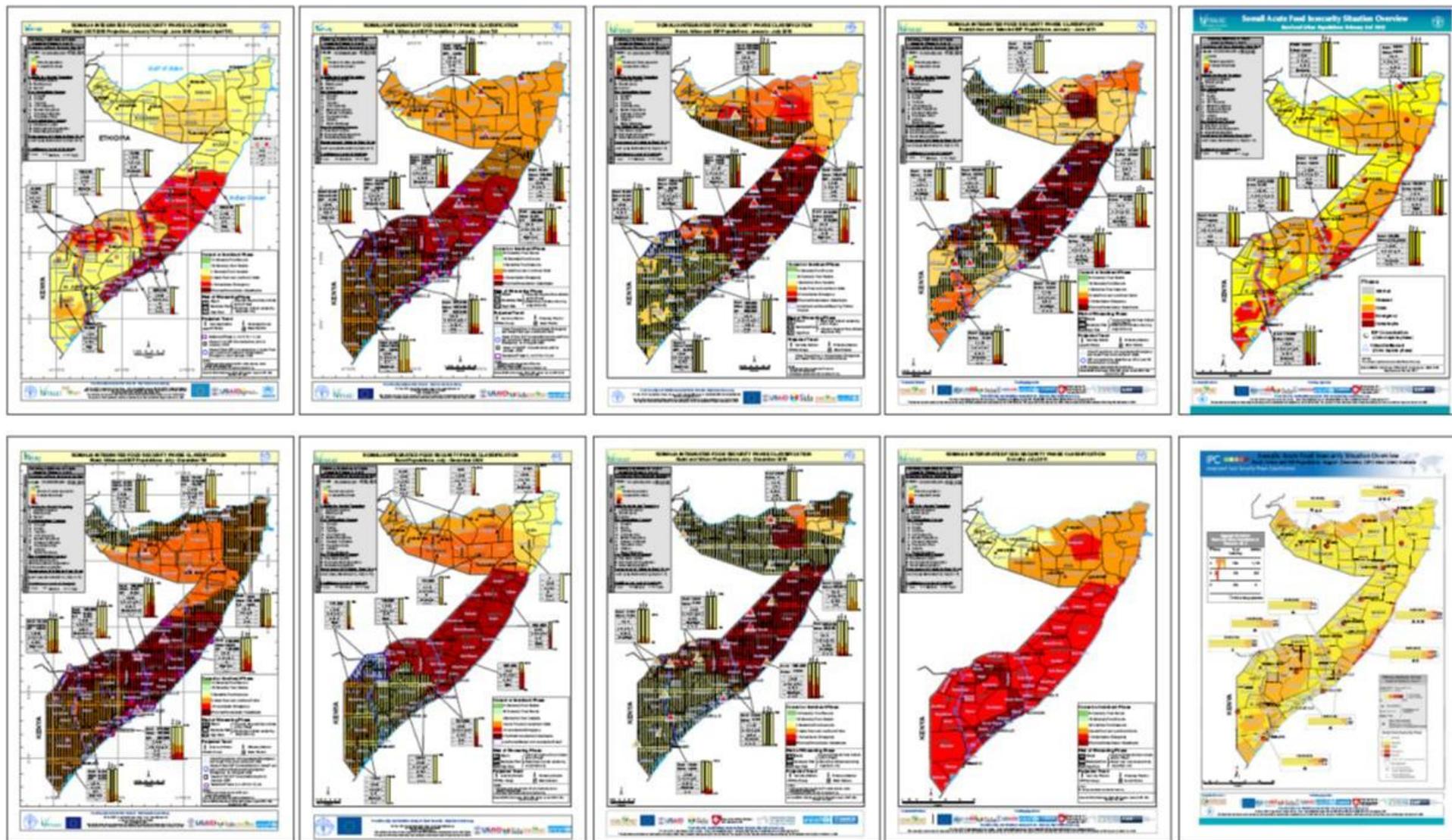
| | | Gu 2007 | Deyr 2007/2008 | Gu 2008 | Deyr 2008/2009 | Gu 2009 | Deyr 2009/2010 | Gu 2010 | Deyr 2010/2011 | Gu 2011 | Deyr 2011/2012 | 5-yrs average |
|-------|--------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Rural | Emergency | 296,000 | 550,000 | 647,000 | 675,000 | 785,000 | 539,000 | 288,000 | 348,000 | 1,450,000 | 317,000 | 589,500 |
| | Crisis | 488,000 | 315,000 | 752,000 | 533,000 | 661,000 | 710,000 | 492,000 | 639,000 | 607,000 | 667,000 | 586,400 |
| | Total | 784,000 | 865,000 | 1,399,000 | 1,208,000 | 1,446,000 | 1,249,000 | 780,000 | 987,000 | 2,057,000 | 984,000 | 1,175,900 |
| Urban | Emergency | | | 140,000 | 100,000 | 134,000 | 122,000 | 80,000 | 176,000 | 365,000 | 152,000 | 158,625 |
| | Crisis | | | 520,000 | 525,000 | 501,000 | 437,000 | 214,000 | 281,000 | 218,000 | 395,000 | 386,375 |
| | Total | | | 660,000 | 625,000 | 635,000 | 559,000 | 294,000 | 457,000 | 583,000 | 547,000 | 545,000 |
| Total | Emergency | 296,000 | 550,000 | 787,000 | 775,000 | 919,000 | 661,000 | 368,000 | 524,000 | 1,815,000 | 469,000 | 748,125 |
| | Crisis | 488,000 | 315,000 | 1,272,000 | 1,058,000 | 1,162,000 | 1,147,000 | 706,000 | 920,000 | 825,000 | 1,062,000 | 972,775 |
| | Total | 784,000 | 865,000 | 2,059,000 | 1,833,000 | 2,081,000 | 1,808,000 | 1,074,000 | 1,444,000 | 2,640,000 | 1,531,000 | 1,720,900 |

3.2: 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 | 5-yrs average |
|-------|--------------|---------------|----------------|----------------|----------------|------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| Rural | Emergency | 8,000 | 223,000 | 202,000 | 276,000 | 391,000 | 321,000 | 119,000 | 145,000 | 259,000 | 104,000 | 204,800 |
| | Crisis | 62,000 | 369,000 | 303,000 | 222,000 | 399,000 | 435,000 | 317,000 | 340,000 | 369,000 | 246,000 | 306,200 |
| | Total | 70,000 | 592,000 | 505,000 | 498,000 | 790,000 | 756,000 | 436,000 | 485,000 | 628,000 | 350,000 | 511,000 |
| Urban | Emergency | | | 64,000 | 78,000 | 122,000 | 103,000 | 33,000 | 41,000 | 76,000 | 65,000 | 72,750 |
| | Crisis | | | 267,000 | 272,000 | 327,000 | 278,000 | 147,000 | 151,000 | 148,000 | 203,000 | 224,125 |
| | Total | | | 331,000 | 350,000 | 449,000 | 381,000 | 180,000 | 192,000 | 224,000 | 268,000 | 296,875 |
| Total | Emergency | 8,000 | 223,000 | 266,000 | 354,000 | 513,000 | 424,000 | 152,000 | 186,000 | 335,000 | 169,000 | 263,000 |
| | Crisis | 62,000 | 369,000 | 570,000 | 494,000 | 726,000 | 713,000 | 464,000 | 491,000 | 517,000 | 449,000 | 485,500 |
| | Total | 70,000 | 592,000 | 836,000 | 848,000 | 1,239,000 | 1,137,000 | 616,000 | 677,000 | 852,000 | 618,000 | 748,500 |

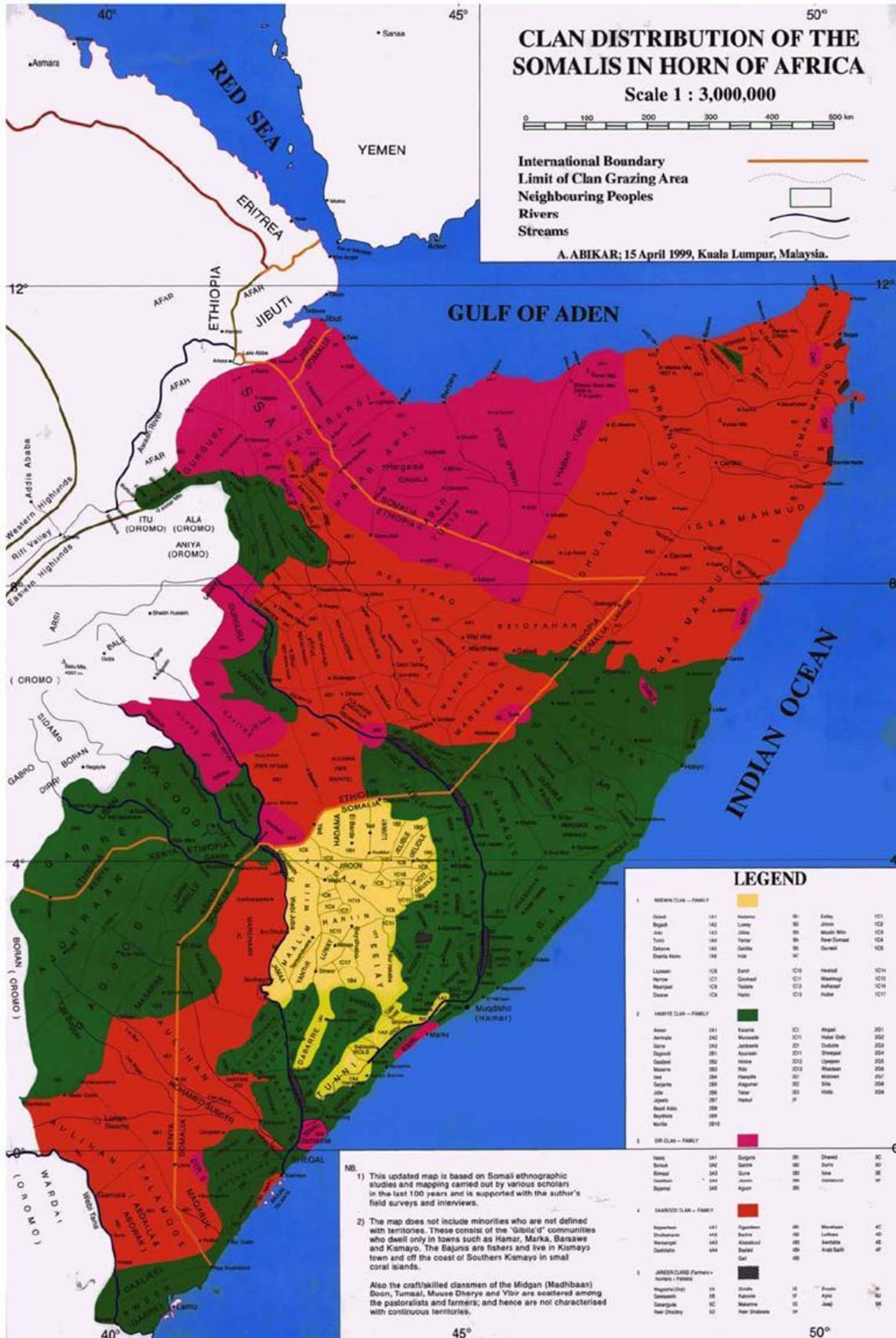
N.B.: The figures for the Gu 2007 and Deyr 2007/08 were excluded from the calculation of the peaks, as urban populations were not assessed specifically in these two assessments. IDP caseload which is additional 800,000 people is not included (see also FSNAU technical Series for more details on this subject).

Annex 4: Progression of the Food Security Situation, 2007-2012



Note: For higher resolution versions of the maps above, please visit the FSNAU website (<http://www.fsnau.org/ipc/ipc-map>).
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Annex 5: Clan Distribution of the Somalis in the Horn of Africa





World Food Programme