

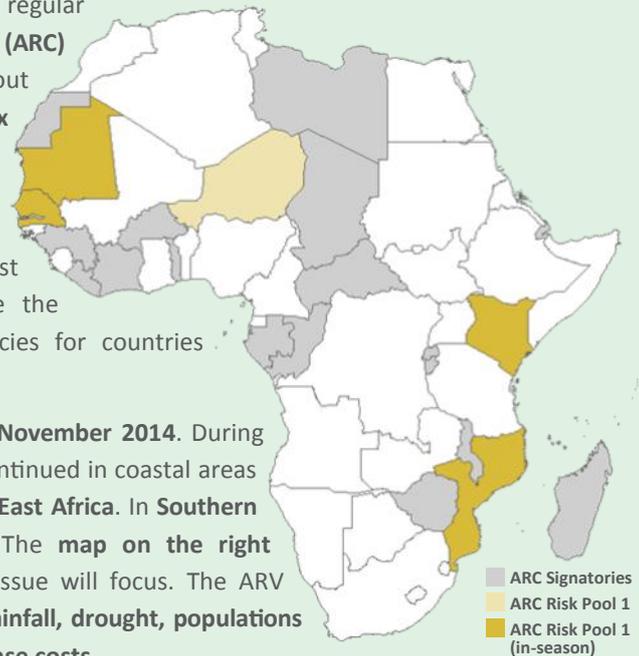
Highlights:

- **Rainfall:**
 - Rainy season coming to an end in most of **West Africa**
 - Mixed rainfall performance in **East Africa**
 - Slow onset of seasonal rains in **South Africa**
- **Drought:**
 - Drought conditions confirmed in **Senegal and Mauritania**
 - Pasture recovery ongoing in most of **Kenya**, particularly in the western parts of the country
 - Sowing has started in parts of **Mozambique**
- **Potentially Affected People:**
 - Around 784,000 people and 558,000 people are estimated to be directly affected by drought in **Senegal and Mauritania**, respectively
- **Insurance:**
 - **Five ongoing seasons** (Senegal, Niger, Mauritania, Kenya and Mozambique) are included in the first ARC risk pool
 - After **Niger** last month, **Senegal and Mauritania** will also be eligible for pay-outs by the ARC Insurance Company Limited
 - These funds will be used exclusively to fund the **drought response** outlined in the **Final Implementation Plans**, which are currently being finalised

INTRODUCTION

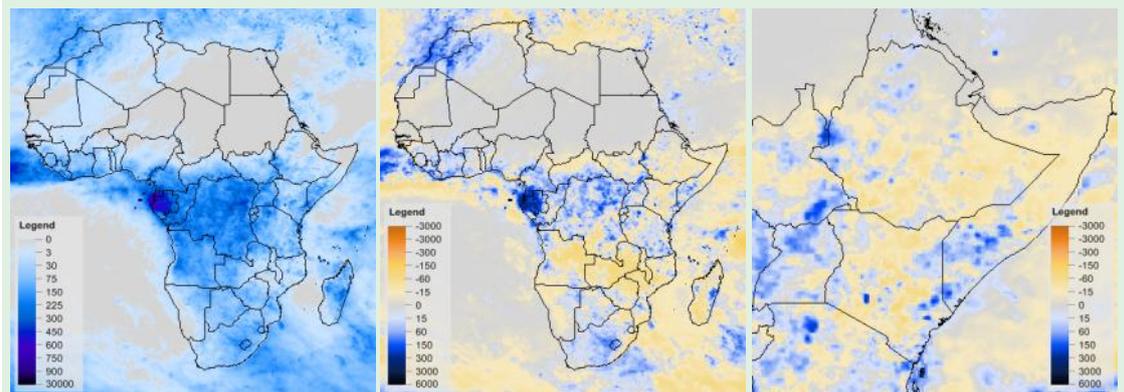
The *Africa RiskView (ARV) Bulletin* is a regular publication of the *African Risk Capacity (ARC) Agency*. It provides information about current **rainfall and drought index developments** as detected by ARV, and their potential **impact on vulnerable populations**. It also provides updates on **estimated response costs** to assist potentially affected people, which are the underlying basis of the insurance policies for countries participating in the ARC insurance pool.

This month's issue covers the month of **November 2014**. During the reporting month, the rainy season continued in coastal areas of **West Africa**, as well as in **Central and East Africa**. In **Southern Africa**, the seasonal rains intensified. The **map on the right** highlights the countries on which this issue will focus. The ARV Bulletin will cover the following topics: **rainfall, drought, populations affected** and update estimates on **response costs**.



RAINFALL

During the reporting month, seasonal rains were received in coastal areas of **West Africa**, across **Central Africa** and in most of **East Africa** (South Sudan, Uganda, Ethiopia, southern Somalia and Kenya), which is currently experiencing its short rains season (see Map 2). In the **Sahel** region, the rainy season came to an end, as it did in the northernmost areas of Central and Eastern Africa (Sudan and northern Somalia). In **Southern Africa**, the main season picked up in intensity, particularly in South Africa, Lesotho, Swaziland and Madagascar.



MAP 2: CUMULATIVE RAINFALL, RFE2 (Nov 2014)

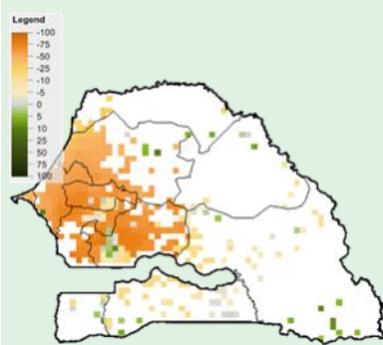
MAP 3: RAINFALL COMPARED TO NORMAL, RFE2 (Nov 2014)

MAP 4: RAINFALL COMPARED TO NORMAL, EAST AFRICA, RFE2 (Nov 2014)

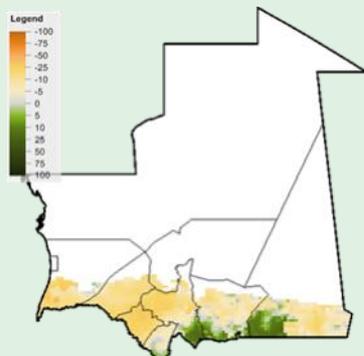
Compared to the long-term average (2001-2013), above normal rains were received in coastal areas in the Gulf of Guinea in **West Africa** (see Map 3). In parts of **Central Africa**, rainfall surpluses of over 350 mm were recorded in Gabon and Equatorial Guinea. However, drier than normal conditions were recorded in parts of **Southern Africa**, particularly in Zimbabwe, Mozambique, Zambia, Angola and Namibia. This might indicate a slow onset of the rainy season in this region. In **East Africa**, the short rains season recorded a mixed performance. While western Kenya and southern Somalia received above normal rains, drier than normal conditions persisted in central Kenya, Ethiopia and northern Somalia (see Map 4).

DROUGHT

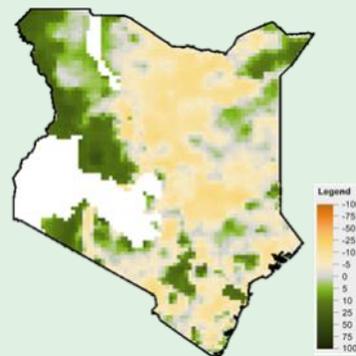
ARV uses the **Water Requirements Satisfaction Index (WRSI)** as an **indicator for drought**. The WRSI is an index developed by the *Food and Agriculture Organisation of the United Nations (FAO)*, which, based on satellite rainfall estimates, calculates whether a particular crop is getting the amount of water it needs at different stages of its development. To maximise the accuracy of ARV, **countries intending to take out insurance customise the software's parameters** to reflect the realities on the ground. This issue of the ARV Bulletin will discuss insured countries that are currently in season.



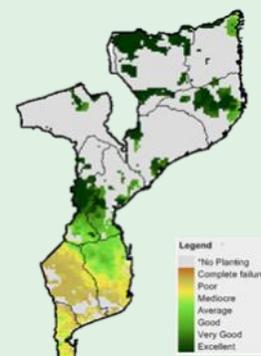
MAP 5¹⁾: WRSI COMPARED TO NORMAL, SENEGAL (RFE2) (2014 AGRICULTURAL SEASON)



MAP 6: WRSI COMPARED TO NORMAL, MAURITANIA (RFE2) (2014 AGRICULTURAL SEASON)



MAP 7: WRSI COMPARED TO NORMAL (RFE2), KENYA (2014/15 SECOND RANGELAND SEASON)



MAP 8: ACTUAL WRSI (ARC2), MOZAMBIQUE (2014/15 AGRICULTURAL SEASON)

Senegal (2014 agricultural season): The agricultural season in Senegal, as specified in the country's ARC insurance contract, ended on 10 December 2014. The country experienced a very poor season in terms of overall rainfall, as well as in the temporal and spatial distribution of rains. In most agricultural areas, ARV estimates that the conditions for sowing of the reference crop, groundnut, were not reached. In those localised areas where sowing did occur, the performance of the season was mixed, which much of central and western Senegal experiencing a below normal agricultural season, as Map 5 indicates. Only in parts of south-eastern Senegal, the season performed normally, which allowed for a satisfaction of the water needs of the groundnut crop. These drought conditions have been verified by the in-country ARC Technical Working Group.

Mauritania (2014 agricultural season): The agricultural season in Mauritania, as specified in its ARC insurance contract, ended on 20 November 2014. Due to the poor rainfall performance during the 2014 rainy season, the water requirements of the reference crop, sorghum, were only satisfied in pockets of Assaba, Hodh El Gharbi and Hodh Ech Chargui regions in south-central Mauritania (see Map 6). All other agricultural areas are experiencing drought conditions according to ARV, with a WRSI that is up to 65% below normal. In some localised areas along the Atlantic coast, ARV indicates that sowing conditions were not reached. It can be expected that farmers living in areas affected by a below normal WRSI will not be able to produce substantial yields at the end of the 2014 agricultural season.

Kenya (2014/15 second rangeland season): Kenya customised the WRSI to show rangeland developments in its bi-modal pastoralist areas. The rangeland WRSI is closely linked to the performance of the seasonal rains so far, and shows an above normal progression of pasture in the west, as well as in pockets of southern and north-eastern Kenya (see Map 7). Particularly West Pokot, Baringo and Turkana regions currently record WRSI values that are 40-50% above normal. However, in the central and northern parts of the country, the WRSI remains slightly below average due to the drier than normal conditions recorded over the last two months. The areas most affected are parts of Moyale, Marsabit, Isiolo and Mwingi, where the WRSI is currently between 23% and 44% below average. Nonetheless, it is important to note that pasture recovery has already started in these areas, and that it is likely to improve further as the season progresses. Particularly rains received in December 2014 will be crucial to determine the overall performance of the ongoing season.

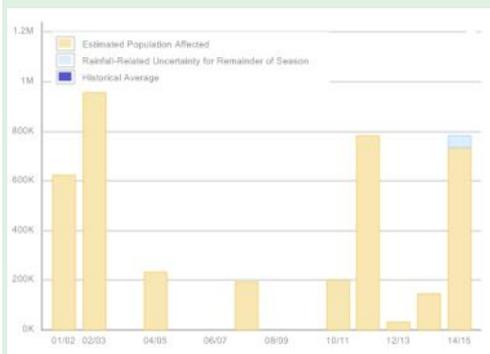
Mozambique (2014/15 agricultural season): The agricultural season in Mozambique started in late October 2014, and will last through mid-May 2015. Sowing usually occurs between October and the end of January. According to ARV, sowing has already started in some areas, despite the slightly delayed start of the rainy season (see Map 8). However, given that the sowing window extends until the end of January 2015, there is still enough time for farmers to plant in areas where sowing conditions were not yet reached. The

¹⁾ **Note:** Map 5 above shows the WRSI compared to normal in Senegal at the end of the 2014/15 agricultural season (10 December 2014).

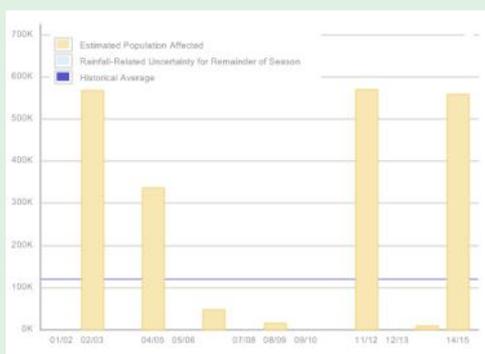
rains over the coming months will be a key factor in determining the success of the agricultural campaign.

AFFECTED POPULATIONS

Based on the WRSI calculations discussed in the previous section of this bulletin, ARV estimates the **number of people potentially affected by drought** for each country participating in the insurance pool. As part of the in-country customisation process, **vulnerability profiles** are developed at sub-national levels for each country, which define the potential impact of a drought on the population living in a specific area. It is important to note that not all those affected by a drought might be in need of humanitarian assistance. Moreover, needs are often driven by a variety of factors including but not limited to the weather. This bulletin reviews the affected population estimates and projections for countries insured and in-season.



GRAPH 1: ANNUAL ESTIMATED POPULATION AFFECTED (AS OF 11 DEC 2014), SENEGAL (2001-2014)



GRAPH 2: ANNUAL ESTIMATED POPULATION AFFECTED (AS OF 21 NOV 2014), MAURITANIA (2001-2014)



GRAPH 3: ESTIMATED POPULATION AFFECTED IN-SEASON (AS OF 1 DEC 2014), KENYA (2014/15 SECOND RANGELAND SEASON)

Senegal (2014 agricultural season): As discussed above, Senegal experienced a poor agricultural season in 2014, due to the effect of poor and erratic rains. It is thus unlikely that farmers will be able to produce substantial yields. ARV estimates that at the end of the agricultural season, around 784,000 people are directly affected by drought conditions in the country (see Graph 1). The impact of this year’s drought is thus comparable to that of the 2011 drought, but remains slightly below the 2002 drought, which is the worst drought on record, with ARV estimating that around 950,000 people would have been directly affected had the rains of 2002 occurred this year and impacted today’s vulnerable population. It is important to note that these estimates only take into account the population that might be directly affected by a drought in the areas defined by the country during the customisation of ARV. The overall impact of the drought might be more pronounced, if compounding effects such as food prices, market access and other broader food security indicators are considered.

Mauritania (2014 agricultural season): After the end of the agricultural season in 2014, ARV estimates that a total of 558,000 people are directly affected by drought conditions in Mauritania. In terms of geographical distribution, Assaba region accounts for the majority of affected populations (around 212,000), followed by Gorgol (111,000) and Hodh El Gharbi, where about 89,700 people are estimated to be affected. These figures highlight the magnitude of this year’s drought in Mauritania, and place 2014 amongst the most severe droughts since 2001. The modelled impact is comparable to what would have happened if today’s population experienced the droughts in 2011 and 2002, and more severe than the drought in 2004 (see Graph 2). It has to be noted, however, that these modelled population estimates only estimate the number of people directly affected by a drought in the country. They are not necessarily representative of the wider food security situation, which depends on various other factors such as non-rainfall related issues that affect agricultural production (locust invasions, floods, fertiliser use etc.), as well as broader food security indicators such as market prices, nutrition, food access etc. For instance, while the direct impact of the 2014 drought might be comparable to that of the drought in 2011, the food crisis in the Sahel in that year might have been more severe, having been exacerbated by locust invasions, high food prices and other factors occurring in the region at the time.

Kenya (2014/15 second rangeland season): Considering that the rangeland season in Kenya has started only recently and that it extends until January 2015, it is too early to forecast how it will develop. Currently, ARV does not indicate a major problem in Kenya, indeed the current population affected estimate (1.6 million people) remains slightly below the average of over 2 million people, and has experienced a downward trend since the beginning of the season (see Graph 3). More accurate population affected estimates will be possible after December 2014.

About ARC:

- The **African Risk Capacity (ARC)** is a specialised agency of the African Union designed to improve the capacity of AU Member States to manage natural disaster risk, adapt to climate change and protect food insecure populations.
- The **Africa RiskView (ARV)** software is the technical engine of ARC. It uses satellite-based rainfall information to estimate the cost of responding to a drought, which triggers a corresponding insurance pay-out.
- The **ARC Insurance Company Limited** is the commercial affiliate of the ARC Agency, which pools risk across the continent through issuing insurance policies to participating countries.

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Mozambique (2014/15 agricultural season): As mentioned above, the agricultural season in Mozambique has just started, which means it is too early to forecast how it will develop. Historically, the country has experienced several mild drought events since 2001, with one more severe drought in 2004/05, which, should it happen today, nearly 1.2 million people would be directly affected according to ARV.

RESPONSE COST ESTIMATION

In a fourth and final step, ARV converts the numbers of affected people into **response costs**. For countries participating in the insurance pool these national response costs are the **underlying basis of the insurance policies**. Pay-outs will be triggered from the ARC Insurance Company Limited to countries where the estimated response cost **at the end of the season** exceeds a pre-defined threshold specified in the insurance contracts. This bulletin will monitor the **progression of estimated response costs** for countries which are **in-season** and have **insured** their respective seasons. Currently, **five countries form the first ARC risk pool** (Kenya, Mauritania, Mozambique, Niger and Senegal). Four of these (Senegal, Mauritania, Kenya and Mozambique) had active rainy seasons during the reporting month, while Niger's insured season finished at the end of October:

Senegal (2014 agricultural season): As discussed above, Senegal has experienced one of its worst seasons on record in 2014. The modelled drought response cost, which is based on the fixed per capita response cost selected by the country during the ARV customisation process, determines whether the country is eligible for a pay-out by the ARC Insurance Company Ltd, depending on the risk transfer parameters selected. Due to the high response cost associated with the drought in Senegal in 2014, the country will receive a pay-out by the ARC Insurance Company Limited. This pay-out will be used exclusively to fund the drought response outlined in the Final Implementation Plan (FIP), which the country is in the process of finalising.

Mauritania (2014 agricultural season): Given the drought conditions modelled by ARV, and the associated high response costs in Mauritania, the country is eligible for a pay-out by the ARC Insurance Company Limited. This pay-out is comparable to the pay-outs the country would have received in 2011 and 2002, had it participated in the ARC insurance pool then. It will be used to activate a Final Implementation Plan (FIP), which is currently being finalised based on the [pre-defined Operations Plan](#) that the country prepared as a pre-requisite for its participation in the insurance pool. The funds can be used exclusively to fund the drought response as outlined in the FIP, a subset of activities that were included in Mauritania's Operations Plan.

Kenya (2014/15 second rangeland season): At the current stage of Kenya's second rangeland season, no projection can be made yet for the end-of-season response cost. Given the slightly better than normal progression of the season so far, it is currently unlikely that the response costs will exceed the country attachment level, however this will also depend on the performance of the rains in the coming two months. Historically, the droughts of 2005/06 and 2010/11 would have triggered a pay-out by the ARC Insurance Company Ltd given the country's current selection of risk transfer parameters.

Mozambique (2014/15 agricultural season): As in the case of Kenya, it is currently too early to predict how the agricultural season will perform in Mozambique despite the slightly delayed start. Historically, the poor performance of the 2004/05 season, when nearly 1.2 million people were affected by drought in the country, would have triggered a pay-out by the ARC Insurance Company Ltd.

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