The Africa RiskView Bulletin is a monthly publication by the African Risk Capacity (ARC). 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. ARC relies on Africa RiskView, a drought modelling platform that uses satellite-based rainfall information to estimate the costs of responding to a drought. These modelled response costs are the underlying basis of the insurance policies issued by the ARC Insurance Company Limited, the financial affiliate of the ARC Agency, which pools risk across the continent.

**Rainfall:**
- Below normal rainfall in most of East Africa, as well as parts of Central Africa.
- In Southern Africa, above normal rains were recorded in the south-eastern parts of the region (Botswana, eastern Zimbabwe, southern and central Mozambique and north-eastern South Africa), as well as in southern and central Madagascar.

**Drought:**
- The 2016 agricultural season ended in The Gambia and Senegal. While normal conditions prevailed in The Gambia, optimal planting conditions were not reached in most of central Senegal according to Africa RiskView, resulting in well below normal WRSI values in these areas.
- In Burkina Faso, the season will end in early December 2016. Currently, Africa RiskView’s projections indicate that normal conditions will prevail, with the exception of localised areas in southern-western and northern Burkina Faso.

**AFFECTED POPULATIONS:**
- An estimated 730,000 people are estimated to be affected by drought in Senegal, while drought did not have a significant impact on vulnerable populations in The Gambia. In Burkina Faso, up to 250,000 people could be affected at the end of the 2016 agricultural season, according to Africa RiskView.

**ARC RISK POOL:**
- Currently, seven countries form the 2016/17 ARC Risk Pool, some of which are still in the process of defining their participation.
- No insurance payouts were triggered in West Africa, given that the modelled drought impact remained below the trigger levels selected by the countries.
- ARC announced in November 2016 that Malawi would receive a payout of over USD 8.1 million to support its response to the drought which resulted from the poor 2015/16 agricultural season.

**Rainfall**
During the month of November 2016, rainfall was mostly concentrated over Central, East and parts of Southern Africa where the season started in October. Moreover, rainfall was received over coastal areas of countries along the Gulf of Guinea in West Africa (Guinea, Sierra Leone, Liberia, Ghana, Togo, Benin and Nigeria). Compared to the 2001-15 average, below average rains were observed in most of East Africa, with the exception of parts of central and western Kenya. Dry conditions were particularly severe during the first dekad of the month (1-10 November). In Central Africa, rainfall deficits were recorded in most areas, except for the Republic of Congo, north-western DR Congo and south-western Central African Republic. Finally, in southern Africa, below average rainfall was received in the northern parts of the region during the reporting month (Zambia, Tanzania and northern Malawi). In the south-eastern parts of the region (Botswana, eastern Zimbabwe, southern and central Mozambique and north-eastern South Africa), well above average rains were recorded, particularly during the first dekad of the month, when excess rains of over 100 mm were recorded in some areas.

**Drought**
Senegal: The 2016 agricultural season in Senegal ended during the reporting month (November 2016). The in-country Technical Working Group (TWG) customised Africa RiskView to model the drought impact on groundnut, the main cash crop in the country, and an important crop for food security. The 2016 season was marked by a slightly delayed start and an early end of the rains in October. Nonetheless, cumulative rainfall was normal to above normal in most areas, with the exception of central Senegal, where below normal and erratic rains prevailed, particularly in Kaffrine and Kaolack regions. At the end of the season, Africa RiskView indicates that well below normal WRSI conditions pre-
vailed in these areas, while the situation was normal in the rest of the country. This can be attributed to the fact that in many central regions, the planting criteria set by the TWG were not met, due to poor rainfall during the first dekad of August (1-10 August). As a result, Africa RiskView assumes that farmers in this areas did not plant their crops or if they did the prospect for a good harvest would be limited. However, it is possible that in reality, crops were planted nonetheless, and initial assessments from the field indicate that Senegal’s crop production in 2016 will be higher than 2015 and the 5-year average. An Africa RiskView validation exercise is currently ongoing.

The Gambia: Like in neighbouring Senegal, the agricultural season in The Gambia lasts from June to mid-November. The 2016 rainy season was characterised by a late start and early end, with overall below average rainfall throughout most of the country. Nonetheless, Africa RiskView estimates that the rains received over the course of the season were sufficient to fully satisfy the water requirements of the reference crop (groundnut) in eastern and western Gambia. In the central parts of the country, mediocre to good WRSI conditions prevailed at the end of the season, based on the FEWST NET WRSI classification. Compared to the benchmark, which the country has set as the median of the previous 5 years, normal to slightly above normal WRSI conditions occurred throughout the country.

Burkina Faso: The 2016 agricultural season in Burkina Faso will end in early December. The in-country TWG customised Africa RiskView to model the impact of drought on sorghum. Currently, Africa RiskView suggests that normal conditions will prevail
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throughout the country at the end of the season, with the exception of parts of south-western, south-eastern and northern Burkina Faso. In these areas, slightly below normal conditions are expected compared to the benchmark selected by the country as indicator of normal conditions (median of the previous 5 years).

Affected Populations

Senegal: Due to the below normal WRSI conditions in central Senegal, Africa RiskView estimates that around 730,000 people were directly affected by drought conditions in Senegal at the end of the 2016 agricultural season. The most affected regions are located in the central and western parts of the country and include Kaolack (around 175,000 people), Kaffrine (140,000), Thies (135,000) and Fatick (117,000). Another 160,000 people are estimated to be affected in Louga and Diourbel. This figure is well above the modelled long-term average (1983-2015) of around 360,000 people and just below the 1-in-5 year national drought return period level overall. Nonetheless, the modelled drought impact remains lower than the magnitude of the major drought events in the country in 2002, 2011 and 2014 (which resulted in a payout of over USD 16 million by ARC Ltd in early 2015).

The Gambia: Due to the overall normal performance of the 2016 agricultural season in the country, Africa RiskView does not estimate that drought had a significant income on vulnerable people in The Gambia at the end of the season.

Burkina Faso: As discussed above, the 2016 agricultural season in Burkina Faso will end in early December 2016. The currently positive outlook means that Africa RiskView estimates that drought impacts will be very limited. However, an estimated 250,000 people are likely to be directly impacted by drought in the south-western parts of the country (Sud-Ouest Region). This figure remains well below the historical average in Africa RiskView of nearly 600,000 people.

ARC Risk Pool

Currently, seven countries form the 2016/17 ARC Risk Pool, namely Burkina Faso, The Gambia, Madagascar, Mali, Mauritania, Niger and Senegal.1 In West Africa, no payouts were triggered during the 2016/17 ARC Risk Pool so far, as the number of people estimated to be affected by drought in Mali and The Gambia remained well below the countries’ respective triggers. In Burkina Faso, the season is still ongoing, but it is highly unlikely that the country will benefit from a payout at the end of the 2016 agricultural season. Finally, in Senegal, despite the relatively high number of people estimated to be directly affected by drought in 2016, the country attachment level was not reached at the end of the season.

ARC has been working with countries throughout the continent on drought insurance since 2014/15. Three countries benefitted from a combined payout from ARC Ltd of over USD 26 million during the first ARC Risk Pool in 2014/15, namely Mauritania, Niger and Senegal. Moreover, ARC announced in November 2016 that Malawi will receive a payout of over USD 8 million to support its response to the drought which resulted from the poor 2015/16 agricultural season. Malawi is in the process of defining its Final Implementation Plan for the payout.

In addition to drought, ARC is currently developing additional risk insurance products for floods and tropical cyclones together with its Member States. Countries interested in joining the ARC Risk Pool usually go through a year-long engagement process which involves the customisation of Africa RiskView by in-country technical experts with support from the ARC Secretariat, the definition of an Operations Plans that outlines the assistance to be provided to vulnerable populations in the case of a payout by the ARC Insurance Company Limited, as well as the creation of structures and processes that allow for the quick disbursement of the payouts and the activation of the pre-defined Operation Plans.

1) Some of these countries are still in the process of defining their participation in the ARC Risk Pool.
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Africa RiskView is the technical engine of ARC. The software uses satellite-based rainfall information to estimate the costs of responding to a drought, which triggers a corresponding insurance payout.

ARC Insurance Company Limited is the financial affiliate of the ARC Agency, which pools risk across the continent through issuing insurance policies to participating countries.

About ARC:

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Note on Africa RiskView’s Methodology:

Rainfall: Africa RiskView uses various satellite rainfall datasets to track the progression of rainy seasons in Africa. Countries intending to participate in the ARC Risk Pool are required to customise the rainfall component by selecting the dataset which corresponds the best to the actual rainfall measured on the ground.

Drought: Africa RiskView 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 Africa RiskView, countries intending to take out insurance customise the software’s parameters to reflect the realities on the ground.

Affected Populations: Based on the WRSI calculations, Africa RiskView 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 the sub-national level for each country, which define the potential impact of a drought on the population living in a specific area.

Response Costs: In a fourth and final step, Africa RiskView 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. Payouts 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.

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