



Africa RiskView Customisation Review

*Terms of Reference of the Customisation Review
Committee*

&

Customisation Review Process

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I. Introduction

a. Background

African Risk Capacity Agency (ARC Agency) is a Specialised Agency of the African Union (AU).¹ ARC Agency leads ARC Group, a development finance institution that provides financial tools and infrastructure to help countries manage natural disaster risk and adapt to climate change. It currently counts 33 AU countries as members and is supervised by a governing board of African ministers and experts. The ARC design and establishment phase was managed by the World Food Programme of the United Nations (WFP), and WFP continues to provide administrative services support to ARC Agency through an administrative services agreement.

In 2014, ARC launched its initial risk insurance product for member states through its financial affiliate, African Risk Capacity Insurance Company Limited (ARC Ltd). ARC Ltd is a specialist hybrid mutual insurance company and Africa's first ever disaster insurance pool, aggregating risk by issuing insurance policies to participating governments and transferring risk to the international market.

In May 2014, ARC Ltd issued drought insurance policies totalling US \$129 million for a total premium cost of US \$17 million to a first group of African governments – Kenya, Mauritania, Niger and Senegal – marking the launch of the inaugural ARC pool. To date, ARC has provided drought insurance coverage to 8 countries and made payouts totalling US \$36.8 million to the governments of Mauritania, Malawi, Niger and Senegal.

b. Africa RiskView Software

Africa RiskView is the technical engine of ARC, which allows the ARC Group to pool risk across countries and also reflects the parameters of the insurance coverage. *Africa RiskView* is a software that aims to quantify the direct financial impact of drought and, in the future, other natural disasters on vulnerable populations.

The objective of *Africa RiskView* is to estimate the number of people affected by a drought event during a rainfall season and then the dollar amount required to respond to these affected people in a timely manner. To do this, *Africa RiskView* translates near real-time satellite-based rainfall information into a meaningful drought index that quantifies the impact of drought on agricultural production and rangeland conditions using existing operational early warning models. By then overlaying this data with vulnerability information, the software produces a first-order estimate of the drought-affected population and, in turn, response cost estimates. Through this process, *Africa RiskView* combines four well-established disciplines: crop monitoring and early warning, vulnerability assessment and mapping, operational response and financial planning, and risk management. It covers all of Africa's different rainfall seasons and employs four basic information layers that are combined to estimate drought response costs per season.

ARC Ltd uses *Africa RiskView* as a basis for its index-based insurance. ARC Ltd payouts are based on the drought impact modelled by the software and funds are triggered, in case of poor rains, at the end of the season. It is therefore key for *Africa RiskView* to accurately and correctly estimate the impact of any given rainfall pattern on the population. This modelling of countries' drought risk requires accurate customisation of the model, which can only be achieved through meaningful context-specific

¹ <http://www.africanriskcapacity.org>

data analysis and a good understanding of how the variability of the model output is a function of the variability in input.

c. Purpose

To maintain high standards of service to its Member States, it is critical for ARC to strengthen the quality assurance and client services work in order to continuously improve available insurance products and minimise basis risk. At the joint meeting of the ARC Agency Governing Board and the ARC Ltd Board of Directors (collectively, the Boards) held in January 2017, the Boards were presented with a number of recommendations for improvements to ARC's quality assurance and client services work. Among these recommendations was the establishment of a Customisation Review Committee (CRC) that will review customisations of *Africa RiskView* software carried out by ARC Member States and provide recommendations to governments' Technical Working Groups (TWG) on how customisations could be improved, if needed. This third-party evaluation is intended to strengthen the customisation process and thus build confidence of the governments and donors in *Africa RiskView* customisation and its outputs.

Considering the above and particularly the recommendation made to the Boards to establish the CRC, the purpose of this document is to lay out the terms of reference of the CRC and outline the process of the customisation review.

II. Terms of Reference of the Customisation Review Committee (CRC)

a. Context

The customisation process is highly technical and requires significant country-specific knowledge in addition to general expertise in quantitative analysis and statistical modelling. Satellite-based rainfall estimates are the only exogenous input in the model; a set of parameters, which play a crucial role in the output of the model, are selected by the users based on soil properties, agricultural practices, populations' vulnerabilities, etc. The nature of the *Africa RiskView* drought model implies that there can be significant variability in modelled losses based on a small variation of the parameters used. Therefore, it is necessary for ARC Agency to take all required steps to optimize the in-country customisation process of the drought model.

The customisation process and selection of input parameters is carried out by the country's experts in relevant fields, including meteorology, agronomy, vulnerability assessment, and statistics. The experts form the country's Technical Working Group (TWG). TWGs are supported by the ARC Technical Support Division that trains experts in the *Africa RiskView* methodology and guides discussions on the selection of parameters to be used in the model. This work is validated at country level through existing platforms that review the consistency of the model outputs with historical drought events, ensuring that they are chosen correctly in terms of frequency and magnitude.

The Customisation Review Committee (CRC) has therefore been established as an independent external advisory committee of technical experts that will:

- conduct a thorough review of the *Africa RiskView* customisation process by ARC Member States;
- advise on the appropriateness of customisation parameters selected;
- provide recommendations and guidance on how customisations could be refined in line with good practices in drought modelling; and
- provide recommendations to the ARC Secretariat on how to better support in-country customisation processes.

b. Duties and Responsibilities

The main role of the CRC is to review and assess *Africa RiskView* customisations to make sure that each customisation is well conducted. Specifically, the CRC ensures that:

- At country level:
 - All input data used for parameter selection seems consistent with the experts' knowledge of the current agricultural and livestock-related practices;
 - Trends and shifts in the farmers' behaviour and other inputs are incorporated as much as possible in the next year's customisation;
 - The model can reproduce drought events of the past correctly if the parameters entered are consistent with the agricultural and livestock practises in place during the same years²; and
 - The TWG is aware and well-informed about the sensitivity of the model output to each of the parameter changes so that they can take informed decisions on parameter choices.
- At regional level:

² This is particularly important as the customisation must include parameters and input data applicable to the current year's sowing and harvest, so there might be cases in which the model cannot reproduce previous droughts because of changes in the agricultural practices (e.g. different crop varieties or different areas cultivated).

- There is consistency among the customisations of neighbouring or similar countries in terms of agro-ecological conditions and agricultural practices.
- At continental level:
 - Customisations follow a consistent approach and are based on the same quality standards and formats.

After the review and assessment of each in-country customisation of *Africa RiskView*, the CRC shall consolidate their results in the Customisation Review Report. The written report will include the findings of the review process, including specific recommendations to the TWGs on ways to improve their customisations. The Customisation Review Report shall clearly document the concerns of the CRC with any customisation decision made by the TWG.

c. Composition of the CRC

Considering how *Africa RiskView* customisation is highly technical and requires in-depth country-specific knowledge, the composition of the CRC is tailored in a flexible manner to accommodate the respective needs of different countries and ensure consistency and high-quality standards across the entire pool. The CRC shall include experts with three different types of mandates:

- i. **Experts with a continental mandate (Modelling Experts)** – One Modelling Expert and an alternate will be selected to provide the CRC with a thorough understanding of the model. The experts will have a continental mandate, requiring them to be part of all the meetings of the CRC, independent of the assessed country. The experts shall be given in-depth training on *Africa RiskView* methodologies in order to provide modelling expertise, and they should have relevant experience in agriculture and vulnerability assessment at the continental level.
- ii. **Experts with a regional mandate (Regional Experts)** – Regional Experts and alternates will be selected based on their knowledge of the characteristics of a specific region to ensure consistency between customisation parameters of countries within the same region. To this effect, the Regional Experts shall attend all CRC meetings involving the customisation review of countries from the region assigned to them. Two to three experts per region shall be selected with a regional mandate and shall have expertise in one of the following disciplines, provided that each of the regional experts has a different area of expertise: agriculture, livestock, or vulnerability. Priority would be given to experts with some level of knowledge of the customisation process. A regional expert possessing the required expertise may serve as the national expert for more than one country.
- iii. **Experts with a national mandate (National Experts)** – National Experts will be selected based on their in-depth knowledge of country-specific agricultural practices, as well as agro-ecological and vulnerability conditions. The National Experts shall have relevant national experience in at least one of the following disciplines: agriculture, livestock, or vulnerability. A national expert possessing the required expertise may serve as the national expert for more than one country.

This composition of the CRC limits the number of experts who require in-depth training on *Africa RiskView* methodologies; guarantees country-specific recommendations; allows for the exchange of ideas, good practices, and lessons learned between the different countries under review; and facilitates harmonisation with other existing tools, indicators, and early warning practices at the regional level. Based on the above, the composition of the CRC for specific country customisation reviews shall be as follows:

- 1 Modelling Expert to review of all customisation reports;
- 1 Regional Expert in agriculture;
- 1 Regional Expert in livestock (if at least one of the countries in the region has customised the rangeland component);
- 1 Regional Expert in vulnerability;
- 1 National Expert in either agriculture, livestock or vulnerability for each reviewed country (although national expertise for a given country could also be provided by a Regional Expert or a National Expert from another country).

The ARC Secretariat shall put together a pool of experts from where the CRC members will be drawn as needed. Within the ARC Secretariat, it is the duty of the head of the ARC Agency Technical Support Division to convene the CRC and ensure the proper composition of the CRC for the review of the customisation of all countries. The ARC Agency Technical Support Division shall also provide a written summary report of the CRC meetings to provide to the ARC Secretariat.

For 2018, ARC Agency will lead a pilot programme to test the CRC in all Pool 5 countries.

d. Term of Service

Experts of the CRC are selected for a one-year term, renewable twice.

e. Experts Remuneration

Upon selection, each expert sitting on the CRC shall enter into a service contract (the Service Contract) with ARC Agency, outlining the terms and conditions under which the expert will be providing his/her services to ARC Agency. Experts shall be paid a daily rate for their review of the customisations, including work done individually and for days during which the CRC is meeting. The daily rate shall be fixed based on ARC Agency rules³. In addition, when attending meetings by invitation of the Secretariat outside the expert's country of residence, the expert shall be entitled to reimbursement of travel expenses and a daily living allowance for the duration of the meetings.

III. Customisation Review Approach

The CRC will review the customisations for all countries that intend to participate in the ARC risk pool, provide feedback on each of them, and make recommendations on selected parameters, which may include suggestions to change or further review one or more parameters. The CRC will review the customisations at the beginning of the project cycle to allow time for the country TWGs to review and consider the recommendations, in collaboration with the ARC Technical Support Division, before finalising and validating the customisation for consideration by ARC Ltd for underwriting purposes.

The CRC review process should have the following structure:

- 1 Modelling Expert to review all customisations and provide feedback on the general modelling considerations and methodology. The Modelling Expert will be thoroughly trained in *Africa RiskView* methodology so that he/she understands *Africa RiskView* in addition to their expertise in modelling. This ensures a more robust assessment of the *Africa RiskView* parameters within the drought modelling field.

³ Pursuant to the Administrative Services Agreement between WFP and ARC Agency, ARC Agency is subject to WFP rules for the determination of the rate of experts.

- Two to three Regional Experts: one regional expert in agriculture, one regional expert in livestock (if more than one country in the region has customised the rangeland component) and one regional expert in vulnerability. Keeping in mind the regional context, including the tools and indicators used in the region for early warning, these experts will focus on ensuring the consistency of the model parameters among neighbouring countries. Specific efforts will be made to identify at least one expert that has participated in the customisation process in any ARC Member State to benefit from their knowledge and experiences in the process.
- One National Expert per country being reviewed with expertise in agriculture, livestock (if the rangeland component is customised by the country under review) and/or vulnerability. The national experts will focus more on reviewing the customisation within the country context.
- A representative of each country's TWG shall participate in the CRC meeting, presenting the country's customisation process and the rationale for selection of the parameters presented to the CRC. The member will be allowed to provide clarifications to the CRC on areas of concern during the meeting.

The CRC will meet at least twice a year, and the dates are set according to the timing of the customisation process of countries whose insurance contracts start on one of the two inception dates. The Continental Expert will be present in all meetings, the regional experts will sit on CRC meetings reviewing customisations relative to countries of their specific region of expertise, i.e. West and Central Africa (WCA) or East and Southern Africa (ESA), and the national experts will only participate in the CRC during the discussions of the customisation for the country they are representing.

The CRC customisation review process shall be conducted as follows:

- i. Three weeks before the meeting, the Secretariat shall send the customisation reports, Risk View projects (RVPs) – the *Africa RiskView* format of a country customized project – and the Quality Assurance checklist used throughout the customisation process to the CRC, thereby initiating the customisation review process. For current pool countries and those countries where technical work has been conducted, the reports from the most recent customisation work will be used, together with a note on updated parameters that are being considered for the coverage season. For countries going through the customisation process for the first time, the ARC Secretariat shall provide preliminary customisation results and RVPs which will be used for the review by the CRC. This step will be carried out before the customisation revision process for the preceding risk pool begins.
- ii. All CRC experts shall submit their individual written feedback on the customisation material they reviewed within five days of reception.
- iii. Within five days of the submission of the reports to the ARC Secretariat, the CRC members shall convene in person for a multi-day workshop, where half of a day is allotted to review each country. During the workshop, TWG representatives, with support from the ARC Secretariat staff, shall make a presentation of the customisation parameters prior to a final assessment by the CRC.
- iv. The ARC Secretariat may participate in the CRC deliberations, but deliberations and final recommendations shall come from the CRC alone.
- v. Within two days of the workshop completion, the Chairperson of the CRC shall provide the Customisation Review Report, which includes:

- a) A general assessment of the country RVP(s) and quality assurance checklist documenting the discussions around the parameters choices;
 - b) The specific recommendations and guidance of the CRC to the country on how to improve its *Africa RiskView* customisation, if needed;
 - c) A clear explanation of any concerns of the CRC with any customisation decision taken by the TWG of the country under review; and
 - d) Specific recommendations to the ARC Secretariat on how to better support in-country customisation processes, when needed.
- vi. The ARC Secretariat shall immediately communicate the CRC recommendations to the country.
- vii. The results of this review shall be used during the customisation update and review process, giving an opportunity to the TWG to review the feedback from the CRC and ARC and to respond to specific requests by the CRC.
- viii. The country shall modify and update its customisation, at its discretion, and submit its finalized *Africa RiskView* Customisation report to the Secretariat.
- ix. The recommendation of the CRC shall be submitted to ARC Ltd, together with the final RVPs, Customisation Report and Quality Assurance Checklist, to give ARC Ltd an opportunity to consider the CRC recommendations and the subsequent responses from the countries for the Quality Assurance Review.
- x. The countries' decision to adopt or omit the recommendations, and the underlying rationale or justification for the decision, will be communicated to the CRC by the TWG.