



African Risk Capacity - ARC

A Pan-African Disaster Risk Pool



1. Overview

The African Union Commission (AUC) is working towards the establishment of a pan African risk pool called the African Risk Capacity (ARC) designed to improve the efficiency of current emergency drought responses. ARC would be an African owned disaster risk financing facility that provides resources to participating governments immediately after a drought has occurred. ARC is currently in the development stage, but, when established, participating member countries of the African Union would be able to access financial resources through the ARC facility in order to implement defined drought response contingency plans quickly and proactively in the event of an extreme drought event in their country.

The African Union Commission (AUC) (1) is undertaking a study of design options for a pan-African Disaster Risk Pool, called the African Risk Capacity (ARC). The study will explore institutional, legal and financial alternatives for structuring such an entity, and present ideas about ways for countries to participate. The AUC has secured support for this risk sharing initiative from Member States and is beginning to discuss the ARC concept with its membership. This note outlines the ARC design work to date and the concept behind this type of risk pool in order to facilitate discussion and feedback from experts at a consultation meeting to be held in the near future.

a) Background

Weather is inherently variable and weather shocks are an ongoing risk across the African continent. Even while most of sub-Saharan Africa has had a relatively good rainfall and therefore not felt the effects of current historically high cereal prices, localized droughts have occurred, with northern Kenya, southern Ethiopia and Somalia currently dealing with the effects of a poor rainfall. The impacts of recent widespread droughts (2009/10, 2004/5 and 2002/2003) have also not been forgotten and policy makers are acutely aware of the risk of similar events in the future. Analysis suggests that a wide-spread catastrophic drought in sub-Saharan Africa today could cost upwards of US\$3 billion in emergency assistance costs (2). In addition climate change is likely to introduce a higher incidence of erratic rainfall and high temperatures creating a risk that more droughts, with potentially stronger severity, may occur in the future.

The current model for responding to drought is plagued by a number of challenges and the high and unpredictable cost of these events strain governments and donors. Paramount among these problems are the inefficiencies and delays in delivering funding for responses that lead to household asset depletion (i.e. selling livestock or other productive assets) which can make recovery much more difficult. In almost all cases some time lag occurs between the disaster and the availability of resources to deal with the impacts.

Only after funds are raised, often through traditional appeals for aid, can a response be mobilized to reach those trying to cope with the impact of crop or other losses. In many cases uncertainty about funding and timing of responses leads to the diversion of resources from other important programs and creates problems for market actors. Finally, the donor driven approaches to disaster financing crowd out national and capacity and autonomy for managing drought-related issues. Given the desire of African governments to have greater ownership of disaster response and the continued constraints on aid budgets, there is an immediate need to increase the efficiency of emergency assistance.

(1) This project benefits from technical assistance from the UN World Food Programme (WFP), and support from the Rockefeller Foundation, the UK Department for International Development (DFID), the Global Facility for Disaster Reduction and Recovery (GFDRR), the World Bank, and the International Fund for Agricultural Development (IFAD).

(2) WFP staff analysis.

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

To do this, it is not necessary to replace existing responses employed by governments and donors, but, rather, to enhance these activities through technologies and innovations that are available. Risk management techniques such as risk transfer and risk pooling, while not new, can be applied by African countries in new and innovative ways to lower the cost of the response to disasters, before they become humanitarian crises, and provide better services to those affected. Early, planned, reliable and appropriate interventions in the event of weather-related emergencies could help reduce the negative impact of a disaster on the vulnerable, protecting human, social and economic development and reducing the short- and the long-term costs of assistance. When coupled with adequate contingency plans, quick-disbursing funding can help protect the lives *and* livelihoods of the most vulnerable, lowering the total cost of assistance and protecting development gains. Evidence suggests that helping people quickly before they sell assets creates five times more value to vulnerable populations than traditional aid which is raised after the disaster strikes, and arrives much later. Using an indicative but conservative model, estimates show that a contingency fund of US\$250million could save African countries and donors nearly US\$1 billion in cash over 20 years (3).

Given the potential benefits of quick disbursing funds, as part of its priority agenda, the AU has highlighted the need to develop Member States capacity to financially manage weather risks more effectively and independently. In light of this an initial concept for ARC, a pan-African risk pool which would provide participating governments in Africa financial tools and funds to response to predictable natural disasters across the continent, has been developed by the African Union Commission (4).

b) Objectives

The goal of ARC is to create a facility that would allocate funds for participating countries based on pre-defined rainfall related triggers specified by each country. In this way ARC would act as a pan-African contingency funding mechanism for extreme weather emergencies, initially providing coverage for severe drought, but expanding to other weather risks, such as flood, at a later stage. Contingency funds here are defined as quick-disbursing funds that are secured ex-ante – that is before hand – to be triggered and released by an event.

There are three objectives of ARC, which taken together represent a new way of responding to drought-related emergencies across the continent:

- African governments gain access to a set of tools which provide a summary of risks as well as a quantification of costs and impacts of drought at district, national, and regional levels.
- African governments, through the risk pool, establish and manage a dedicated quick-disbursing contingent funding mechanism which strengthens the continent's ability to respond and improve disaster planning.
- African governments join in solidarity to pool risks across the continent, thereby reducing the cost of insurance coverage for severe and catastrophic events.

(3) ARC Programme Memorandum, WFP.

(4) The recent Conference of African Ministers of Finance on March 28-29, 2011 in Addis Ababa adopted Resolution L-5 that welcomed, "the African Union Commission's proposal to work towards the establishment of the African Risk Capacity (ARC), an African-owned pan-African disaster risk pooling facility that would provide contingency funds to participating AU Member States in the event of extreme weather shocks" and endorsed consultation with AU Member States on the findings of the ongoing ARC feasibility design study.

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

The ARC would be one of several tools available to governments to respond to disasters in a timely and planned fashion helping governments to build a comprehensive national disaster risk management and disaster risk reduction (DRR) strategies. Investment in climate change mitigation, which should build on investment in agricultural production and market development, can be complemented by ARC funding for responses to drought risk. The key benefits of ARC will be to speed the early flow of funds to a country following a disaster, based on objective triggers, enabling government response actions that reduce the dislocation caused by such events and the dependence on international appeals for assistance.

c) Risk Pooling

ARC will enable African countries to secure contingency funds for drought events by capitalizing on the natural diversification of weather risk across the continent through a risk pool. A risk pool is a mechanism where individual risks are transferred and combined. That pool then takes on the risk profile of the group rather than the risk profile of each individual risk, combining the uncertainty of individual risks into a calculable risk for the group. By looking at the probability that an event will occur in a year, the correlation of risks, and the likelihood that a drought event will happen at multiple countries in the same year, it is possible to determine the probability of payouts for the entire pool.

Using health insurance as a model, if the cost of treating a person with influenza is \$50 per illness, and an insurance company expects 1 in 10 people to get the flu in a year, an insurance company can insure a 100,000-member group of people against flu if they collect \$500,000 (i.e. \$50 x 10,000 sick people), or \$5 per person in that group. By agreeing to pay the cost of each sick person in exchange for the \$5 payments from everyone in the group, the insurance company has effectively pooled the risk of the group and reduced the insurance costs of all its participants.

Similar to the example, AU member countries can pool resources to compensate countries that are affected by drought, when others are not, in a given year which would reduce significantly the risk management costs faced by countries and donors who support them. Initial analysis shows it is unlikely that extreme weather events, such as drought, will happen simultaneously in the same year in every country since there is some diversification in the performance of rainfall seasons across Africa. Therefore, the sum of the contingent funds each country would need to have in reserve in order to be able to respond to an extreme drought emergency that year is substantially greater than the contingency funds required by a *group* of countries to respond to its worst case scenario. Preliminary findings indicate a 50% saving from diversification of drought-related losses across Africa, i.e. a 50% reduction in the contingent funds needed if the risk is pooled among nations and managed as a group rather than borne by each country individually.

2. Overview

In principle a risk pool for Africa is feasible, however, whether a pool can be established cannot be determined a priori and depends on the outcomes of several interactive and interrelated processes with the national governments and other stakeholders involved. In particular to be feasible two key components – a method to assess risk and then the ability to devise a solvent and sustainable financial strategy to manage that risk – are required and are already in place, as outlined below. However in order to move forward with implementing these components and actually establishing a risk pool, other information on country participation and donor support is required, which will be discussed in the next section.

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

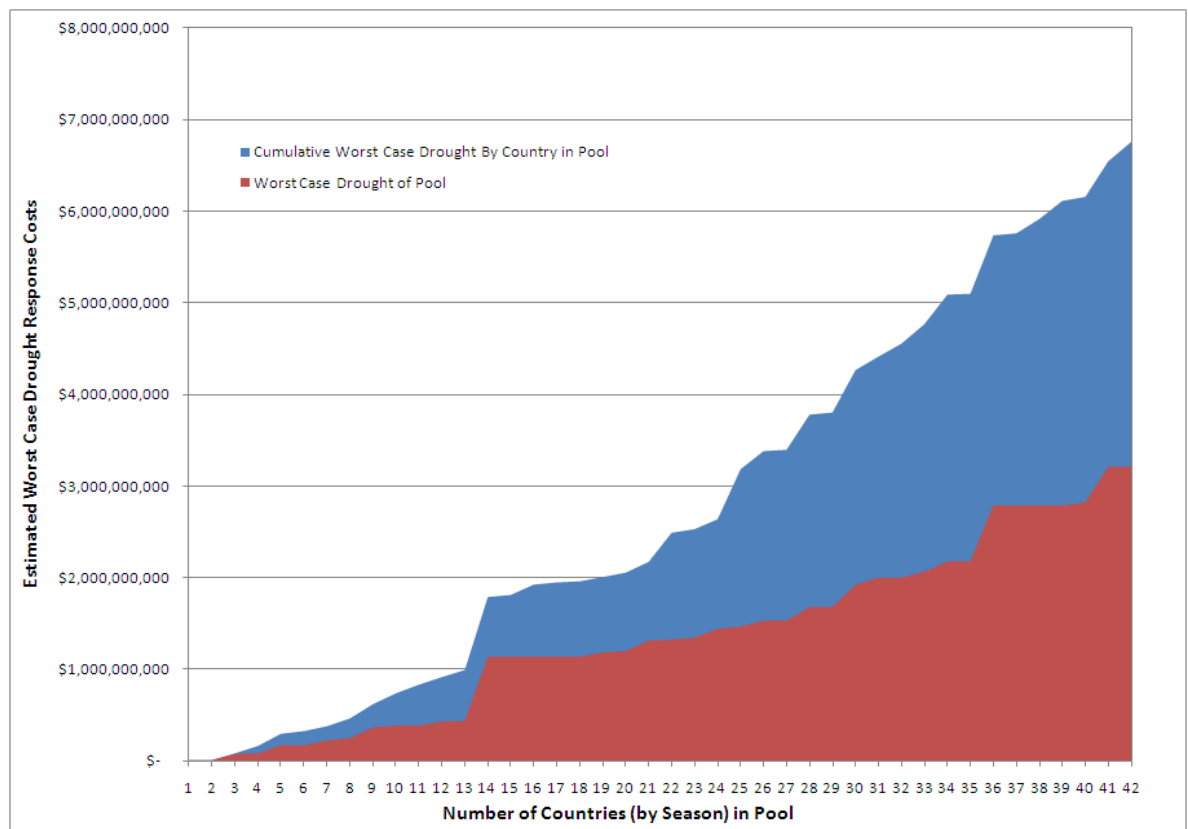


Figure 1. Illustrative example of risk pooling potential for drought risk across Africa using *Africa RiskView* estimates for the worst-case drought response cost for each country by season (see below). As more country drought risks, by season, are added to the pool (across the x-axis of the graphic) the difference between the estimated worst-case drought scenario for the pool, versus the cumulative worst case drought scenario of each country in the pool, becomes more evident. The difference between the red and blue lines at any point, expresses the degree of risk pooling for that group of countries/seasons. When all countries by season considered by *Africa RiskView* are included in the pool (42), the risk pooling factor is 52%, i.e. the risk pool worst case drought response costs estimate is less than half the size of the cumulative sum of the worst case drought response costs estimates for each country included. However it is clear from the graph above that risk pooling of a similar magnitude is evident when only a few countries are added to the pool, and remains above 35% after four countries added to the pool. To create the figure above, countries have been added to the pool alphabetically and worst case drought response costs are estimated on the basis of 15 years of historical *Africa RiskView* data. Further work is ongoing to stress the robustness of these results with additional data and statistical techniques.

a) Financial Strategy

The financial strategy envisioned for ARC, once it is established, focuses on two major criteria: solvency and sustainability. Solvency means a risk pool that can, in nearly all cases, make the required payouts to participating countries in full should a catastrophic drought scenario occur where many of the pool participants have been impacted by severe drought in the same year and are all due large ARC disbursements. For the purposes of the feasibility study, a recommended solvency target is a pool that 99% of the time has enough funds to payout each country due a payment in full. This is a minimum threshold that is usually required for an entity like the pool to be considered solvent. In addition, in order to be considered sustainable, the risk pool would have to be able to remain functioning for many years in a row despite making ongoing payouts. As an example, the pool would have to be able to make the payouts to countries affected by several serious drought events but without depleting its own reserves. For the purposes of the feasibility

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

study, the recommended sustainability target will be a pool that has a 50% probability of having the same level of reserves, or capital, after 10 years in operation. In other words, it has the same probability of survival for another 10 years after the first 10 years is completed (5).

ARC will need to deploy a financial strategy to ensure the pool can honor disbursements to countries in any given year and is able to project a clear path to self-sustainability beyond donor and international organization support over several years. The pool will have funds from contributions of the participating countries, in the form of annual participation fees, and from initial contributions to the pool from donors to execute this strategy. ARC payouts would be based on a set of objective rules that are country specific to ensure these contributions are fair, equitable and sized appropriately for the risk ARC is to cover. Each country would define the severity of drought, as defined by a rainfall-based formula specific to their country, for which they want compensation and the amount of compensation they would need in each case. To ensure that the potential liabilities of the risk pool are clearly defined going into each risk season, these rules must be identified up front. Participating country contributions will be linked to these rules and the probability of the country receiving a payout in the season ahead. These solvency sustainability objectives can be achieved using a variety of different financing approaches and instruments which already exist and are being used for risk management around the world, for example in the Caribbean risk pool (see Annex 1). These can include the coordinated use of risk retention, risk transfer and contingent financing from international financing entities to create a layered financing structure within the pool and also within participating countries themselves:

A Layered Approach to Risk Management

- **Layer 1: Retention by Country Participants** – Members could retain risk by choosing to only receive compensation from ARC for drought events that are more extreme and less frequent. Members would use existing resources and programs to manage the impact of less severe, localized or frequent events in-country.
- **Layer 2: Risk Pool Reserves (ARC Retention)** – It is anticipated that reserves layer of the pool could be based on contributions of the participating countries in the form of annual participation fees, in addition to initial donor capitalization. These funds could create a pool of resources available for payouts in the same ways that insurance premiums provide a pool of funds for insurance companies to pay insured client claims. A simple way to think about these reserves as part of the pool's layered financial risk management strategy is that they could be used to finance expected events every year and those with medium levels of severity and relatively infrequent, e.g. large payouts for a single member or mid-level losses to a group of countries.
- **Layer 3: Risk Pool Contingent Financing (ARC Risk Transfer)** – The ARC risk pool would transfer risk that it believes it would be inefficient to hold as reserves within the pool to international financial entities which are interested in holding this risk, such as reinsurance companies and investment banks, through instruments such as insurance, derivatives and catastrophe bonds. These instruments would provide the pool with a market-based source of contingent funds. Contingent lending could also play this role. Initial capital and/or replenishment capital after larger payout events could be borrowed on pre-agreed terms from International Financial Institutions (IFIs) and repaid over a long period of time (i.e. 25-30 years). The pool could on-lend to countries who would be responsible for repaying the pool in a shorter period of time (i.e. 8-10 years) thereby establishing a revolving line of credit for participating countries of the pool.

(5) This same benchmark was used by the Caribbean Catastrophe Risk Insurance Facility (see Annex 1) in its initial dynamical financial analysis.

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

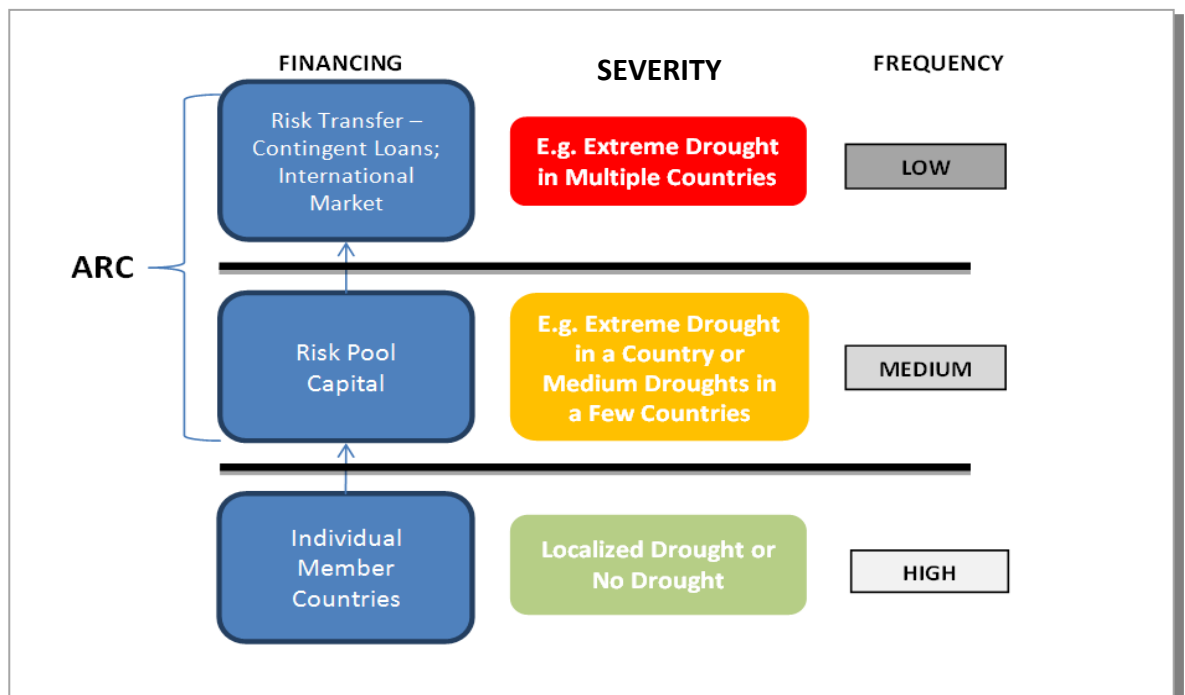


Figure 2. Simplified Graphical Illustration of a Possible ARC Risk Transfer Structure for a Single Year Highlighting a Layered Risk Management Approach

b) Risk Assessment and Quantification

To enable discussions about country participation in a risk pool, and therefore to enable the financial strategy outlined above, ARC relies on the objective quantification of drought risk from each participating country in order to determine how to manage the risk transferred to ARC and how to make payments to member countries. The AUC has worked with the World Food Programme to develop a software application called *Africa RiskView* that can quantify drought risk by country and region in dollar terms. *Africa RiskView* combines models on agricultural drought in Africa with data on vulnerable populations to form a standardized approach for estimating response costs. This information can help governments prepare for drought but has also been designed to be used as the basis for establishing the risk pool and allowing countries to define their participation in it (5).

3. Requirements for Establishment

Although the key components for feasibility exist, whether a pool can be established cannot be determined a priori through a study and depends on extensive engagement with national governments and other stakeholders involved. For example, before an appropriate financial strategy can be defined, information on the size and scope of country participation and the funds available to create initial reserves in the pool, is required. These two aspects are discussed below.

a) Member State Participation

In order to establish ARC, participation guidelines will be required to reflect the technical criteria required for ARC and policy objectives of the pool.

(6) The current *Africa RiskView* model performs well against WFP's historical drought-related operations in Africa and forms a solid basis for further customization and refinement by countries wishing to use it to assess and potentially manage drought risk at a country level.

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

Initial results indicate that at least five to six countries covering distinct geographical regions would be required in order to make the risk pooling concept financially viable. Because participation will be voluntary and the risk profile of participating countries will have significant influence on the operation of the pool, identifying these five or six initial participating countries will be one of the first steps in establishing the entity. In addition participation in the risk pool will require contributions both for initial capitalization, as discussed below, and ongoing participation fees. Once countries indicate their initial interest further consultations will be necessary to discuss their objectives in participating. In terms of policy objectives, already established country-led progresses on disaster preparedness strategies and the willingness to develop of contingency plans linked to national delivery mechanisms, to ensure ARC payouts translate to timely and effective assistance, may also be necessary for participation.

While the ongoing ARC design study will provide an overview of ARC's potential structure and operation, the remainder of the design process would be completed through engagement with AU Member States. In fact much of the work required for ARC establishment can only begin once countries express interest in participation and in-country ARC teams can be established with the relevant ministries and their partners in food security, agriculture, early warning and risk management such as the WFP, World Bank, donors, NGOs and National Vulnerability Assessment Committee (NVAC) members.

These working groups will be focal points for ARC coordination and training for host countries, tasked with moving from political buy-in to full participation. Where inter-ministerial/partner structures already exist, such as CAADP Partnership Platforms or ISDR's DRR National Platforms, in-country groups could use and align with these platforms. This engagement with countries will feed into the work required for ARC to be established and operational for a first phase, including:

- Developing an Operations Manual for the risk pool to enable the establishment of a legal ARC entity;
- Establishment of an ARC Management Team, headed by a Managing Director, to execute the functions outlined in the Operations Manual and ARC's financial and operational strategy;
- Securing initial capitalization support from donors and IFIs (see below);
- Performing the final analysis to identifying the optimal solvent and sustainable financial risk management strategy for ARC (7) and therefore establishing the actual participation fees levels for countries;
- Developing an operational approval process for contingency plans, that respects the potential heterogeneity of response plans at the country level while establishing ARC-wide standards and guidelines;
- Defining monitoring procedures for ARC disbursements and the monitoring and evaluation criteria for ARC and its impact on the most vulnerable and food insecure.

b) Initial Capitalization

As discussed above, the combined contributions of the African countries, in addition to donor contributions, would create reserves from which ARC would compensate member countries for drought-related costs and provide funds to replenish ARC after payments are made. Initial

(7) Until we have firm commitments from Member States and donors we will not have real numbers at hand and will therefore, in the ARC feasibility design study for example, be conducting simulations that will only act as a guide in determining participation fee levels.

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

capitalization from donors is critical as these funds would form the initial reserves in the pool as new reserves are built by country contributions over time. Many donors have signaled their interest in supporting initial risk pool capitalization, and the upcoming United Nations Climate Change Conference COP-17 to be held in Durban, South Africa in December 2011, will provide an opportunity to secure donor commitments toward an initial capital base. The African Union Commission is working with WFP Climate & Disaster Risk Solutions on fundraising with the aim of achieving an initial capitalization of US\$300 million. The World Bank's FY12 business plan for Africa includes a commitment of \$150 million to support the pool.

4. Issues for Discussion

A number of institutional structures can provide risk pooling service to Member States as described above and execute the financial strategies required. The design study that is being undertaken by the AUC will provide alternative institutional and legal options for establishing ARC and initial guidance on how ARC could be structured, given sufficient country participation and initial capitalization. However in terms of governance, given the pan-African nature of this initiative, it will be desirable to have continued AUC leadership at the continental level representing AU Member States through the chairmanship of the ARC Board. Likewise, maintaining a link to the existing food security architecture across Africa and the technical assistance and managerial services provided underpinning this venture to date, calls for the participation of WFP in the entity's governing structure. Other development partners and technical experts, including from the private sector, as agreed by this Board would be invited to join.

While the ongoing design study will provide a framework for establishing ARC, considerable consultations with the AUC and member states will be required to determine the operational details for ARC and the size and scope of the risk pool. Although an ongoing process, illustrative examples of ARC financial strategy will be discussed at the consultation, however final numbers would require information on the levels of participation and the available funding to be meaningful, hence the consultation's emphasis on the interactive and interrelated nature of the design process. These consultations will seek first to identify countries interested in participating and then to further answer some of the key questions about how ARC will be implemented. Some questions to be discussed with participants include:

- What resources are currently allocated to respond to droughts?
- How can existing drought response planning benefit from contingency financing like ARC?
- What savings and benefits could be anticipated if resources were available immediately after a drought occurred?
- What, if any, reservations exist about ARC's risk pooling and risk transfer approach?
- How often would resources from ARC be needed?
- What approaches are there for financing initial and annual contributions for ARC?
- What are the limitations of ARV in predicting losses?
- Which drought response activities could be targeted by governments with these resources?
- What contingency plans are currently in place in AU Member Countries?
- How can the concepts of risk pooling, risk transfer, and risk layering be best communicated to decision makers?

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

- What decisions are necessary at a country level to participate in ARC?
- What would a system like ARC mean for disaster planning and preparation?
- What funds are available for the capitalization of ARC?

ANNEX 1: Caribbean Catastrophe Risk Insurance Facility (CCRIF)

Hurricane and earthquakes can cause substantial financial losses to the island nations of the Caribbean. Following the devastation of Hurricane Ivan in Grenada, Jamaica, and the Cayman Islands, the Caribbean Community and Common Market (CARICOM) Heads of Government requested World Bank assistance in establishing a regional government insurance programme in order to respond in a more timely and efficient manner to hurricanes and earthquakes. In 2007 the creation of the Caribbean Catastrophe Risk Insurance Facility (CCRIF) established a Caribbean-owned, regional institution to do just that. CCRIF provides member governments with immediate liquidity after a hurricane or earthquake. It is the first regional disaster insurance facility in the world and highlights many of the steps needed to establish ARC. In contrast however, as it is designed to support governments in providing enhanced assistance to vulnerable, food insecure populations, ARC would need to be modified to take into account the linkage of payouts to contingency plans and national delivery mechanisms, to ensure timely funds are translated into effective assistance to those that need it most.

CCRIF is based on the idea of parametric insurance which makes payments that are objective, timely and transparent. Like ARC potentially could for its member governments, CCRIF uses objective triggers to determine payments for catastrophic events. In the case of the CCRIF, payments are based on the intensity of earthquakes and hurricanes rather than an assessment of damage incurred. This allows quick payments to countries in order to fill the liquidity gap that arises immediately after hurricanes and earthquakes before reconstruction and development funds are available. This allows governments to more efficiently cope with the impacts of the event and continue functioning. A similar liquidity gap, which could potentially be addressed by ARC, arises after a drought, as government works with donors to raise money to fill emergency appeals.

The *concept* for African Risk Capacity (ARC) is roughly based on the CCRIF. Modified for the particularities of African multi-seasonal weather risk in its financial design and based on *Africa RiskView*, the pool's governance structure could mirror the CCRIF as an **African-owned, AU-led stand-alone entity**. However, the purpose of the two entities are very different. The CCRIF was created to provide contingent funds to governments in the case of a hurricane or earthquake thereby allowing public facilities to continue to function. Payments from the pool go directly in to the General Fund account of the affected countries and is not tracked or monitored thereafter. Payouts from the ARC, while based on a parametric model like the CCRIF, are meant to finance early and timely responses to food insecure populations affected by extreme weather events. In order to retain the integrity of the pool, participating member states will need to develop contingency plans in the event of a payout and the ARC governing body will need to develop a process for ensuring that monies in the pool are protected and spent in a way that optimizes the cost efficiency, and therefore reach, of funds to address the pressing issues facing the most vulnerable populations.

ARC would be one of many tools available to governments for risk management and early preparedness, and until the pool can grow over time, WFP's services will still play a critical role in Africa's food security architecture.

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

One of the first steps in the development of CCRIF was identifying a template for its structure. In addition there are a number of other steps that were carried out before CCRIF was established that would need to be carried out in order to set up ARC including:

- The design of a suitable ownership and governance approach,
- Putting together a set of service providers to manage the day-to-day operations of the facility,
- Raising funds with which to capitalize the facility,
- Securing support from the international reinsurance markets, and
- Persuading a critical mass of Caribbean governments to purchase policies.

Initial capitalization of CCRIF was carried out jointly by donors and participating countries. In addition to capitalization of the pool itself, ongoing participation fees are required from member countries. In order to participate in the CCRIF, countries must contribute a membership fee proportionate to the risk being transferred to CCRIF. For CCRIF, participating countries determine the level of coverage at which they wish to participate based on their exposure to risk and risk transfer appetite. For the first three years of its existence (through 2010), those countries that qualified for International Development Assistance (IDA) were granted the ability to apply a portion of these funds towards the entry fee and subsequent contributions to the CCRIF. The CCRIF is backed by donor funds held within a World Bank Multi-Donor Trust Fund (8) combined with the financial capacity from the international markets. In the first year of operation 2007/8, US\$ 110 million of risk capacity was secured from the reinsurance markets in addition to country contributions to cover risk retained by the pool. To date this arrangement has aligned the CCRIF to exceed market requirements, such as the Solvency II regime (9), allowing the facility to respond to events that may occur only once every 1000 years or more.

In terms of the operational structure, CCRIF was set up as a for profit “captive” insurance company in the offshore jurisdiction of the Cayman Islands. While CCRIF is for profit, it is 100% owned by a trust benefiting member governments. CCRIF has a board of directors made up of representatives from CARICOM, the Caribbean Development Bank, a finance expert, an insurance/reinsurance expert, and an executive chairperson appointed by the other four board members. This board of directors sets and approves CCRIF policy, develops and implements strategic plans, and carries out strategic planning for the organization while working to maintain its solvency.

In addition to the Board of Directors there are a number of additional key roles in operating the pool:

- **Facility Supervisor:** Responsible for all technical operations including modeling, risk transfer, pricing, dynamic financial analysis, claims and marketing.
- **Captive Manager:** Responsible for all back-office operations including corporate secretary, accounting, audit management and regulatory liaison.

(8) Holding an initial US\$ 50 million capitalization by donors to support claims-paying capacity and operational costs of the CCRIF, while the pool build its own reserves. Source: Young, S. and Pearson, M. (2008), “The Caribbean catastrophe Risk Insurance Facility as a Technical Model”, Natural Catastrophe Risk Insurance Mechanisms for Asia and the Pacific Conference, 4–5 November 2008, Tokyo, Japan.

(9) Solvency II is the updated set of regulatory requirements for insurance firms that operate in the European Union, specifically requirements on capital adequacy and risk management with the aim of increasing protection for policyholders. It is scheduled to come into effect on 12 November 2012. <http://www.fsa.gov.uk/Pages/About/What/International/solvency/background/index.shtml>

African Risk Capacity - ARC

A Pan-African Disaster Risk Pool

- **Asset Manager:** Responsible for investing CCRIF capital in accordance to the CCRIF investment guidelines.
- **Reinsurance Broker:** Responsible for implementing the risk transfer strategy developed by the Facility Supervisor.

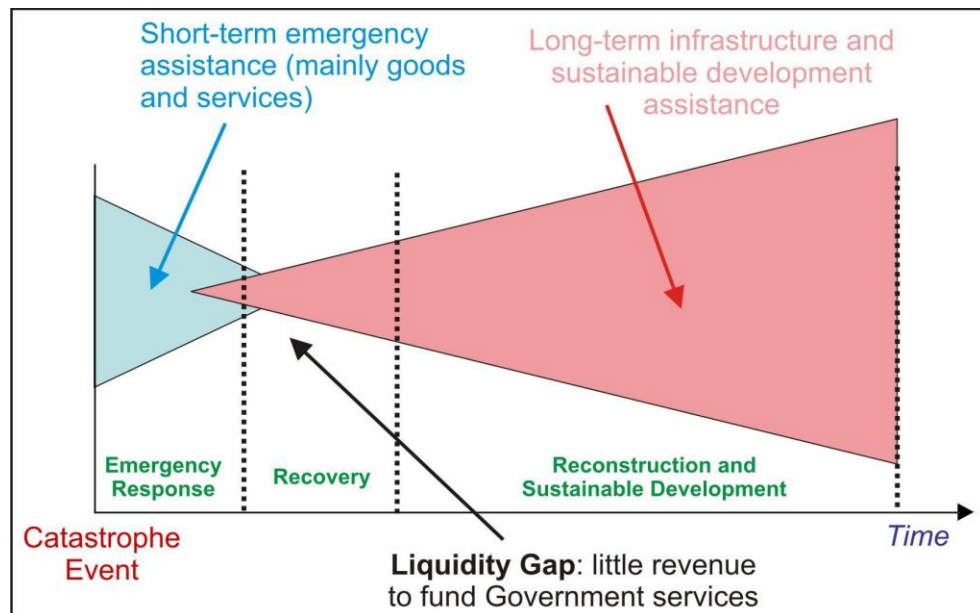


Figure A: Liquidity Gap Following a Catastrophe Event (10)

CCRIF has been active since 2007 and between 2007 and 2010 has paid US\$ 20 million in payouts to six different countries (11). In 2007, CCRIF paid out almost US\$ 1 million to the Dominican and St Lucian governments after the 29 November earthquake in the eastern Caribbean, and in 2008, CCRIF paid out approximately US\$6.3 million to the Turks & Caicos Islands after Hurricane Ike made a direct hit on Grand Turk. In 2010, its fourth year in operations, it issued 29 annual policies to 16 CARICOM countries. One of the biggest tests of CCRIF's functionality came on January 12, 2010 when a magnitude 7.0 earthquake struck outside Port-au-Prince, Haiti. Less than 24 hours after the earthquake occurred, CCRIF determined that the full payout (US\$ 7,753,579 USD), based on its catastrophe insurance policy for earthquakes for the 2009/10 policy year, was due to Haiti and the funds were transferred to the Haitian Government, following the required 14-day waiting period for calculation verification. This value represents approximately 20 times the premium of US\$ 385,500. The payout determination was made based on the strength and location of the earthquake as outlined in Haiti's policy. Following the passage of Tropical Cyclone Tomas on 30-31 October 2010 three countries received a CCRIF insurance payout: Barbados, US\$ 8,560,247; Saint Lucia, US\$ 3,241,613 and St Vincent & the Grenadines, US\$ 1,090,388.

While focusing on hurricane and earthquake rather, this pool provides a concrete example of how a regional risk pool can be established and implemented. It also provides valuable insight into the steps required to establish a similar entity for drought in Africa.

(10) Source: Young, Simon, "Climate Risk Management and Risk Transfer: Utilising insurance industry tools to underpin cost-effective adaptation", presented at the Seventh African Development Forum, 10-15 October 2010, Addis Ababa, Ethiopia.

(11) www.ccrif.org