ANTICIPATORY ACTION APPROACH IN RWANDA: INVESTING IN PROTECTING PEOPLE FROM DISASTER IMPACTS

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Abstract

Rwanda faces significant challenges from climate-induced hazards, including excessive storms, floods, droughts, and landslides, which threaten the lives and livelihoods of its predominantly rural population. Given the increasing frequency and intensity of these events due to climate change, the Government of Rwanda is shifting from a reactive to a proactive disaster management approach through the implementation of Anticipatory Action (AA).

This approach involves pre-defined triggers, pre-arranged funds, and early actions based on scientific weather forecasts to mitigate the impact of disasters before they unfold. Key steps taken include comprehensive assessments, the establishment of technical working groups, policy development, capacity building, and resource mobilization. Early results from the March-April-May (MAM) 2024 rainy season demonstrate the efficacy of this approach, with over 6,000 households protected from disaster impacts.

This paper highlights Rwanda's commitment to proactive disaster risk management and serves as a model for other nations. By investing in anticipatory action, Rwanda will not only enhance its resilience but also set a global example in safeguarding its citizens and promoting sustainable development.

Key words: Anticipatory action, Hazards, Disasters, North-Western, Kigali, Rwanda.

I. Introduction

The ability to manage climate-induced hazards remains of utmost importance while the numbers and severity of disasters are on the rise. Over the last 50 years, nine out of ten natural disasters around the world have been the result of extreme weather and climate events. Storms, floods, droughts, heatwaves, dust storms, wildfires and many other natural hazards threaten the lives and livelihoods of millions of people worldwide. The threat is expected to grow due to climate change, with climate models predicting weather extremes of greater frequency and intensity in the future.

Although natural hazards cannot be eliminated, societies need accurate science-based climate information now to facilitate effective disaster risk reduction strategies that prevent the hazards from becoming disasters today and in the future. A single natural disaster can significantly set back economic progress in any given community. As a result, investing in protecting people rather than waiting for disasters to happen is key to reduce the enormous social and economic costs incurred by acting after a disaster happens.

Protecting people and properties means investing in anticipatory action, which are a set of actions taken to prevent or mitigate potential disaster impacts prior to a shock or before acute impacts are felt. The actions are carried out based on credible forecasts of impending disasters to prevent or mitigate their impacts. These actions involve using early warning systems to trigger pre-defined activities and allocate pre-arranged resources before a disaster fully unfolds, aiming to protect lives, reduce economic losses, and enhance community resilience.

The government of Rwanda has embraced the journey of Anticipatory Action approach. Shifting from traditional disaster response to anticipatory action provides a proactive, efficient, and cost effective approach to disaster risk management. It enhances resilience, saves lives, reduces economic losses, and supports sustainable development, ultimately leading to more resilient and prepared communities.

The objective of this paper is to analyze Rwanda's implementation of anticipatory action and to provide insights on how the Government of Rwanda is harnessing anticipatory action, a proactive approach for disaster resilience.

2. Rwanda's Climate and Risk Profile

In Rwanda there is a diverse risk profile with mostly localized hazards, due to climate changerelated shocks and events, and these have intensified in impact and become more frequent. The climate crisis presents serious challenges for the country to achieve sustainable development. Due to the dual pressures of erratic weather and disasters (droughts, flooding, landslides and strong winds) combined with a challenging topography with extensive soil erosion, the resilience of the people, particularly the poorest is being undermined.

In the past decade, climate hazards events in Rwanda featured in the top 15 globally, and by 2050, Rwanda risks losing 5-7% of her GDP due to climate disasters. 45% of land in Rwanda faces high erosion risk, undermining agricultural output and GDP. A proportion of 15% of the population lives in hilly areas susceptible to excessing heavy rainfall accompanied with very strong winds causing flooding, landslides and collateral damages to property. About 6.3% of the population are exposed to drought in the eastern province, and regular shocks of rainfall deficits over the last decades have frequented, resulting to food insecurity and malnutrition to most vulnerable communities.

In the last 10 years, landslide and flood disasters have killed more than 1,000 people in Rwanda (MINEMA, 2023). Most recently, a series of disasters affected predominantly western and northern provinces on the 2nd and 3rd of May 2023, resulting in a tragic loss of 135 lives, displacing 20,000 individuals, and extensively damaging critical infrastructure including roads, bridges. About 7,000 houses and infrastructure were damaged, and more than 5,000 families displaced. This amplifies vulnerabilities within affected communities.

In addition, a shorter rain season September- October- November- December (SOND) is annually observed in most parts of the country with the above normal rains which prolonged until January and February (anomaly) and has subsequently triggered a series of disasters across the whole country. These events created a remarkable momentum by the Government of Rwanda (GoR) to see the essential need to shift the focus from reactive disaster response approaches to more proactive ones.

3. Demography, Climate and Seasonal Patterns

Rwanda's population is over 13 million people, and is predominately rural, with a proportion of 73% being classified as farmers (NISR, 2014). Agriculture is the primary source of income for most of the population. Climatically, Rwanda has a moderate tropical highland climate due to its elevation.

The average temperature ranges from 14 to 22 degrees Celsius, with cooler temperatures in the higher altitude areas. Precipitation for the country is highly variable and the variability is a result of complex interactions between various features acting at local and global scales.

Historical analysis shows that there is a high degree of variability in rainfall from one year to another: for instance, record rainfall of 1400mm in 1997-98 was followed by the two record lows of 1998-99 and 1999-00. The seasonal rainfall pattern over Rwanda is bi-modal, with two distinguishable rainy seasons corresponding with agricultural seasons, i.e., season A (September –October – November – December) and season B (March – April – May).

Rwanda has experienced a temperature increase of 1.4°C since 1970. Using the IPCC's high emissions scenario (RCP 8.5), UNDRR projects Rwanda's temperature will increase 2°C to 4°C in the mid-term future (2050-2074) and 2.5°C to 5.5°C in the far future (2071-2095). Disaster risk projections cited here are based on the high emissions scenario, 2050-2100. On average, an increase of 15% in annual precipitation is predicted for the mid and far future, although this will take place through more frequent and intense excessive rains, while dry spells are becoming longer and more frequent.

4. Framework of Anticipatory Action

Accordingly, the GoR has a well-established DRM system led by the Ministry in Charge of Emergency Management (MINEMA) and governed by the 2015 DRM Law and the 2023 DRRM Policy and associated strategic plans which are multi-sectoral in nature, largely funded from domestic resources and with implementation done mainly through government structures but complemented by development partners.

In order to better manage the increasing intensity and frequency of disasters in Rwanda, MINEMA in collaboration with development and humanitarian partners adopted proactive measures to mitigate and address disaster risks through initiatives such as landscape restoration, land use planning, early warning system management, anticipatory action and proactive disaster preparedness planning.

Anticipatory Action (AA), by definition, is an approach activated by a forecast-based predefined trigger to allocate pre-arranged funds for implementation of pre-agreed early actions based on a credible scientific weather forecast in order to reduce an acute humanitarian impact before it fully unfolds. The approach worked best if the following key components are pre-agreed by stakeholders:

a. Trigger/threshold/parameters for action.

b. Pre-agreed activities (Anticipatory Actions).

c. Pre-committed financing disbursed to allow the actions to be implemented immediately once the triggers are met and before hazard impacts unfold.

The approach systematically uses climate information with well-developed early warning messaging systems that help to alert stakeholders and people of an imminent disaster. Actions such as evacuating people, giving cash, in-kind support, and continual early warning messaging are implemented in the critical AA window between a forecast and a hazard.

In recent years, there has been a growing consensus and recognition of the importance of AA in minimizing the impacts of disasters and contributing directly to adaptation priorities outlined in most countries' nationally determined contributions.

Research has proved that AA adds a lot of value in enhancing Disaster Risk Management strategies by emphasizing early actions to impending climate hazards to protect people before a disaster fully unfolds. AA acts ahead of predicted hazardous events to prevent or reduce acute impacts. In an effort to enhance disaster risk management (DRM) and reduce the impact of hazards, Rwanda explored the approach and found it useful and effective.

However, the AA approach does not replace the existing regular DRM processes, but comes in as an integral part thereof, positioned between preparedness and response in the DRM continuum.

5. Implementation of Anticipatory Action in Rwanda

The actions taken so far by Rwanda Government in implementing AA are as follows:

Action 1: Conducted a comprehensive assessment to analyze the national context, existing systems, actors, partners, and capacities to implement anticipatory action with a focus on multi- hazards (Floods, Landslides, Drought and Strong winds). The findings of the assessment came up with recommendations to further strengthen government institutional capacity to implement AA as a solution to sustainably manage climate hazards.

Action 2: Established a National AA Technical Working Group (TWG) that brings together stakeholders from the GoR, development partners, national and international humanitarian organizations, research and financial institutions, including civil society to provide technical advisory support and coherence in the design of anticipatory action approaches, protocols and their piloting and implementation. The National TWG used the findings from the assessment in step 1 to design AA roadmap in Rwanda.

Action 3: Established AA sub-TWG for Anticipatory Action plans (AAP) and for Trigger development. The AAP sub-TWG was responsible for consolidating key early actions required to deliver timely ahead of predicted hazards, while the sub-TWG for Trigger development was responsible for developing thresholds/parameters of action to activate actions with clear roles and responsibilities of the partners.

Action 4: Policy Development and advocacy: GoR developed and it is in the process to implementing policies that explicitly support and mandate AA as a fundamental component of disaster risk management in Rwanda. This includes incorporating AA into national disaster risk reduction strategies and existing social protection systems.

Action 5: Establishment of Dedicated Units: The GoR created dedicated units or agencies (MINEMA) within the government structure responsible for coordinating AA efforts. These units can oversee planning, implementation, and monitoring of anticipatory measures across relevant sectors with the support from the AA TWG.

Action 6: Capacity Building: The GoR provided training and continue to provide capacitybuilding programs for government officials, disaster management actors, and local communities on AA principles, early warning systems, risk assessment, trigger and AAP development including implementation and response mechanisms.

Action 7: Resource Mobilization: The GoR is still mobilizing funding resources to support the implementation of AA initiatives in Rwanda. Additional actions under resource mobilizations includes leveraging national budgets, establishing a revolving DRF, engaging with international donors, and exploring innovative financing mechanisms like insurance schemes.

Action 8: Partnership Development and through South-South Triangular cooperation initiatives: The GoR is prioritizing partnerships with relevant stakeholders, including development partners, NGOs, academic institutions, private sector entities, and communities, to enhance collaboration and coordination in AA efforts. The government is also investing and engaging widely in knowledge sharing and collaborations with other countries that have successfully implemented AA initiatives. Exchanging best practices, lessons learned and innovative solutions to strengthen AA capabilities and resilience to the people of Rwanda.

Action 9: The GoR also harnessed digital technology and innovation to establish and strengthen multi-hazard early warning systems, risk assessment tools, and decision-making processes. This includes the use of remote sensing, data analytics, and mobile applications to improve the timeliness and accuracy of anticipatory actions. The government is also promoting research in the field of AA to develop new tools, methodologies and approaches that can enhance the accuracy, efficiency, and impact of anticipatory measures. Encourage partnership with academic institutions and research organization to leverage cutting-edge technologies and expertise.

6. Conclusion

The anticipatory action approach implemented in Rwanda provides a proactive strategy for protecting people from the impacts of disasters. The approach successfully safeguarded over 6,089 households across 134 hotspots during the 2024 March-April-May (MAM) rainy season.

By investing in early warning systems, preparedness measures, and community engagement, Rwanda has demonstrated a strong commitment to disaster risk reduction, saving lives and minimizing economic and social disruptions. Continuous evaluation and improvement of these actions highlight Rwanda's forward-thinking approach, setting a commendable example for global disaster management efforts.

Prioritizing resilience and adaptive strategies, Rwanda not only fosters sustainable development but also ensures a safer and more secure future for its citizens. Operationalizing anticipatory action requires building data sources for risk measurement and stakeholder collaboration for financial resource identification before crises occur.

Leveraging on the existing emergency cluster structures, Rwanda is well-positioned to expand its multi-agency anticipatory action program, and committed to further protecting its people and serving as a model for other nations facing similar disaster challenges.

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