Impact-Based Forecasting for Anticipatory Action Workshop

Report

January, 2025

Nomad Palace Hotel, Garissa County

List of Acronyms

AA	Anticipatory Action
IBF	Impact Based Forecasting
KRCS	The Kenya Red Cross Society
MAM	March - April - May
NCOF	National Climate Outlook Forum
RCMRD	Regional Centre For Mapping Of Resources For Development

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Introduction

Kenya continues to face significant socio-economic disruptions due to climate variability and extreme weather events, including floods, droughts, and strong winds. To enhance preparedness and minimize disaster-related losses, the Kenya Red Cross Society (KRCS), in collaboration with the World Food Programme (WFP) and other key partners, organized a two-day National Stakeholder Workshop on Impact-Based Forecasting (IBF) for Anticipatory Action.

This workshop, held in Garissa County from January 30–31, 2025, followed the National Climate Outlook Forum (NCOF) and aimed to strengthen the integration of IBF into Kenya's anticipatory action frameworks. By combining hazard forecasting with impact assessments, IBF equips stakeholders with actionable information to enhance disaster preparedness, response, and community resilience.

Expectations

Participants shared their expectations for the workshop, focusing on understanding impact-based forecasting (IbF), its integration into decision-making processes, and its application in various sectors to enhance anticipatory action and disaster risk reduction. These expectations are grouped as follows:

Understanding IBF and Its Benefits

- Gain a deeper understanding of Impact-Based Forecasting (IbF) and its role in saving lives and supporting vulnerable communities.
- Expand knowledge of Anticipatory Action (AA) and its integration with IBF for effective disaster risk management.
- Further, demystify IbF and explore its practical applications in decision-making and response.
- Gain insights into IbF to identify the most impacted regions and understand how the workshop outcomes can support targeted interventions.

Linking IBF to Decision-Making and Planning

- Explore how IbF can inform decision-making in migration, forced displacement, and contingency planning at national and county levels.
- Assess how IbF can be integrated into physical and land use planning to enhance resilience.
- Develop strategies to link forecasts with impacts for improved impact-based forecasting effectively.

- Establish solid triggers for activating Anticipatory Action (AA) and improving early response mechanisms.
- Utilize IBF insights to support the development of county climate information service plans.
- Map a way forward to link forecasts and impacts to produce impact-based forecasts effectively.

Strengthening and Enhancing IbF Systems

- Enhance the value of seasonal forecasts by integrating impact-based forecasting (IbF) at an effective scale.
- Strengthen and harmonize existing IbF systems to improve localized and downscaled forecasting.
- Build on previous anticipatory action mechanisms and define a clear way forward.
- Share RCMRD's IBF implementations and establish partnerships to advance IBF adoption in Kenya.
- Facilitate the implementation of workshop outcomes through collaboration with relevant stakeholders.

IBF Applications in Specific Sectors

- How IBF can reduce maternal mortality and gender-based violence.
- Get insights on advancements present in IbF and link with veterinary medicine to improve AA and response.
- Understand how IbF can support reducing the vulnerability of children to disasters.
- How IbF can help us ensure disaster-related infections can be contained and reduce risk among vulnerable populations.

Integration of IBF with Forecasting, Tools, and Indigenous Knowledge

- Identify the impacts of weather forecasts (NCOF10) and their relevance to IBF.
- Incorporate Kenya Meteorological Department forecasts into IBF systems for improved accuracy and actionability.
- Explore IBF tools that support Anticipatory Action (AA) programming and decision-making.
- Leverage earth observation technologies to enhance forecasting and AA effectiveness.

- Integrate Indigenous Technical Knowledge (ITK) with modern forecasting methods for more comprehensive predictions.
- Strengthen the link between forecasting and AA to improve early response mechanisms.
- Translate the MAM forecast into actionable insights using Anticipatory Action principles.

Collaboration and Knowledge Sharing

- Learn from other institutions' experiences and explore how to translate forecasts into actionable solutions across various sectors.

Objectives

Mr. Zachary Misiani from the Kenya Red Cross outlined the workshop objectives as follows:

Comprehensive Mapping: Information gathering checklist on existing National IbF

Data Identification: Determine the types of data necessary for effective IbF implementation at the national level.

Stakeholder Collaboration: Foster multi-sectoral partnerships to enhance the operationalization of IbF.

Capacity Building: Equip stakeholders with technical knowledge of IbF concepts and methodologies.

Key Speaking Notes

The workshop commenced with insightful keynote speeches and opening remarks from distinguished representatives of various organizations. These speakers set the tone for the discussions, highlighting the importance of Impact-Based Forecasting (IBF) in strengthening anticipatory action and disaster resilience. They emphasized the need for collaboration, data-driven decision-making, and innovative approaches to mitigate the adverse effects of extreme weather events. Their remarks underscored the commitment of stakeholders to advancing IBF as a critical tool for safeguarding communities and enhancing preparedness in Kenya.

Garissa County - Special Programmes

The Deputy Director of Special Programmes in Garissa County emphasized the critical role of Impact-Based Forecasting (IBF) in strengthening disaster preparedness and resilience at the county level. He highlighted the county's vulnerability to extreme weather events and the need for collaborative efforts to integrate IBF into response mechanisms. He reiterated the county's previous successes in 2024 and commitment to leveraging IBF to reduce disaster-related risks for vulnerable communities.

The Kenya Red Cross Society - Garissa Office

The KRCS -Garissa representative reaffirmed the organisation's dedication to working with stakeholders to integrate IBF into local anticipatory action frameworks, ensuring timely and effective interventions to protect vulnerable communities.

Kenya Meteorological Department

The Kenya Meteorological Department (KMD) underscored the critical role of accurate and timely weather data in advancing IbF and Anticipatory Action (AA). The speaker highlighted KMD's ongoing efforts to refine forecasting models, ensuring that weather predictions are linked to actionable impact assessments. He emphasized the need for continuous collaboration with stakeholders to enhance the translation of meteorological data into meaningful anticipatory interventions.

World Food Programme

The World Food Programme (WFP) emphasized the crucial role of Anticipatory Action (AA) in minimizing the impacts of hazards rather than preventing them entirely. The speaker highlighted the need to shift from a response-centric approach to a more proactive impact-based forecasting system that enables timely interventions before disasters occur. In addition to IbF, he underscored the importance of impact-based financing, ensuring that financial resources are allocated efficiently to support early action. WFP reaffirmed its commitment to strengthening partnerships and advancing innovative solutions to enhance disaster preparedness and resilience.

National Drought Management Authority

The National Drought Management Authority (NDMA) emphasized the importance of Impact-Based Forecasting (IBF) and Anticipatory Action (AA) in building resilience against climate-related disasters. The speaker appreciated the diverse, multidisciplinary representation at the workshop, highlighting it as a key strength in driving collaborative solutions. He commended the Kenya Meteorological Department (KMD) for its efforts in providing critical data and refining the understanding of anticipated impacts to improve early action. Additionally, he encouraged stakeholders to explore how financial and logistical resources can be strategically utilized within IBF to optimize the window of opportunity for effective anticipatory action.

The National Disaster Operations Center (NDOC)

The National Disaster Operations Center (NDOC) emphasized the vital role of Impact-Based Forecasting (IbF) in informing policy decisions and enhancing disaster preparedness. The importance of providing policymakers with accurate and actionable forecasts from the Kenya Meteorological Department (KMD) to support timely and effective decision-making and the need to strengthen KMD's capacity was highlighted.

Additionally, he underscored the significant impact of disasters on infrastructure, particularly roads, and called for the inclusion of key agencies such as the Kenya National Highways Authority (KeNHA) and other stakeholders in the IbF process from the outset.

Recognizing the role of displacement camps in disaster response, he urged stakeholders to consider how IbF can be integrated into camp management planning to ensure the safety and well-being of affected populations, particularly in affected counties like Garissa.

Overview of Impact-Based Forecasting in Kenya

During this session, various organizations, including the Kenya Meteorological Department (KMD), the Water Resources Authority (WRA), the National Drought Management Authority (NDMA), the Regional Centre for Mapping of Resources for Development (RCMRD), the World Food Programme (WFP), and the county governments of Wajir and Garissa, shared insights on the status of IbF tools, methodologies, and indicators they currently use.

Key points from this session highlighted the need for a common platform for knowledge sharing to enhance coordination among stakeholders. There was a call to clarify the roles of various institutions in Impact-Based Forecasting (IbF), particularly in areas such as who should inform on flooding—whether the Kenya Meteorological Department (KMD) or the Water Resources Authority (WRA).

Participants also emphasized the importance of addressing gaps in concerted efforts to improve collaboration across organizations. Additionally, there was a strong recommendation to explore alternative innovations and learning methods while bringing together duplicated efforts to streamline resources and enhance the overall effectiveness of IBF initiatives.

Participatory Risk Assessment for Impact-Based Forecasting

In this session, participants were divided into sector-based groups to conduct a participatory risk assessment exercise to identify and map key predictive indicators for Impact-Based Forecasting (IbF). Following the IbF process, each group worked through a structured approach to:

1. Identify the type of hazard to focus on.
2. Define both positive and negative impacts of the hazard within their sector.
3. Establish indicators for each identified impact.
4. Determine the related exposures
5. Determine the related vulnerabilities
6. Identify three main target groups most likely to be affected.
7. Overlay this information with the 2025 March-April-May (MAM) seasonal forecast to inform appropriate anticipatory actions.

The sectors represented in this exercise included:

1. Water
2. Health and Nutrition
3. Agriculture, Food Security, Social Protection, and Special Programmes
4. Livestock
5. Shelter
6. Infrastructure
7. Peace and Security
8. Environment
9. Education and Research

Presentations from Sector Working Groups on Key Risk Assessments

Each group presented findings based on the IBF framework, identifying hazards, impacts, exposures, vulnerabilities, and key target groups.

The sectoral discussions yielded the following key insights into the IBF process:

- IBF relies on historical data and trend analysis.
- It incorporates both time and spatial characteristics.
- The forecasting process begins before the anticipated hazard.
- Forecasts generate hazard projections that inform preparedness efforts.
- Vulnerable groups play a critical role in defining key indicators, which in turn shape response strategies.
- The forecasting process follows a structured sequence: ***forecast*** → ***hazard*** → ***impacts*** → ***exposure*** → ***vulnerabilities.***
- Risk is determined by the formula: ***Risk = Hazard × Vulnerability × Exposure***.
- Prioritization of indicators is crucial, particularly cross-sectoral indicators that enhance coordinated response efforts.

The detailed group presentations with sector-related impacts, indicators, exposure, vulnerability, target groups and actions can be found in this link: IBF 30 - 31 January 2025 - Garissa

Stakeholder Recommendations and Way Forward

The workshop concluded with stakeholders outlining actionable recommendations for strengthening IBF in Kenya's anticipatory action frameworks. Key recommendations included:

- The need for capacity-building initiatives to enhance technical understanding and implementation of IBF among stakeholders.
- The importance of integrating IBF with existing contingency planning, resource allocation mechanisms, early warning systems and policy frameworks.
- Enhancing data-sharing mechanisms between KMD and other institutions.
- Strengthening financial and logistical frameworks to support IBF-driven anticipatory actions.
- Improving the linkage between scientific forecasting and traditional knowledge systems.
- Encouraging multi-sectoral partnerships to enhance IBF adoption at the community level.

To streamline data collection and enhance sectoral analysis in IBF, a standardized template was developed. This template provides a structured approach to capturing key information on hazards, impacts, vulnerabilities, and response strategies across different sectors. The template can be accessed here: IBF Data Definition Sheet.xlsx

Closing Remarks

The workshop concluded with closing remarks from key representatives, including the County Government of Garissa, the Kenya Red Cross Society (KRCS), World Food Programme (WFP), the National Disaster Operations Center (NDOC), the National Drought Management Authority (NDMA) and the Kenya Meteorological Department (KMD). The stakeholders reaffirmed their commitment to advancing IBF initiatives and strengthening Kenya's disaster preparedness and resilience strategies.

The session officially ended with a vote of thanks and a reaffirmation of the importance of continued collaboration in integrating IBF into disaster risk management in Kenya.