

# “The Locals will Know”: The Role of Local Actors and Local Knowledge in Trigger Development for Anticipatory Action

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Institut für Friedenssicherungsrecht und Humanitäres Völkerrecht  
*Institute for International Law of Peace and Armed Conflict*

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# **“The Locals will Know”: The Role of Local Actors and Local Knowledge in Trigger Development for Anticipatory Action**

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## Executive Summary

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Anticipatory (Humanitarian) Action (AA) seeks to mitigate the humanitarian impact of predictable extreme events by implementing humanitarian measures before the impact fully materializes. Despite growing interest in AA, trigger development – where accurate thresholds or rules for decision-making for early action are identified based on forecasts and predictive analysis – remains a key challenge. Therefore, many current AA frameworks are still dominated by international actors, who rely heavily on quantitative data and scientific forecasting models, which require considerable resources and technical expertise to be developed and monitored. These trigger models often come at the expense of incorporating local insights and provide few entry points for small and medium-sized organizations. Similarly, existing literature largely highlights the technical complexity of creating reliable trigger models, often sidelining the valuable input that local actors – those closest to the communities at risk – can provide. Against this background, the paper seeks to provide recommendations for the systematic integration of local actors and local knowledge into the process of trigger development, thus lowering technical entry barriers for joint engagement in AA by German humanitarian NGOs and their local partners.

**„These trigger models often come at the expense of incorporating local insights and provide few entry points for small and medium-sized organizations.”**

It does so by drawing on a comprehensive literature review, key informant interviews with AA practitioners, field observations, and participation in workshops and other dialogue formats. The key results confirm that local leadership favors the design of flexible, cost-effective, and context-sensitive triggers: Centering decision-making power around local actors, from trigger design to monitoring and activation, ensures that existing local resources and structures are leveraged, that trigger models are aligned with broader disaster risk reduction (DRR) and development agendas, and that early buy-in from local governmental and non-governmental actors enhances the prospects of institutionalizing trigger models beyond the narrow timeframe of humanitarian projects. Local

knowledge, such as Indigenous early warning signs or insights into informal coping strategies and local vulnerabilities, adds further value by enhancing the precision and community acceptance of trigger models, ultimately making them more sustainable and aligned with local capacities. In particular, the use of participatory methods, like the People-First Impact Method (P-FIM) or community-based monitoring of hazard variables, leverages local knowledge to ensure that thresholds for action are better tailored to local contexts. In light of these findings, flexible, multi-step triggers that combine both quantitative data (e.g., meteorological forecasts) and qualitative assessments (e.g., local expert committees) emerge as an actionable and adaptable approach to joint trigger development among German NGOs and their local partners, providing greater flexibility across different hazards and contexts, including non-weather-related crises.

The case study of locally led trigger development in Catanduanes, Philippines, illustrates some of these practices in action, highlighting the practical benefits of locally led trigger development. In this context, local actors, including civil society organizations and disaster risk reduction offices at various government levels, played a central role in the participatory design process of a flexible, two-step trigger model for typhoon-related disasters. By integrating local knowledge and community-based approaches into trigger monitoring, the model enhanced community ownership and trust in the AA framework. This example demonstrates how local actors can lead the development of sustainable, context-sensitive triggers that align with broader disaster risk reduction efforts, effectively enabling joint engagement of NGOs and local partner organizations. However, the findings also underscore the importance of political commitment to AA at all government levels and a favorable institutional setup to support the entire process, from early warning information gathering to trigger activation.

## Key Recommendations

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In more detail, the key recommendations for German NGOs and their local partners to facilitate joint engagement in AA through local leadership in trigger development include...

- **Engage in long-term strategic partnerships and capacity-sharing:** Foster sustainable collaboration with local NGOs and government units from the early stages of AA planning. These partnerships facilitate resource sharing, build trust with communities, and enable local actors to leverage their knowledge for effective trigger development.
- **Thoroughly assess the need for new trigger models:** Before creating a new trigger, assess whether existing frameworks can be adapted or scaled up. Utilize local insights to adjust thresholds or focus on specific vulnerabilities (e.g., the needs of children).
- **Invest in locally-led stakeholder analysis:** Conduct participatory stakeholder mapping to identify key local actors, including private sector entities and local research institutes. This ensures all relevant contributors are engaged in the AA framework, enhancing local involvement and ownership.
- **Facilitate integration of local partners into existing coordination structures:** Support local actors in joining national or regional AA platforms. Providing resources like language training or travel assistance enables them to actively participate and contribute to continuous improvements of trigger models.
- **Ensure alignment with broader DRR and development agendas:** Ensure that AA frameworks complement local, national, and global DRR strategies. This creates synergy, enhances sustainability, and increases the effectiveness of early warning systems more broadly, e.g., through investments in forecasting infrastructure.
- **Aim for the integration of different knowledge systems:** Where relevant, incorporate traditional or indigenous knowledge alongside other data in trigger models. This approach strengthens community trust and offers

culturally sensitive early warning mechanisms, particularly in areas where indigenous knowledge is still valued or quantitative data is scarce.

- **Prioritize participatory methods and community engagement:** Use participatory methods like the People-First Impact Method (P-FIM) to involve communities in setting trigger thresholds or community-based approaches to monitor hazard variables. This fosters ownership and ensures that trigger points reflect local coping capacities.
- **Develop robust exit strategies and long-term perspectives for trigger models:** Plan for the sustainability of trigger models beyond project funding. Encourage the integration of AA triggers into local government structures or community-managed systems, ensuring long-term functionality of entire frameworks or some of its elements (e.g., early warning systems) even after external funding ends.
- **Share evidence and advocate for strategic and sustainable commitment to AA:** Promote continuous learning from trigger activations and share evidence with local, national, and international actors to foster broader adoption of AA. Advocate for long-term financial and political support to scale up AA frameworks sustainably.

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# 1. Introduction

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Anticipatory Humanitarian Action (AA) has emerged as an innovative approach to proactively address the humanitarian impacts of predicted extreme events: While the number of active Anticipatory Action frameworks around the world is increasing constantly, there is also growing interest in as well as experience with AA within the ecosystem of German humanitarian non-governmental organizations (NGOs) and their local partner networks (Anticipation Hub, 2024a). However, issues like the challenges associated with trigger development – that is the process of identifying thresholds or rules for decision-making for early action based on forecasts and predictive analysis – are still frequently cited by German NGOs as remaining barriers to engaging in AA, especially among smaller and medium-sized organizations (Schneider, 2023).

To provide entry points to AA as well as concrete recommendations for German NGOs and their local partner networks, this paper presents the results of a research component seeking to explore the role of local actors and local knowledge in the process of developing basic trigger models for Anticipatory Action. The component is part of a joint project of the Institute for International Law of Peace and Armed Conflict (IFHV) of the Ruhr-University Bochum and the umbrella organization of development and humanitarian NGOs in Germany, VENRO, to strengthen the capacities for innovation and future-oriented reforms among German humanitarian NGOs and their local partners, funded by the German Federal Foreign Office (IFHV, 2023). Consequently, this paper is primarily aimed at German NGOs and their local partners, particularly those with a genuine interest but little operational experience with AA. Ideally, the paper can also provide more general insights and inspiration beyond this specific target group.

The research project centered around the question of how trigger development for Anticipatory Action can build more systematically on local actors and their knowledge. It explored which local actors have been commonly involved in trigger development and what are common obstacles to the involvement and leadership of local actors – especially in comparison with the broader landscape on disaster risk management (DRM) – as well as good practices respectively. Beyond the normative imperative for more locally led Anticipatory Action, the paper emphasizes the added value of local leadership and local knowledge for the design and adaptation of flexible, cost-efficient, and sustainable trigger models for AA. Thereby, it seeks to reduce entry barriers for joint engagement of German NGOs, local partner networks, and other relevant stakeholders to Anticipatory Action in general, and the adoption or development of triggers in particular.

By discussing these questions, the project and this related publication are embedded in the broader debates around local leadership in Anticipatory Action, the role of local actors in scaling up Anticipatory Action, and the linkages between Anticipatory Action on the one hand

and reform processes towards enhanced local leadership, participation and decolonization in the humanitarian system on the other hand (Anticipation Hub, 2023a, 2024a; Burakowski and Semet, 2022; Diakonie Katastrophenhilfe, 2024; Serocki and Amling, 2024). To contribute to these debates, the overarching aim of this paper is to discuss the status quo, good practices, and further ideas related to the role of local actors and local knowledge in trigger development for Anticipatory Action to derive recommendations for German humanitarian NGOs and their local partners. To this end, the paper draws on data that was collected between June 2023 and June 2024 through a variety of methods encompassing, amongst others, a literature review, semi-structured interviews with key informants, participatory observation during workshops and project visits, as well as focus group discussions.

This paper presents the results and recommendations derived from the analysis of this data and is structured as follows: After the brief introduction, the evolution of Anticipatory Action as well as its constitutive elements and the key stakeholders involved are presented. Further key concepts relevant to this paper, such as “local actors” and “local knowledge” are also defined in chapter two. Subsequently, a review of the existing literature focuses on local actors and local knowledge within the broader discourse on DRM before zooming in on Anticipatory Action and the particular process of trigger development, its relevance to scale up AA frameworks as well as the associated challenges, and the status quo concerning the role of local actors in this context (chapter three). After a brief outline of the methodology used for data collection and analysis (chapter four), the results and recommendations for German humanitarian NGOs and their local partners are discussed (chapter five). A case study of locally led trigger development illustrates how some of these findings and recommendations play out in practice by drawing on an AA project on the island of Catanduanes, Philippines (chapter six). The paper closes with a brief resumé summarizing the most important aspects as well as outlining pathways and gaps for future research.

## 2. Background and Key Concepts

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### Anticipatory Humanitarian Action

Anticipatory Humanitarian Action constitutes a fairly novel approach seeking to minimize the humanitarian impacts of an extreme event through humanitarian measures that are implemented before the event occurs and its impact fully materializes. To achieve this, predictive analysis or forecasts of extreme events and their humanitarian impacts on the one hand are linked with (ideally) predefined and prefinanced measures to mitigate these impacts on the other hand (Anticipation Hub, 2023b). Thus, Anticipatory Action has formally been defined as “acting ahead of predicted hazards to prevent or reduce acute humanitarian impacts before they fully unfold. This requires pre-agreed plans that

identify partners and activities, reliable early warning information, and pre-agreed financing, released predictably and rapidly when an agreed trigger-point is reached.” (German Federal Foreign Office, 2022). As such, AA leverages the crucial time window, in which reliable information on a predicted extreme event is already available, but the acute impacts of the shock have not yet (fully) materialized with the aim of addressing residual risks in relation to the extreme event that existing frameworks are unable to cover (United Nations Office for the Coordination of Humanitarian Affairs; UN OCHA, 2023; Dall and Schneider, forthcoming).

As reflected in the definition, AA in practice consists of three main building blocks (ibid.): First, a threshold in the available (quantitative or qualitative) forecast data indicates that a certain extreme event is likely to occur with a certain probability. This “trigger” serves as a predefined parameter for action within an AA framework and is at the center of this research project. Second, once the decision for activation of an AA framework is taken based on the “trigger mechanism”, a set of (ideally predefined) humanitarian measures is implemented to mitigate the anticipated impact of the predicted event. These measures are often labeled “early actions” or “anticipatory actions” and captured in an “Anticipatory Action Plan” or “Early Action Protocol” (EAP). Regardless of the concrete terminology, their distinctive feature is that they are implemented in direct response to trigger activation and before the acute impacts of an extreme event fully unfold. Third, a (pre-agreed) financing mechanism ensures that funding for early actions is dispersed rapidly and reliably within the crucial timeframe that they are being implemented.

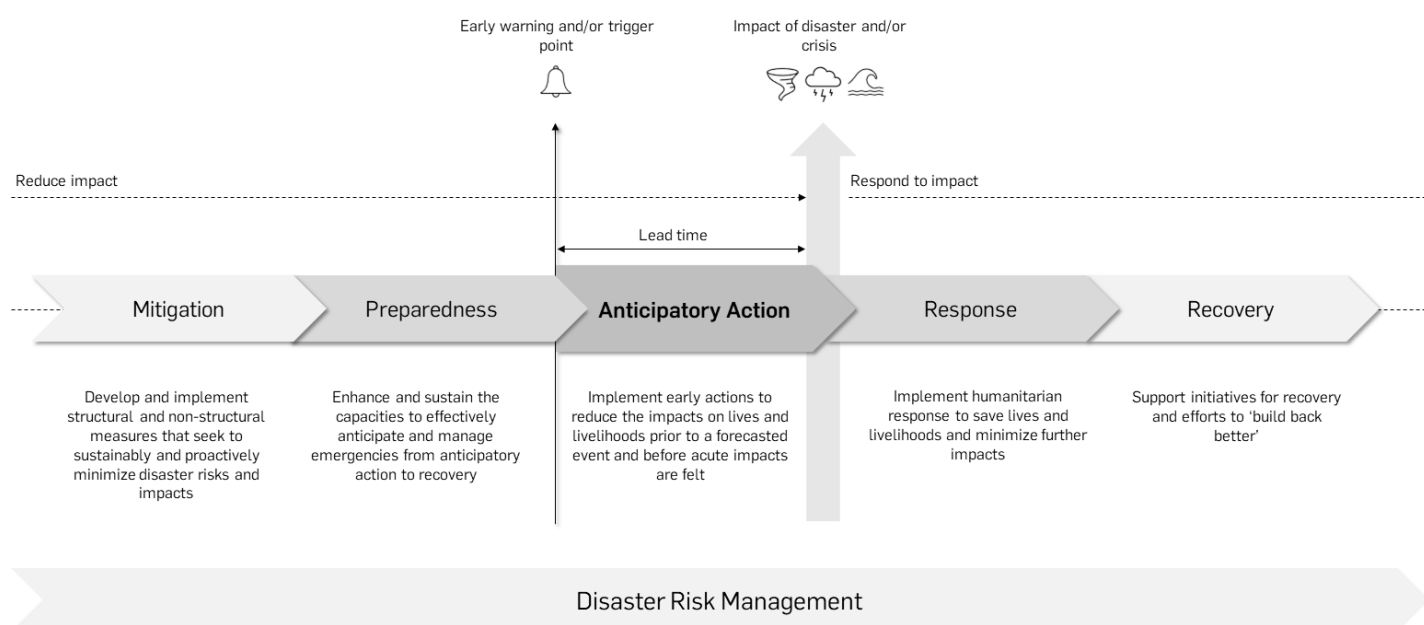


Figure 1: Anticipatory Action in the DRM continuum, source: Dall and Schneider, forthcoming.

Under the label of “Forecast-based Financing”, the approach of Anticipatory Action has its origins within the Red Cross / Red Crescent movement (Coughlan de Perez et al., 2015). However, since its development almost a decade ago, it has been adopted by a variety of key actors within the humanitarian system, including Start network, UN agencies like the World Food Program (WFP) or the Food and Agricultural Organization (FAO), as well as NGOs like Welthungerhilfe or Save the Children (Anticipation Hub, 2024a). Not least due to the German Federal Foreign Office’s commitment to reserve five percent of its annual humanitarian budget for AA (German Federal Foreign Office, 2021) and initiatives like the Welthungerhilfe Anticipatory Humanitarian Action Facility (WAHAFA), there is a growing appetite to engage in AA in the German humanitarian NGO landscape as well. This trend also includes smaller and medium-sized NGOs operating predominantly with and through local partner networks, thus echoing the broader discourse on the importance of local actors in scaling up AA and making the approach feasible for a larger range of NGOs (see Anticipation Hub, 2024c).

In addition to the actors involved, AA is also being scaled up with regard to the hazards it addresses: With technological and scientific advances in the prediction of extreme weather events enabling the development of AA in the first place, its initial application was almost exclusively limited to hydrometeorological hazards like droughts, floods or heatwaves. In recent years, however, there has been increasing commitment to and experience with the extension of AA to non-weather-related hazards, such as epidemics, conflict and (electoral) violence, or locust plagues (see e.g., International Federation of Red Cross and Red Crescent Societies, IFRC, 2022b; Wagner and Jaime, 2020). This also implies the need for more flexible trigger models that account for the unique characteristics of different extreme events, the technical and ethical challenges associated with their prediction, as well as their interaction in contexts of complex emergencies and multiple crises (Anticipation Hub, 2024b; Save the Children, 2022).

Among the key ingredients of AA, the trigger serves as a predefined decision-making mechanism to activate an Anticipatory Action Plan: As such, triggers rest on one or more indicators related to the occurrence and impact of an extreme event of a magnitude that exceeded local coping capacities in the past and thus requires (anticipatory) humanitarian assistance. Importantly, these indicators might build on quantitative or qualitative data. Triggers resting exclusively on quantitative indicators like river levels for floods, windspeed for tropical storms, or temperature for cold waves are often referred to as ‘hard triggers’. On the qualitative end – often referred to as ‘soft triggers’ – Start Network has piloted decision-based triggers that include assessments by local expert committees, for example on the likelihood of the occurrence or intensification of (electoral) violence (see Morrison, 2019 and Mutune, 2022). The time between the moment a trigger point is reached and the anticipated hazard actually materializes is called ‘lead time’. Many trigger models include multiple steps, for example, a ‘pre-activation’ or ‘readiness’

trigger with greater lead time and then the actual trigger for activation as the accuracy of forecasts increases and uncertainties as well as lead time decrease. Given the need for more flexible trigger models to address a broader range of hazards in a broader range of contexts, these multi-step or ‘phased’ triggers increasingly combine qualitative and quantitative indicators as well as data from different sources, provided parameters and rules for decision-making are clearly defined. A comprehensive overview of existing models can be found in the Anticipation Hub’s trigger database (Anticipation Hub, 2022b).

## **Local Actors and Local Knowledge**

Especially for triggers on the ‘hard’ end of the spectrum, the process of developing and monitoring these models rests on preconditions that are not always met: In some settings, particularly in conflict zones, there may be constraints on the availability of quantitative data and the infrastructure needed to generate accurate, context-specific and impact-based forecasts. Additionally, the required resources to engage in such processes – such as time, technical know-how and data literacy, networks, or funding – may be lacking, especially for smaller and mid-sized NGOs (Schneider, 2023). In order to reduce these technical barriers for international NGOs (INGOs) and their local partner networks to engage in AA, this paper aims to explore how building more systematically on local actors and local knowledge can facilitate the development of basic trigger models for Anticipatory Action. The decolonization and localization of the humanitarian system – concepts that emphasize respecting, recognizing, and enhancing local engagement, leadership, and capacities in humanitarian action (Fabre, 2017; Plan International, 2021; IFRC, 2023) – have been high on the humanitarian agenda, particularly since the World Humanitarian Summit in 2016 and the translation into concrete commitments through the Grand Bargain (Inter-Agency Standing Committee, IASC, 2016). While empirical achievements remain scarce (Development Initiatives, 2023; Metcalfe-Hough et al., 2023), the discourse around localization is also characterized by terminological confusion and challenges, thus underlining the need to clarify how the terms “local actors” and “local knowledge” are understood in the context of this paper.

In line with the definition underpinning the Grand Bargain, the term “local actors” in this paper encompasses local or national state and non-state actors that originate from the respective project country. Thus, the term “local actors” in this paper does, unless further specified, not differentiate between actors that are only active in some parts of a country and actors that are active throughout the entire country or operate at the national government level (often referred to as “national actors”). Instead, in this paper “local actors” include, for example, local and national NGOs and civil society organizations, local and national governments, authorities and institutions, universities, and research institutes as well as, most importantly, at-risk communities. However, it has been criticized that “local actors” as a broad umbrella term fails to capture the heterogeneity of the actors it seeks to describe (Robillard et al., 2020). Furthermore, scholars like

Kristina Roepstorff (2020) have argued that the dichotomy between “the local” and “the international” not only bears the risk of reproducing stereotypes and practices of exclusion but is also frequently invoked by outside actors (from the Global North) whose understanding of these categories might differ significantly from the perceptions of communities on the ground (Harris and Tuladhar, 2019; Robillard et al., 2020).

Considering these legitimate reflections, this paper employs the term “local actors” for two primary reasons: First, it allows for a capacity-focused discussion of the resources and unique qualities of particularly those actors, that, despite being deeply rooted in local contexts, have long been excluded from relevant funding structures and the broader discourse around Anticipatory Action (Dall and Schneider, forthcoming). The underrepresentation of especially smaller and medium-sized NGOs from respective project countries is discussed further in chapter three, emphasizing the need to highlight and build upon aspects like context-specific knowledge or longstanding relationships with at-risk communities that these actors bring to the AA table. Second, the terminology aligns with many existing frameworks, including donor policies and funding instruments that still operate with clear categorizations of humanitarian actors for resource allocation and reporting. In Anticipatory Action, too, funding mechanisms are often designed for specific actors: While the AA pillar of the ‘Disaster Relief Emergency Fund’ (DREF), for example, can be accessed by national Red Cross or Red Crescent societies only (IFRC, 2022a), the Start Network has set up StartReady for its respective member NGOs (Start Network, 2020). Thus, consistency and alignment with existing terminology offer pathways to the pragmatic yet nuanced analysis of existing structures and mechanisms as well as entry points for a critical discussion of their inclusiveness.

Likewise, in line with the capacity-oriented discourse around local actors, this paper uses local knowledge as an umbrella term to describe the knowledge and expertise held and produced by the above-mentioned local actors. This definition focuses on the holders and producers of knowledge rather than the methods used to acquire it, thereby including diverse forms of local insights and expertise. This also implies that “local knowledge” includes but is not limited to the knowledge of local communities that is often labeled “traditional knowledge” or “indigenous knowledge” and that “refers to the understandings, skills, and philosophies developed by societies with long histories of interaction with their natural surroundings” (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2017). Zooming in on this particular aspect of local knowledge, the discourse around Indigenous knowledge has been criticized for portraying Indigenous and scientific knowledge as distinct categories, thereby fostering a hierarchical understanding of different knowledge systems and reproducing colonial power imbalances (see, for example, Tsosie, 2017; Smith, 2021). Conversely, this paper acknowledges indigenous knowledge as one way to (re-)produce local knowledge that may or may not align with common methodologies, practices, and standards in scientific realms.

In conclusion, while recognizing the valid criticisms surrounding the use of terms like “local actors” and “local knowledge”, this paper employs these terms to emphasize the critical role and capacities of local entities in (anticipatory) humanitarian action. Using the term “local actors” enables a practical, capacity-focused dialogue that highlights the essential contributions and unique perspectives of those deeply embedded in local contexts. Similarly, “local knowledge” is utilized to underscore the rich, context-specific insights that local entities hold. By retaining these terms, this paper seeks to foster a nuanced and inclusive approach that acknowledges the diverse and dynamic roles local entities play, while maintaining clarity and operational efficiency. Importantly, this approach also involves, first, specifying references to particular local or national actors wherever necessary; second, considering the potentially diverging perceptions of attributes like “local” by different stakeholders; and third, advocating for a critical and reflective engagement with the language and concepts used in humanitarian discourse.

### 3. Literature Review

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Against the background of the Grand Bargain and the international localization agenda, there is increased awareness of the pivotal contributions of local actors to humanitarian action and disaster risk management. The following paragraphs present the status quo concerning the role of local actors and local knowledge in the broader discourse around DRM, given that this realm marks the origins of the approach of Anticipatory Action. Based on a review of existing literature, it is outlined which local actors have most commonly been involved in DRM and what their role has been in this context. Further, common barriers to the leadership of local actors and the systematic integration of local knowledge into DRM programs are discussed as well as good practices that have emerged to address these challenges. Subsequently, the available literature on Anticipatory Action is reviewed to see how the above-mentioned questions and findings play out when zooming in on this particular approach and the process of trigger development for AA.

#### **Local Actors and Local Knowledge in Disaster Risk Management**

Not least the Sendai Framework for Disaster Risk Reduction’s explicit call for empowerment of local authorities and enhanced support for DRM at the local level illustrates the importance of local (state and non-state) actors all along the DRM continuum (United Nations, 2015): National and local government units are often the prime entities responsible for the development, planning, and implementation of disaster preparedness, response, and recovery activities (see United Nations Office for Disaster Risk Reduction, UNDRR, 2017). Particularly in areas where government resources and capacities are



limited, non-state actors, such as local NGOs, community-based organizations, and informal community networks, fill important gaps and support these processes (see Aldrich and Meyer, 2015; van Niekerk et al., 2018; Boey et al., 2021). Participatory methods and community-based approaches to disaster risk management ensure that at-risk communities and their representatives can actively contribute to and shape DRM frameworks (Shaw and Izumi, 2014; Bustillos Ardaya et al., 2019). While the involvement of these actors is well acknowledged and documented, the importance of private sector entities – like local businesses or entrepreneurs – to provide innovative solutions, essential goods, and services, or to support economic recovery as well as the contributions of further local and national institutions, such as meteorological agencies or research institutes, has received less attention (Marcelo et al., 2020; Abedin and Shaw, 2015; Shah et al., 2019; World Bank et al., 2012).

The literature highlights several aspects underpinning the crucial importance of local actors in disaster risk management: Geographic proximity and established community structures allow for swift response and effective mobilization of resources, crucial in the immediate aftermath of disasters (Canon and Schipper, 2015). Moreover, local actors' longstanding relationships with at-risk communities enable them to access vulnerable populations quickly, facilitate communication, and overcome trust and acceptance barriers (ibid.; Gingerich and Cohen, 2015; Fabre, 2017; Dijkzeul, 2021). Particularly relevant is the context-specific knowledge held by local actors, encompassing physical factors like local geography and infrastructure, as well as socio-cultural dynamics and power structures, thus allowing for DRM frameworks that are more effective, inclusive, and culturally appropriate (Coccosis et al., 2021; Sharma, 2021).

The integration of Indigenous and traditional knowledge (ITK) as one integral part of local knowledge systems into formal DRM frameworks has also received growing attention (for an overview, see Kelman et al., 2012; Mercer et al., 2010; UNDRR, 2022). Considering ITK in disaster risk management can offer invaluable insights into local hazards, vulnerabilities, and coping mechanisms (Kelman et al., 2012), as well as enhance and complement early warning systems (Hiwasaki et al., 2014; Andersson et al., 2020). While the empirical record of these endeavors appears to be encouraging (for an overview focusing on early warning systems, see Hermans et al., 2022), outcomes do also depend on context-level factors, such as acceptance of ITK, especially among younger generations and donors (Mistry and Berardi, 2016), the dynamics of climate change threatening the reliability of ITK (Masinde, 2015), as well as power imbalances and hierarchies of different knowledge systems (Hermans et al., 2022).

Although the benefits of involving local actors and integrating local knowledge into DRM are well recognized in the literature, the shift away from top-down, technocratic approaches to DRM has yet to fully materialize. Among the main barriers hindering the full



leadership and recognition of local actors and their knowledge are institutional and structural limitations within governmental and international (donor) organizations, leading to high bureaucratic and technical hurdles for local NGOs and institutions (Kergoat et al., 2020; Barbelet et al., 2021), and limited funding that is directly provided to local actors in DRM, particularly in humanitarian response (Development Initiatives, 2023). Beyond larger systemic change, however, several recommendations are frequently cited to address these barriers on a smaller scale that include fostering equitable and trustful structures and partnerships (e.g., Dalimunthe, 2018) as well as employing participatory methods for project planning, design, implementation, and monitoring and evaluation (Cruz-Bello et al., 2018; Šakić Trogrlić et al., 2019).

## **Anticipatory Action and Trigger Development**

In Anticipatory Action, too, local actors have been important partners from the start: National and local government units are typically involved at all stages of the project management cycle, though in contrast to broader DRM frameworks, it is more often about punctual collaboration between international organizations or NGOs and specific ministries or national meteorological agencies than government-led Anticipatory Action (Anticipation Hub, 2024a; German Red Cross et al., 2020). This is not least due to the very rationale of AA covering residual risks that existing frameworks fail to address (Dall and Schneider, forthcoming). Non-state local actors have been particularly important in ensuring the rapid implementation of anticipatory actions (Scott, 2023). Initially, these were primarily national societies within the Red Cross Red Crescent movement (German Red Cross et al., 2022), country offices and local branches of INGOs (Ngurah, 2023), as well as DRR community committees (Anwar et al., 2022). More recently, however, local NGOs have become increasingly involved in AA with Welthungerhilfe's "EAP Custodian Approach" (Burakowski, 2022) as well as the Welthungerhilfe Anticipatory Action Facility (WAHAFA; Welthungerhilfe, 2023) spearheading the shift towards more systematic AA engagement within the local partner networks of German humanitarian NGOs. Finally, just like in any other DRM or humanitarian intervention, community engagement is key to making AA frameworks effective, appropriate, and inclusive (FAO, 2023).

Despite this longstanding involvement, however, it is only now that serious progress toward local leadership is beginning to materialize in the realm of Anticipatory Action: In early AA frameworks, local actors were rarely involved beyond consultation, data collection and validation, as well as support with implementation and community-engagement, raising concerns that, in some instances, "national and local organisations are effectively second-class partners, rather than co-designers of the activities" (Scott, 2023, p. 13). This top-down and headquarter-centered approach also extends to the process of trigger development with Tozier de la Poterie et al. (2023, p. 10) concluding that "[e]xternal support is particularly critical when it comes to risk analysis and trigger development". Under the umbrella of "locally led Anticipatory Action", it is only a very recent

development that the role of local actors is sought to be systematically strengthened through initiatives like WAHAFa or the Anticipation Hub's working group on locally led Anticipatory Action (Anticipation Hub, 2024e). Political commitments complement these initiatives, for example in the context of the Asia-Pacific Technical Working Group on Anticipatory Action's (TWGAA) Regional Roadmap 2023-2027 (TWGAA, 2024) or the United Nations' 'Early Warnings for All' initiative (World Meteorological Organization, WMO, 2023). In addition, the process of scaling up Anticipatory Action, both in terms of actors involved and hazards addressed, has created the need for more flexible trigger models, involving local and national meteorological agencies or (partly) resting on qualitative assessments by local stakeholders (Save the Children, 2022; Bühler, 2023; Schneider, 2023; Mutune, 2022), thus opening more pathways for local leadership and engagement.

Likewise, the role of local knowledge was initially limited to providing risk information, being consulted for input and review, and supporting historical impact analysis (such as in FAO, 2018; Gettliffe, 2021, 2022). Based on this information, the actual triggers were often designed and monitored by international actors, with the Netherlands Red Cross' data and digital project 510 or the Global Flood Awareness System (GloFAS) representing initiatives that have been frequently referred to and that have demonstrated their added value for Anticipatory Action, though being ultimately grounded in headquarters in the Global North (Anticipation Hub, 2022b; The Netherlands Red Cross, 2021). In a similar vein, the literature on integrating ITK has heavily focused on the added value for early warning systems, for example, in terms of trust and acceptance among communities, inclusiveness, and accessibility (see, for example, Andersson et al., 2020; Hermans et al., 2022; Masinde, 2015). Although these systems can be an integral part of AA frameworks, concrete evidence is limited: A case study from Zimbabwe investigates possible pathways for the integration of indigenous knowledge systems into the decision-making processes within AA (WFP, 2022). Consistent with the literature on early warning systems, the WFP study finds that the integration of climate-related indigenous knowledge services can enhance an understanding and acceptance of triggers and AA frameworks among targeted communities, thus compensating for the central weaknesses of purely data-driven, 'hard' trigger models. At the same time, it underlines the need to integrate different knowledge systems to address the challenges associated with ITK, like limited reliability against the background of climate change, which is also echoed in Save the Children's guidance on child-centered AA (Save the Children, 2023). This nascent progress is substantiated by the growing reliance on and strengthening of local and national meteorological agencies and their knowledge as outlined above, as well as by the use of participatory methods to monitor hazard variables.

Despite this recent progress, several challenges remain with Tozier de la Poterie et al.'s (2023) review of AA frameworks among National Red Cross and Red Crescent Societies finding that a lack of local ownership is frequently cited as the most important among

these. The lack of sense of ownership is mainly attributed to “the top-down, externally driven, project approach [...] and the highly technical, resource-intensive process of developing and approving EAPs” (ibid., p. 10), thus illustrating the need to expand research and evidence on more flexible approaches to AA and particularly its technical components like trigger models. However, this might prove challenging, given that “the current methodology is said to be ‘quite attractive to donors, as it is quite scientific’” (Chatenier and Ramskov Erichsen, 2020, p. 41). In addition to ownership issues, equitable and sustainable access to specific capacities and resources, as well as funding structures is still limited for local actors (Tozier de la Poterie et al., 2023; Dall and Schneider, forthcoming), thus echoing the concerns within the broader discourses on DRM and humanitarian action that not enough funding is channeled directly toward local actors (Development Initiatives, 2023). While in the German context, WAHAFA has started to allocate funds for both the development (‘build money’) and implementation (‘fuel money’) of joint AA projects by German and local NGOs, local and national governments, for example, in the Philippines or Bangladesh, are also starting to establish funding structures for Anticipatory Action (Tozier de la Poterie, A., 2021; Tozier de la Poterie et al., 2023).

Altogether, the existing literature underscores the essential role of local actors and local knowledge in DRM, particularly their ability to enhance appropriate and effective responses. However, while the discourse around localization has extended into the realm of DRM – acknowledging the crucial contributions of locally embedded actors and knowledge – Anticipatory Action has historically emphasized technical feasibility over localization and decolonization principles. As a result, the shift towards mainstreaming local leadership and expertise in AA is a relatively recent trend that has yet to be fully realized. This highlights the need for concrete evidence and specific recommendations on how to sustain and enhance this trend across different components of AA. This paper aims to address this gap by focusing on the process of trigger development – a critical aspect of AA that remains a significant barrier to general NGO engagement due to the technical complexity it may or may not involve, and the lack of flexible, locally-led approaches. By exploring how German NGOs and their local partners can systematically build on local actors and local knowledge in trigger development, this research seeks to contribute to scaling up AA approaches, extending AA to a broader range of actors and hazards, and fostering more inclusive and effective frameworks.

## 4. Methodology

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Due to the explorative nature of the research questions, this paper draws on an array of qualitative methods to collect data on good practices and to derive recommendations for NGOs. Overall, the process of data collection took place between June 2023 and June 2024.

First, a systematic review of existing literature provided a theoretical and empirical foundation for the entire research project, helping to frame the research questions and identify gaps in existing knowledge. Second, a total of 17 semi-structured interviews were conducted with local, national, and international actors during field research in the Philippines in April 2024 as well as AA practitioners from German and local NGOs. Based on a predefined interview guide (Kallio et al., 2016), these conversations enabled the capture of detailed expert insights and personal experiences from key stakeholders directly involved in AA. Third, participant observation during workshops and training sessions for AA practitioners as well as project visits offered a real-time, contextual understanding of how local actors and knowledge are practically integrated into AA activities (Jorgensen, 1990). The attended events encompass a workshop on local NGO engagement in AA within the ToGETHER project (Caritas Germany et al., 2023) in June 2023, an exchange workshop on the role of local actors in Anticipatory Action hosted by the IFHV and facilitated by Welthungerhilfe in August 2023 (academy for humanitarian action, 2023), and project visits in the Philippines (April 2024). Finally, focus group discussions facilitated the exploration of collective perspectives and dynamics (Krueger and Casey, 2015), specifically during a session on the role of local actors and local knowledge in trigger development during the 11<sup>th</sup> Global Dialogue Platform on Anticipatory Action in Berlin in October 2023 that was connected to this research project (Anticipation Hub, 2023a).

Data collection for the case study on locally led trigger development in the Philippines as well as a series of the above-mentioned interviews took place during a research stay in the Philippines in April 2024. The visit was facilitated jointly by Caritas Germany and the People's Disaster Risk Reduction Network (a Philippine NGO) with no financial or other compensation provided to either side. Likewise, participating in interviews or focus group discussions did not entail benefits of any kind for either the interviewee or the interviewer.

Overall, the broad range of methods and interviewees aimed to capture as many diverse perspectives as possible. Field research on the ground as well as observational methods sought to capture particularly those voices that are to date still underrepresented in debates and platforms around Anticipatory Action (see chapter three). Interviews were

conducted partly online and partly in person, recorded, transcribed with the help of MAXQDA, and complemented through notes on observations and further insights. Thematic analysis was then used to extract good practices and recommendations from the available data (Vaismoradi et al., 2013), while continuously reflecting on these against the background of existing literature as well as the practical debates emerging in parallel, for example, within the Anticipation Hub's working group on locally led Anticipatory Action (Anticipation Hub, 2024e). The results of this analysis are presented in the next chapter; unless stated otherwise, all quotes come from the series of interviews conducted within this research project with different codes indicating which key informant (KI) is referred to. A full table with an overview of all interviews and their respective codes is included in the annex in accordance with the interviewees' individual preferences on anonymization.

## 5. Results and Recommendations

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Overall, the analysis confirmed the findings of the literature review: While the engagement of local actors was initially often limited to punctual cooperation with responsible government units at the local and national level, a recent shift towards systematic local engagement and leadership can be observed, including among the partner networks of German NGOs. Actors such as meteorological agencies, local NGOs, community representatives, and private sector actors, like local financial service providers, are involved in an increasing number of AA frameworks and hold an increased degree of decision-making power. Although government-led AA is still rather the exemption than the norm, improvements in legal frameworks around AA, the establishment of local and national funding structures, as well as the explicit goal of integrating AA frameworks, capacities, and trigger models into government structures beyond the horizon of humanitarian projects constitute important advances. Finally, the systematic incorporation of local knowledge is increasingly moving beyond consultative considerations for specific purposes like assessments of historical disaster impacts and vulnerabilities. At the same time, however, the explicit integration of ITK into AA frameworks is rarely seen, although the topic is increasingly considered on AA agendas to address remaining challenges around community acceptance and local ownership of AA frameworks in general, and trigger models in particular.

Zooming in on trigger development, a similar picture emerges: While models developed by international actors, like the 510's typhoon model (see page 17), have delivered valuable contributions to kickstarting AA in specific contexts and fostering the evidence base on Anticipatory Action more broadly, the process of trigger development increasingly

aligns with the principle to be shaped ‘as local as possible and as international as necessary’. However, resources, forecasting capacities, and infrastructure at the local level vary across contexts, thus underlining the need for harmonization and flexibilization of trigger models, as well as systematically exploring synergies between trigger development for AA and broader development agendas, such as the ‘Early Warnings for All’ initiative, to scale up AA in an effective, sustainable and localized way. Against this background, a series of recommendations have emerged from the analysis that will be presented subsequently. These recommendations are primarily geared towards German humanitarian NGOs but ideally can serve as a roadmap beyond this specific target group.

### **Engage in Long-Term Strategic Partnerships and Capacity-Sharing**

Once a general commitment to AA among the senior management levels within an NGO has been established, concrete contexts for potential AA pilots and interventions can be selected. At this stage, it is crucial to build on already existing capacities and resources among local partner organizations or include these capacities in the assessment and selection of new local humanitarian partners (for a step-by-step guide on how to internally select pilot locations, see Wagner et al., 2024). Considering these key aspects from the beginning might yield important benefits later in the process, for example, in the development or adjustment of trigger models and beyond. Some of the enabling factors for joint AA engagement among local partners that were frequently referred to by German NGO staff include, first and most obvious, general experience with DRM within local partner organizations (KI-15; KI-13). This will usually not only entail established ties to actors relevant for trigger development, such as responsible government agencies or meteorological services, but also facilitate an understanding of how AA complements the broader DRM continuum (see chapter two) and what its distinctive features vis-à-vis, for example, general preparedness measures are. Second, a basic understanding of or even explicit experience with the concepts and mechanisms related to AA is an additional asset, as it allows for a more nuanced understanding of different types of triggers (e.g., data-based triggers vs. decision-based triggers), data requirements (e.g., exposure vs. vulnerability data), and forecasts (e.g., ‘conventional forecasts’ vs. impact-based forecasting). Finally, long-standing community ties and experience with participatory methods are particularly helpful in fostering trust and acceptance of AA frameworks from the beginning on and making sure that communities can later be engaged in the determination or adjustment of concrete trigger thresholds (KI-17; KI-15).

These and other enabling factors among existing or potentially new partners can be underpinned by “invest[ing] in targeted capacity building and learning opportunities” (Wagner et al., 2024, p. 26). The German Federal Foreign Office, for example, has (co-)funded several initiatives for capacity sharing in Anticipatory Action, such as WAHAFA (Welthungerhilfe, 2023), a series of workshops and training events (IFHV, 2023, 2024), or the Anticipation Hub as a general “one-stop shop” for evidence, resources, and learnings on AA

(Anticipation Hub, 2021). The diverse outputs of these initiatives ranging from online resources to low-threshold exchange formats can be leveraged to foster a nuanced understanding of AA and its ingredients, including trigger models. In addition to these, the crucial importance of national and local structures for coordination and learning will be discussed further below. Altogether, engagement in long-term strategic partnerships with experienced local organizations and targeted investments into capacity sharing will not only convey the technical knowledge necessary to develop or adjust AA frameworks and triggers but is also closely linked to the development of sustainable perspectives for these frameworks beyond the horizon of concrete humanitarian projects.

### **Thoroughly Assess the Need for New Trigger Models**

Once a general commitment to AA is ensured and potential partners and pilot locations are jointly agreed on, AA is no exception to the imperative for humanitarian action to be needs-based and complementary. While this might seem obvious, in the realm of AA, there is a particularly wide spectrum between undertaking a comprehensive project that includes developing a new AA framework on the one end and not engaging in AA at all on the other. Wherever the results of a needs and capacity assessment suggest a gap and an overall added value for AA, investing in an additional scoping study that maps out existing frameworks in more detail, including their geographical coverage, actors involved, as well as concrete anticipatory actions and triggers, can help to sort out the most efficient way to address this gap. Existing coordination structures, such as working groups at the national level (KI-11) or helpdesks at the local level (KI-02), serve as valuable entry points for NGOs seeking to engage in AA. The triangulated results from needs and capacity assessments, scoping studies, and feedback from additional stakeholders can then paint a more holistic picture of the AA components that should be built as part of the envisioned project and those that are already contained in other frameworks and that the project can scale up or be attached to.

For trigger development, this means that it is not always feasible nor necessary to develop new triggers or adjust existing models extensively (for more resources on contextual and organizational feasibility of AA and trigger development, see also German Red Cross et al., 2020; Wagner et al., 2024). If there are already AA frameworks (including their underlying triggers) in place, these can be upscaled geographically on the one hand by extending their reach to areas that display high needs but have not yet been covered by any actor. If necessary, concrete thresholds can be adjusted for these areas through participatory processes involving at-risk communities and local humanitarian actors, given that they are best positioned to assess the relevance of certain hazard variables underpinning a trigger model and the exact point at which coping capacities within the respective community are likely to be exceeded (KI-01; KI-17). On the other hand, existing mechanisms can also be scaled up by targeting certain groups through specific



anticipatory actions within areas that are already covered by an AA framework. For example, an NGO focusing on child protection and children's rights might identify the need to maintain education in emergencies during floods. Although there is an AA framework with a well-tested trigger in place, the NGO decides to add anticipatory actions like the provision of remote learning materials to the framework to address these specific needs (Save the Children, 2023). Again, the NGO might slightly adjust the trigger model through participatory processes by either aligning the threshold with the particular vulnerabilities of children or – in line with the impact-based forecasting approach – by adding child-specific indicators like school dropout rates to the overall trigger model (IFRC, 2021).

### **Invest in Locally Led Stakeholder Analysis**

Even if the pre-assessment indicates that it is reasonable to develop a new trigger model, hardly any NGO will possess the necessary expertise and capacities to do so on its own (KI-13), which is why establishing partnerships beyond their own networks of partner NGOs is key to the development of reliable and sustainable trigger models. A thorough stakeholder analysis is therefore the starting point for the development of any AA framework in general and trigger model in particular, as stipulated in all available guiding documents like, for example, the Red Cross Red Crescent's step-by-step manual (German Red Cross et al., 2020). Welthungerhilfe (2022b) further specifies the importance of locally led approaches to stakeholder mapping, for example, through participatory methods or inception workshops, in which “we [as international actors] are just there to observe. We try to avoid even talking and just listen.” (KI-17).

Investing in these kinds of locally-led stakeholder analysis can bring together relevant actors for trigger development more quickly and effectively. On the one hand, some of the actors discussed in chapter three might be relatively easy to identify through desk research and consultations, including responsible government agencies, national meteorological agencies, and actors from the humanitarian ecosystem that NGOs might already be connected to through clusters or other coordination bodies. Beyond the ‘usual suspects’, on the other hand, local actors will have a far more comprehensive overview of relevant stakeholders, especially those whose role in Anticipatory Action has been underexplored so far, such as small businesses or research initiatives at local universities (KI-17). Nonetheless, these actors and their knowledge can add huge value to trigger development, with examples ranging from senior citizen councils complementing quantitative data on the impact of past disasters to local research initiatives mapping out indigenous knowledge and local coping strategies among communities that were frequently exposed to typhoons (KI-03).



## **Facilitate Integration of Local Partners into Existing Coordination Structures**

Developing, monitoring, or adjusting trigger models is a constant process of learning from both past activations as well as the experiences of other actors, thus making exchange and collaboration an important prerequisite for triggers to be reliable and sustainable. Fortunately, in many contexts, structures for coordination and learning have emerged at the local, national, regional, and global levels throughout the last years: In the Philippines, for example, Anticipatory Action helpdesks have been established in some provinces to streamline efforts (KI-02), avoid duplication and share learnings at the local level, thus echoing broader calls towards more harmonization of frameworks and triggers (KI-15). Pakistan, in turn, recently witnessed its first national dialogue platform on AA, representing an open forum for AA stakeholders to exchange, learn, and connect at the national level (Khan, 2023). Similarly, the regional dialogue platforms, currently focusing on Africa and Southern Africa, the MENA region, Latin America and the Caribbean, and the Asia-Pacific region, as well as the above-mentioned TWGAA in the Asia-Pacific region, are examples of initiatives at the regional level (Anticipation Hub, 2022a). Finally, the Anticipation Hub's annual Global Dialogue Platforms and decentralized working groups constitute important entry points at the global level.

Facilitating the integration of local partners into these structures can help to maximize their potential in developing, monitoring, or adjusting trigger models by connecting local actors with deep local and contextual knowledge to longstanding technical experts in AA. Although in theory, coordination structures like the examples referred to above are open to, if not particularly designed for local actors, participants of a session on locally led AA at the 11<sup>th</sup> Global Dialogue Platform also raised concerns about the more subtle barriers that might still exclude local actors from these structures, ranging from limited resources to account for travel costs to language barriers (Anticipation Hub, 2023a). The discussion suggests a need for international NGOs to take these 'invisible' barriers into account and proactively facilitate the integration of local partners into existing coordination structures, for example, by leveraging existing contacts or capacitating designated focal persons within their local partner networks with, amongst others, the required language skills.

## **Ensure Alignment with Broader DRR and Development Agendas**

As “a way to bridge the gap between longer-term disaster risk reduction efforts and humanitarian crisis response” (UNDRR, 2024) and to address residual risks, AA fulfills an important function within the DRM continuum (see chapter two). As such, AA goes hand in hand with “investment[s] to improve national disaster risk reduction in management systems, including national and local DRR strategies” (ibid.), thus highlighting the need to align the upscaling of AA approaches with broader DRR and development agendas (KI-

17). With specific regards to trigger development, this can entail, for example, improving forecasting infrastructure by installing rain or flood gauges in close coordination with meteorological agencies when developing new or scaling up existing triggers geographically. Likewise, when tailoring triggers and anticipatory actions to specific groups within communities that are already covered by an AA framework, such as children or people with disabilities, existing early warning systems can be adjusted to be more inclusive and accessible for a broader range of people in line with the objectives of the UN's 'Early Warnings for All' initiative (see Yore et al., 2023). Depending on an organization's mandate, donor policies, and the concrete configuration of funding tools, these investments might fall under the 'build' component of AA frameworks as part of developing or adjusting triggers, while in other instances, especially multi-mandated NGOs have also included AA-related activities as part of broader DRR projects.

Although the imperative to leverage synergies and align efforts is normatively evident, it also implies various advantages at the practical level: First, considerations around alignment with broader DRR efforts are yet another backstop making sure that AA is needs-based and complementary, as well as limiting potential competition for funds, personnel, and other resources within and among NGOs. Second, it increases the cost-efficiency of trigger models, as investments in the underlying infrastructure yield development returns long beyond the initial project horizon, for example, in the form of sustained availability of enhanced local forecasting or early warning capacities. Finally, these investments make sure that triggers are 'as local as possible and as international as necessary' by enhancing local capacities for data collection. The more data is available at the local level, the less the need for AA practitioners to refer to regional or global data initiatives (KI-17), thus reducing costs and dependencies and increasing the sustainability of triggers and AA frameworks.

### **Aim for the Integration of Different Knowledge Systems**

Especially wherever local capacities for data collection are limited and cannot be easily improved in the context of an AA framework, the scarce evidence presented in chapter three suggests that the integration of traditional and Indigenous knowledge into trigger models should not be dismissed too quickly. Although acceptance of ITK is highly context-specific and varies especially among younger generations, in settings with high levels of reliance on traditional knowledge systems, the integration of these into AA triggers can enhance the perception of ownership among affected communities. In Zimbabwe, for example, a regular report is produced based on various traditional indicators for rainfall patterns, which is then triangulated with seasonal precipitation forecasts to jointly arrive at a common understanding of imminent drought risks for the coming season (KI-15). In addition to limited community acceptance, decreasing reliability of ITK due to climate change has also been cited as a frequent concern related to its integration into

triggers (KI-13). Against this background, the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) has, in some provinces, systematically evaluated the accuracy of traditional early warning signs and produced an inventory of those ‘precautionary signs’ that could be explained through scientific methods. For typhoons, for example, these signs include changes in the color of the sunlight due to evaporation of water in low-pressure areas or unusual animal behavior due to changes in atmospheric pressure (KI-04).

Wherever the integration of ITK is contextually appropriate, NGOs might build upon or initiate efforts like the abovementioned inventory of reliable early warning indicators from traditional knowledge systems to enhance community acceptance and local ownership of trigger models (Save the Children, 2024). For example, jointly identified and selected precautionary signs could be established as a ‘readiness’ or ‘pre-activation’ trigger within a two- or more-step trigger system (ibid., KI-16), leading to low-threshold and ‘no regret’ actions that at-risk communities benefit from, even if the hazard does not materialize, for example, because a typhoon changes its path or rainfall patterns are shifting. In a second step, these early warning signs can then be triangulated with information from other sources, such as meteorological agencies or, if necessary, international initiatives like GloFAS, to see whether the situation is likely to improve or deteriorate and full activation of an Anticipatory Action Plan can be justified. However, participants at the Global Dialogue Platform also stressed the need for transparency and clear decision-making processes in case insights from traditional and other knowledge systems contradict each other (Anticipation Hub, 2023a). If the context is evaluated carefully, the integration of different knowledge systems cannot only avoid “people having to choose between traditional and scientific sources of knowledge” (Save the Children, 2024, p. 23) and thus combat the dichotomy and notion of mutual exclusivity of different knowledge system that is still prevalent in the literature (chapter three). It also acknowledges the fact that at-risk communities have acted upon early warning signs of imminent hazards for centuries, long before the term ‘Anticipatory Action’ was coined.

## **Prioritize Participatory Methods and Community Engagement**

Regardless of which knowledge system certain hazard variables are associated with, participatory methods can further contribute to acceptance and ownership of the model. In Zimbabwe, for example, Welthungerhilfe has successfully applied the People-First Impact Method (P-FIM) for EAP development, a participatory approach that fosters trust, goal-free discussions, and equitable community engagement (Burakowski, 2024a; 2024b). In addition to the determination of different anticipatory actions, methods like P-FIM can be explored more systematically for the specific purpose of trigger development and adjustment to identify and select relevant indicators for a trigger, as well as to set or adjust thresholds for activation. Besides enhancing overall levels of community trust in

the model, this ensures that parameters for action are tailored to events of a magnitude that exceeded the local coping capacities of a particular community and required humanitarian assistance in the past (Dall and Schneider, forthcoming). Building on longstanding community ties of local humanitarian organizations or government stakeholders and using participatory methods for community engagement to adjust trigger thresholds for different communities can thus help to make models more flexible and granular while maintaining consistency within the overarching AA framework (KI-17; KI-01; KI-12).

However, community engagement and participation do not stop at the identification of indicators and thresholds – the process of monitoring the selected hazard variables, such as water or rainfall levels, can also be designed in ways that put at-risk communities at the center of Anticipatory Action. In Ecuador, for example, 150 citizen science observers were trained to monitor ash type, quantity, and accumulation with the data being communicated as a two-way dialogue via WhatsApp and being integrated into forecasts that underpin an AA framework for volcanic ashfall (Clatworthy, 2022). In Somalia, a consortium of national and international NGOs has selected and refined a set of indicators, such as the presence of locust swarms or the number of acute watery diarrhea or suspected cholera cases, based on local knowledge. Subsequently, critical thresholds for each indicator were identified with at-risk communities jointly monitoring and reporting on the different indicators. Finally, triangulating the results from the ‘community real-time risk monitoring’ with secondary data, such as satellite climate and weather data, allowed for nuanced decision-making to act early (Building Resilient Communities in Somalia consortium; BRCiS, 2021).

## **Develop Robust Exit Strategies and Long-Term Perspectives for Trigger Models**

For trigger models to be sustainable and locally owned, it is crucial to consider issues around sustainability and long-term perspectives for trigger models in particular and AA frameworks in general at all stages of the project cycle. This is important to foster the broader evidence base on Anticipatory Action and to avoid jeopardizing the (long-term) benefits of AA: In some reported instances, for example, initial trigger models required specific software to monitor and analyze (georeferenced) data. While the costs for the respective software licenses were accounted for in the project budget, this also meant that the trigger model could not be sustained without adjustment after the project expired, thus underlining the need for robust exit strategies (KI-15). Besides the structural investments in local capacities for data collection or early warning that might be part of the process to develop or adjust triggers, this implies a careful evaluation of which elements of an AA framework can be sustained beyond the project duration and by whom. The hazard variables, impact-related indicators, or thresholds of a trigger, for example, can still be used to induce early warning or evacuation activities, even if there is no fuel

money anymore to fund the set of explicit anticipatory actions that was previously connected to it. At worst, the timeframe of an AA project can at least be leveraged to create awareness among at-risk communities for the benefits of acting early and for concrete community-based anticipatory measures, even if the formalized trigger model is eventually replaced by more informal or traditional early warning mechanisms (ibid.).

Nonetheless, in many contexts the ultimate goal is to institutionalize AA frameworks in government structures: For example, trigger models can then be administered by meteorological agencies themselves, or, as in Madagascar, by local DRM offices (KI-16). However, this might also imply targeted capacity sharing and training of relevant actors during the project already to acquire the technical knowledge necessary to monitor, analyze, and interpret the underlying data and to adjust the model if necessary. Likewise, whether and to which degree triggers and AA frameworks can be sustained by local or national government bodies heavily depends on the national legal framework that regulates disaster risk financing and mandates. Thus, “the elephant in the room is the source of funding” (KI-12), when it comes to the integration into government structures. Wherever government actors lack (legal) pathways or capacities to sustain triggers or frameworks, other local actors, such as NGOs, community DRR committees, or volunteer networks, can receive training to (partially) assume responsibilities in the monitoring and reporting of certain hazard variables and thus make sure that some anticipatory elements remain embedded in local DRM frameworks. Beyond the requirement for carefully designed exit- and phaseout strategies, institutionalizing AA wherever possible and creating long-term perspectives for its components – including trigger models – can be incorporated as explicit objectives and outcomes into project logics from the beginning on (KI-13).

## **Share Evidence and Advocate for Strategic and Sustainable Commitment to AA**

Administering trigger models for AA involves continuous evaluation of models and learning from both past activations and the experiences of others. “Each activation provides an opportunity to assess whether the trigger was defined appropriately and if and how it could be improved” (German Red Cross et al., 2020, p. 182), with guidance and templates for systematic trigger reviews being openly available (ibid.; Red Cross Red Crescent Climate Centre, 2021; Welthungerhilfe, 2022a). Again, using participatory and community-based approaches to trigger reviews enables NGOs to assess to which degree triggers and thresholds align with local perceptions of risks among affected communities. Technical working groups at the country level, such as in Madagascar for example, involving governmental and non-governmental stakeholders or similar forums for exchange are particularly helpful to make sure learnings can be fed back and mainstreamed across the local and national DRM landscape – provided that they are accessible and inclusive or strategic integration of local actors can be facilitated as outlined earlier in this chapter. Sharing learnings among local stakeholders is particularly relevant with a view to long-

term perspectives and the potential to institutionalize AA frameworks.

In addition to enhanced sustainability, exchanging and aggregating learnings from activations in different contexts can also help address the need to foster the broader evidence base on AA (Weingärtner et al., 2020; Dall and Schneider, forthcoming). A nuanced understanding of what works in which context and why, in turn, can be built upon to advocate at all government levels for strategic and sustainable commitment to AA as one important piece in the broader DRM puzzle, wherever necessary. This is important in light of the still apparent lack of local funding mechanisms for Anticipatory Action in many contexts as an important prerequisite to scale up AA in a sustainable and locally led way (ibid.).

## **6. Case Study: Locally led Trigger Development in Catanduanes, Philippines**

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The following case study on locally led trigger development in the province of Catanduanes, Philippines, aims to illustrate how some of the recommendations outlined in the previous chapter play out in practice. The Philippines was chosen as a best-case example to be able to include as many concrete examples and recommendations as possible, while also acknowledging the enabling context and thus underlining the importance of advocating for factors like a favorable political environment for AA in contexts where these factors might still be absent. In global comparison, the Philippines is among those countries most exposed to a broad range of natural extreme events, ranging from geological hazards like earthquakes and volcanic eruptions to hydrometeorological hazards like floods, regular typhoons, and storm surges, as well as the adverse effects of climate change (Weller and Schneider, 2024). Catanduanes, an island province in the east of the country with approximately 280,000 inhabitants (Philippine Statistics Authority, 2020), is particularly at risk from heavy rains and is regularly affected by typhoons. In November 2020, super typhoon Rolly (international name: Goni) made landfall in Catanduanes at peak intensity and struck the island amid the COVID-19 pandemic, causing large-scale humanitarian impacts throughout the entire province (UN OCHA, 2020). In the remote areas of Catanduanes, rainfall-induced landslides can further lead to disruptions of supply chains and economic activities during the rainy season (Jaucian, 2023).

In response to its unique exposure profile, the Philippines has developed a comprehensive institutional setup for disaster risk management and has mainstreamed DRM across all government levels by establishing DRM offices at the national, provincial, and municipal levels (National Disaster Risk Reduction and Management Council, NDRRMC, 2020).



The holistic approach to DRM also includes a strong emphasis on Anticipatory Action, with the Philippines being among the first countries to pilot the approach and several Anticipatory Action Plans being currently in place that are administered by a diverse set of actors including UN agencies like FAO or WFP, the Philippine Red Cross, Start network and its member organizations as well as other NGOs (Anticipation Hub, 2023c; Anticipation Hub, 2024a). Furthermore, the B-Ready project (Building Resilient Adaptive and Disaster Ready Communities) was launched in Eastern Samar in 2019, bringing together a consortium of local and international NGOs, private actors, and local government units. Led by Oxfam, the project focused on typhoons and was later expanded to floods (KI-08). In addition to a technical working group at the country level, the Philippines have recently filed a bill to institutionalize AA within the government sector and allow government agencies to access funds ahead of an imminent disaster, thus aiming “to become the first national legislation for anticipatory action worldwide” (Anticipation Hub, 2024d).

In Catanduanes, several actors have developed Anticipatory Action Plans, including the Philippine Red Cross in cooperation with the German Red Cross, a consortium of UN organizations, and Oxfam Pilipinas’ Strengthening Harmonized Action for Disaster Risk Reduction, Preparedness and Early Recovery (SHARPER) project, that was implemented in cooperation with the People’s Disaster Risk Reduction Network (PDRRN, 2023). To harmonize and coordinate efforts, an Anticipatory Action Humanitarian Response Committee, as well as a Humanitarian Response Coordination Desk, have been established (Executive Order No. 015. Office of the Governor of Catanduanes, 2023). Beyond these formal plans, some municipalities have also engaged in activities related to early warning and early action, such as distributing food packages to fisher families ahead of a storm (KI-06) or early harvesting in response to traditional early warning signs for typhoons (KI-07). Likewise, a variety of activities, such as traditional practices of shelter strengthening, have been commonly implemented in response to early warnings at the household, community, and local government levels long before the first formal Anticipatory Action Plans were introduced in Catanduanes.

Complementary to these existing efforts of addressing disaster risks in Catanduanes proactively, the People’s Disaster Risk Reduction Network (or PDRRN) launched the project “Strengthening Preparedness Capacity of Vulnerable Communities through Early Warning Early Action and Rapid Response” (EWEARR) in 2021. PDRRN is a local NGO that was founded in 1991 and is active in various parts of the Philippines. Related through a longstanding partnership, Caritas Germany supported the initiatives of PDRRN in developing and implementing the EWEARR Project within the initial timeframe between October 2021 and March 2023. Apart from funding, continuous conversations and learning through its country office have been undertaken to enhance and sustain the project, integrating lessons, for example, around the importance of local suppliers and legislators, or the adoption of a variety of modalities in pre-emptive cash and in-kind assistance,

among others. Building on PDRRN’s extensive experience with DRR projects and longstanding ties with relevant local actors, such as the local PAGASA office or the municipal and provincial disaster risk reduction and management offices, the project aimed at strengthening the capacities of vulnerable households to anticipate, cope with and respond to effects of extreme weather events. To contribute to this overall objective, the AA components, such as the trigger model or pre-emptive cash transfers as anticipatory actions, were embedded in a broader DRR project and connected to wider development objectives like, for example, enhancing financial literacy among targeted communities. During the project, coverage was increased from initially three priority districts (‘barangays’) to a total of six barangays in the municipality of Bato with the goal of expanding further due to sustained needs and gaps in the DRM infrastructure as well as integrating the Anticipatory Action components into local contingency plans (PDRRN, 2023).

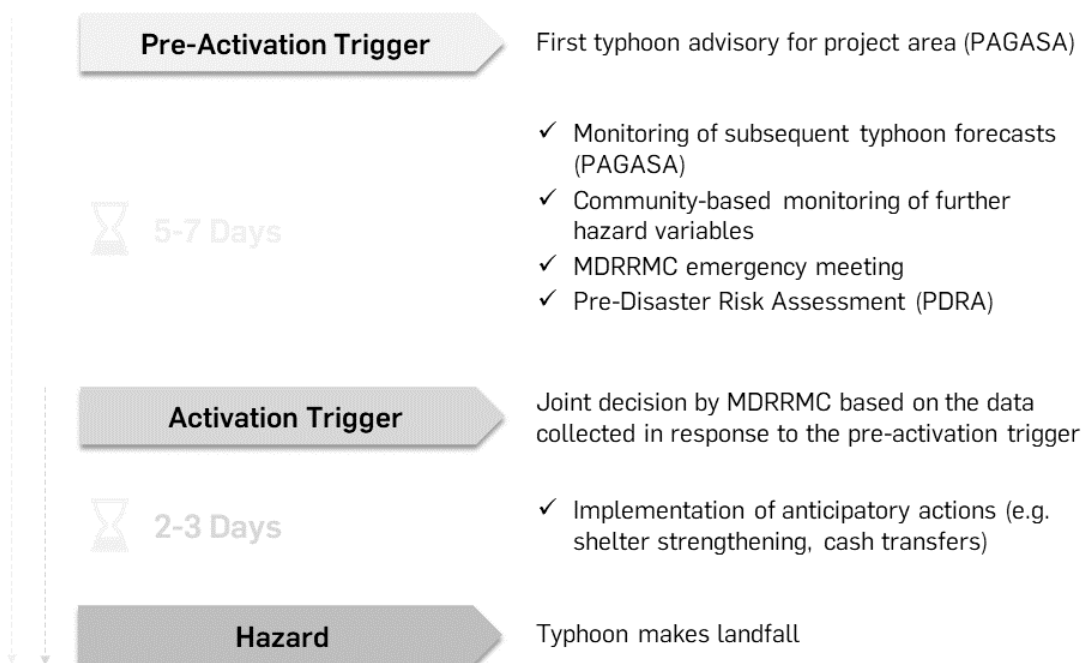


Figure 2: EWEARR trigger model, source: own elaboration based on KI-08; PDRRN, 2023

The trigger model within the EWEARR project, visualized in Figure 2, could be classified as a “two-step trigger model” and focuses on typhoons while acknowledging the relevance of associated and compounding risks related to, for example, floods or landslides during the rainy season. In line with other Anticipatory Action Plans and the importance of local forecasting capacities, a readiness trigger is activated upon the first advisory issued by the national meteorological agency PAGASA that a typhoon of critical magnitude might affect the project areas, which is usually published with a lead time of around five to seven days (KI-08; KI-04). The pre-activation sets in motion a process of close monitoring and reporting of subsequent forecast data as well as other predefined hazard variables, such as rainfall or river levels that are partly monitored and reported by



communities themselves. As the preciseness of the typhoon forecasts gradually improves and more information becomes available on the expected pathway and intensification of the storm, the Municipal Disaster Risk Reduction and Management Council (MDRRMC) convenes an emergency meeting to decide on whether to initiate a Pre-Disaster Risk Assessment (PDRA) to collect or update information on acute vulnerabilities and potential impacts in the project barangays. By regulation, the results of the PDRA have to be available within 12 hours and can then be triangulated with data from the most recent PAGASA forecasts and the other hazard variables to arrive at a comprehensive assessment of the typhoon's potential path and impact. Building on the combined information collected in response to the pre-activation trigger, the final decision on whether to activate or not is taken by the MDRRMC (activation trigger), thus leaving a lead time of two to three days for the implementation of anticipatory actions, like pre-emptive cash transfers or shelter strengthening (PDRRN, 2023; KI-08).

The trigger model was designed entirely by local actors, with PDRRN identifying initial parameters and thresholds through a participatory process including leaders of community-based civil society organizations, women, persons with disabilities, and older persons, among others. Community feedback from surveys and other sources was also integrated into the enhancement of triggers and key actions. These initial parameters were then discussed and validated in a joint workshop involving all relevant local AA stakeholders, such as the disaster risk reduction and management entities at barangay, municipal, and provincial level, PAGASA, but also other actors involved in AA activities in Catanduanes like the Philippine Red Cross and Caritas Virac. After review and approval, a tabletop simulation exercise was conducted to test the different steps related to trigger activation (PDRRN, 2023). On the one hand, the participatory and locally led approach to trigger development made sure that the model aligns with existing AA initiatives in Catanduanes and builds on local forecasting and coping capacities, thus facilitating a sustainable integration into existing contingency plans and ensuring that AA benefits are not jeopardized by the narrow timeframe of humanitarian projects. On the other hand, the combination of quantitative data and official early warnings for the pre-activation trigger and the decision-based activation trigger ensures that decision-making power is centered around specialized local institutions and structures while maintaining high degrees of flexibility. Due to fewer activations than anticipated, PDRRN, in close coordination with the MDRRMC and Caritas Germany, was able to allocate some of the unused fuel funds to address risks emerging from continuous rains amplified by the monsoon and shear lines in early 2023 (ibid.). Although the AA components initially focused on typhoons, the integration of additional hazard variables along with the localized decision-making process and the strong partnership between PDRRN and Caritas Germany facilitated quick adaptation and timely distribution of cash transfers as part of the rapid response to acute needs.

In addition to the context-specificity and the flexibility of the trigger model, the process of developing and administering the model reflects some of the good practices and recommendations outlined in the previous chapter: First, the approach underlines the potential of strategic partnerships, with Caritas Germany providing flexible funding for AA and PDRRN leveraging three decades of experience in DRR and established ties to local stakeholders, including local government units. These ties also ensured that the entire process was grounded in solid feedback and learning loops, for example, through existing coordination mechanisms at the provincial and national levels. Second, the model combines different types and sources of risk data, including locally established instruments like PDRA, trusted local actors like PAGASA, and community-based monitoring of hazard variables. Having a decision-based activation trigger connected to the MDRRMC as an organ composed of elected municipal representatives as well as other local government authorities further enhances ownership and acceptance of the trigger mechanism. Finally, the trigger is not only neatly integrated into local contingency plans, as stipulated above, but also aligns with broader development goals, such as mapping and improving the landscape of local financial service providers or enhancing financial literacy and preparedness capacities among vulnerable households. Even beyond the potential to institutionalize the AA elements at the local level, this ensures that project benefits extend beyond the narrow horizon of the initial project.

It is, however, also relevant to consider that the project in general and the development of the trigger in particular benefited from the flexible funding provided by Caritas Germany as well as a variety of enabling context-level factors, such as the experience with AA among local stakeholders in Catanduanes or the general institutional setup and mainstreaming of DRM in the Philippines. Once again, this underlines the need for international NGOs to actively support and advocate for the creation of an enabling environment for AA. At the same time, the project scope is currently also limited to 12 barangays, and, despite its flexibility, it still displays a strong emphasis on typhoons. On the one hand, this illustrates the potential to further build on initiatives like EWEARR and extend their coverage, which is particularly relevant in light of compound risks associated with the frequent occurrence of multiple hazards in Catanduanes and the persistent levels of high vulnerability in some parts of the province. On the other hand, participants of an AA exchange workshop in October 2022 stressed the limited visibility of smaller and locally led initiatives vis-à-vis large frameworks in national and global fora, thus restraining opportunities to learn from these initiatives (academy for humanitarian action, 2022). Beyond the aspects discussed in this chapter, it is therefore important to echo the broader calls for a systemwide shift towards locally led AA, including the creation of more inclusive funding structures and targeted investments to boost local capacities (Schneider, 2023).

## 7. Conclusion

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Seeking to carve out learnings and recommendations for German NGOs and their local partners, this paper discussed the crucial role of local actors and local knowledge in the context of developing or adopting trigger models for Anticipatory Action. Although the importance of local actors and their knowledge – including traditional and Indigenous knowledge – has been widely highlighted in the broader DRR discourse, substantial progress in mainstreaming localization as a cross-cutting issue throughout the AA debate and across AA frameworks has materialized very recently only. This paper and the associated research project aimed at complementing these nascent achievements and discussions by zooming in on the particular process of developing new or adapting existing trigger models, given that these were frequently cited as remaining challenges among NGOs seeking to engage in Anticipatory Action. By this means, the paper sought to contribute to scaling up Anticipatory Action through enhanced engagement of local stakeholders and, at the same time, reduce technical barriers and provide entry points for joint AA engagement among German humanitarian NGOs and their local partner networks.

Drawing on the body of existing literature, key informant interviews, participant observation, and focus group discussions, the results emphasize the importance of investing in strategic partnerships and building on local knowledge to thoroughly analyze the local context, map relevant stakeholders, and assess gaps in existing frameworks and trigger models. Additional (external) factors, like flexible and localized funding instruments or a conducive political environment, as well as previous experience with DRM and an understanding of the basic concepts and mechanisms of AA within partner organizations can further facilitate the identification of entry points for AA in general and trigger development in particular, as the project example of locally led trigger development in the Philippines illustrated later in the paper. In the concrete process of scaling up existing models or developing own mechanisms, prioritizing participatory approaches and community engagement as well as integrating different knowledge systems have emerged as recommendations, although the empirical evidence base still needs to be broadened in this regard. Moving further down the project cycle, robust exit strategies as well as constantly evaluating triggers and sharing learnings help to sustain AA benefits within and across local contexts.

Altogether, the findings clearly show an added value of building more systematically on local actors and local knowledge in trigger development beyond the normative imperative to localize (anticipatory) humanitarian action, as it can make AA frameworks and its trigger models more effective, reduce costs while enhancing local ownership and community acceptance, tailor thresholds and indicators to specific contexts, and create sustainable

perspectives for AA frameworks and triggers. Although local engagement in trigger development is already increasing, more empirical evidence on particular aspects, such as the integration of Indigenous knowledge in trigger models, as well as structural changes, related, for example, to more inclusive funding structures, are necessary to convert meaningful local leadership in trigger development and Anticipatory Action more broadly from an exemption into the systemwide norm.

## 8. References

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## 9. Annex

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### List of Acronyms

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|               |                                                                                                                     |
|---------------|---------------------------------------------------------------------------------------------------------------------|
| <b>AA</b>     | Anticipatory (humanitarian) action                                                                                  |
| <b>BRCiS</b>  | Building Resilient Communities in Somalia Consortium                                                                |
| <b>DREF</b>   | Disaster Relief Emergency Fund                                                                                      |
| <b>DRM</b>    | Disaster risk management                                                                                            |
| <b>EAP</b>    | Early Action Protocol                                                                                               |
| <b>EWEARR</b> | Strengthening Preparedness Capacity of Vulnerable Communities through Early Warning Early Action and Rapid Response |
| <b>FAO</b>    | Food and Agriculture Organization of the United Nations                                                             |
| <b>GloFAS</b> | Global Flood Awareness System                                                                                       |
| <b>IASC</b>   | Inter-Agency Standing Committee                                                                                     |
| <b>IFHV</b>   | Institute for International Law of Peace and Armed Conflict (Ruhr-University Bochum)                                |
| <b>IFRC</b>   | International Federation of Red Cross and Red Crescent Societies                                                    |
| <b>INGO</b>   | International Non-governmental organization                                                                         |
| <b>ITK</b>    | Indigenous and traditional knowledge                                                                                |
| <b>MDRRMC</b> | Municipal Disaster Risk Reduction and Management Council                                                            |
| <b>NDRRMC</b> | National Disaster Risk Reduction and Management Council                                                             |
| <b>NGO</b>    | Non-governmental organization                                                                                       |
| <b>PAGASA</b> | Philippine Atmospheric, Geophysical and Astronomical Services Administration                                        |

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|----------------|----------------------------------------------------------------------------------------------|
| <b>PDRA</b>    | Pre-Disaster Rapid Assessment                                                                |
| <b>PDRRN</b>   | People's Disaster Risk Reduction Network                                                     |
| <b>SHARPER</b> | Strengthening Harmonized Action for Disaster Risk Reduction, Preparedness and Early Recovery |
| <b>TWGAA</b>   | Asia-Pacific Technical Working Group on Anticipatory Action                                  |
| <b>UNESCO</b>  | United Nations Educational, Scientific and Cultural Organization                             |
| <b>UN OCHA</b> | United Nations Office for the Coordination of Humanitarian Affairs                           |
| <b>VENRO</b>   | Umbrella organization of development and humanitarian NGOs in Germany                        |
| <b>WAHAFA</b>  | Welthungerhilfe Anticipatory Action Facility                                                 |
| <b>WFP</b>     | World Food Program                                                                           |

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## List of Key Informant Interviews

|              |                                                                                                                                                     |                  |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>KI-01</b> | Christopher Ball, Advisor for Disaster Risk Reduction and Climate Change at Diakonie Katastrophenhilfe                                              | 29 February 2024 |
| <b>KI-02</b> | Two representatives of the Provincial Disaster Risk Reduction and Management Office of Catanduanes                                                  | 5 April 2024     |
| <b>KI-03</b> | Dexter M. Toyado, Catanduanes University, The Center for Island Climate Change Solutions                                                            | 8 April 2024     |
| <b>KI-04</b> | Staff member of the Catanduanes office of the Philippine Atmospheric, Geophysical and Astronomical Services Administration                          | 8 April 2024     |
| <b>KI-05</b> | Representative of the Municipal Disaster Risk Reduction and Management Office of Bagamanoc,                                                         | 9 April 2024     |
| <b>KI-06</b> | Representative of the Municipal Disaster Risk Reduction and Management Office of Panganiban, Catanduanes                                            | 10 April 2024    |
| <b>KI-07</b> | Donnabelle Tejada, Municipal Disaster Risk Reduction and Management Office of Bato, Catanduanes                                                     | 11 April 2024    |
| <b>KI-08</b> | Two staff members of PDRRN's project "Strengthening Preparedness Capacity of Vulnerable Communities through Early Warning Action and Rapid Response | 11 April 2024    |
| <b>KI-09</b> | Anticipatory Action focal person within Caritas Virac                                                                                               | 12 April 2024    |
| <b>KI-10</b> | Representative of the Food and Agriculture Organization of the United Nations, Manila                                                               | 16 April 2024    |
| <b>KI-11</b> | Representative of the World Food Program, Manila                                                                                                    | 16 April 2024    |
| <b>KI-12</b> | Three staff members of the Catholic Relief Service's AA projects in the Philippines                                                                 | 17 April 2024    |
| <b>KI-13</b> | Björn Klüver, Humanitarian Preparedness & Anticipatory Action Advisor at Plan International Germany                                                 | 22 April 2024    |
| <b>KI-14</b> | Afroza Haque, Project Delegate – Anticipation / FbF at German Red Cross                                                                             | 2 May 2024       |
| <b>KI-15</b> | Anastancia Mangisi, Regional Climate Resilience Advisor East & Southern Africa / MENA at Welthungerhilfe                                            | 16 May 2024      |
| <b>KI-16</b> | Miharintsoa Radanielina, Head of Project – Anticipatory Humanitarian Action at Welthungerhilfe                                                      | 3 June 2024      |
| <b>KI-17</b> | Muhammad Fawwad, Junior Expert Anticipatory Humanitarian Action at Welthungerhilfe                                                                  | 27 June 2024     |

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