

# Anticipatory action in practice: acting early ahead of typhoons in the Philippines



## Early actions ahead of typhoons in the Philippines

Tropical cyclones are the most common hazard in the Philippines, with nine to ten making landfall each year on average and around half being categorized as typhoons<sup>1</sup> ([Philippine Red Cross nd](#)). Typhoons bring severe winds and/or heavy rains, as well as associated hazards such as storm surges, floods and landslides. As such, they often cause the loss of life in the country, as well as devastating economic losses.

To enable affected populations to act ahead of a typhoon making landfall, the Philippine Red Cross developed an Early Action Protocol (EAP) for Typhoons. This covers 19 high-risk provinces<sup>2</sup> and lists three early actions: (1) the evacuation of livestock; (2) early harvests (cash for work); (3) the distribution of shelter-strengthening kits to reinforce vulnerable houses.

### Forecast-based financing

Forecast-based financing is a key element of anticipatory action. It uses forecasts to trigger agreed early actions prior to an advancing hazard. In doing so, it helps to bridge the gap between disaster preparedness and relief, as well as reducing the humanitarian impacts of weather-related hazards, many of which are becoming increasingly severe and frequent.

The Philippine Red Cross, with funding and technical support from the German Red Cross, began a forecast-based financing project in 2017. The first three years were spent laying the foundations for this approach to be applied ahead of typhoons and floods. This included several stages, including: (1) research; (2) stakeholder engagement; (3) community consultations; (4) risk mapping; (5) workshops; and (6) simulations of early actions.

### Early Action Protocols

Forecast-based financing projects funded by the International Federation of Red Cross and Red Crescent Societies' (IFRC) Forecast-Based Action by the Disaster Response Emergency Fund (FbA by the DREF) mechanism require National Red Cross Red Crescent Societies to develop an EAP. This is a guiding document which defines: (1) the triggers, or thresholds, for the selected hazard; (2) the roles of each actor; (3) the allocated budget; and (4) the early actions that will take place once the EAP is activated (i.e.,



Testing early actions in Catanduanes, Philippines.

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once the triggers are reached). EAPs are finalized and approved by the validation committee, which releases funding in the event of an activation.

### Early actions

To ensure the early actions in an EAP are robust and effective, it is necessary to explore the different options, research their viability, and then select – with justifications – the most appropriate actions. Going through this process helps to ensure that the selected early actions are relevant and culturally appropriate: that they maximize the potential humanitarian impacts while minimizing social, economic, environmental or other harm. At the same time, this process helps to deliver ‘no regret’ actions, which benefit people even if the expected impacts do not occur.

The *Forecast-Based Financing Practitioners Manual* ([IFRC, Climate Centre and German Red Cross 2021](#)) outlines the steps for developing early actions (see Box 1). National Societies developing EAPs should follow these. However, doing this does not ensure that the process is straightforward or linear. Often, it is dynamic: even after an EAP is approved, early actions require further testing and refinement. The three early actions identified for typhoons in the Philippines went through the recommended series of simulation exercises, as the following sections outline.

<sup>1</sup> typhoon is a tropical storm that forms over the Northwest Pacific Ocean ([National Ocean Service nd](#)).

<sup>2</sup> Albay, Aurora, Cagayan, Camarines Sur, Camarines Norte, Catanduanes, Cebu, Davao de Oro, Davao Oriental, Isabela, Leyte, Southern Leyte, Masbate, North Samar, East Samar, West Samar, Sorsogon, Surigao del Sur, Surigao del Norte

## Early action 1: early harvest (cash for work)

Funds from the FbA by the DREF mechanism support a cash-for-work scheme to conduct an early harvest of abaca, rice and corn; the crop type varies according to region and growing cycle.

### Impact identification and justification

One of the main economic impacts of typhoons is a loss of income and livelihoods, particularly for farmers and fishing communities. Early harvesting (e.g., before the crop has fully ripened) contributes to food security and protects livelihoods. It also has a longer-term impact, due to delays in the crop regenerating if it is destroyed by a typhoon.

### Target population

The target beneficiaries are 30 workers (farmers and fishers) per *barangay*,<sup>3</sup> or 60 workers across two *barangays*. After completion of the work, each person receives 500 Philippine pesos (PHP) per day (around 8.98 US dollars / 8.51 euros).<sup>4</sup> Fishers are included as, ahead of a typhoon, they are often unable to earn a living from fishing.

The vulnerability criteria for priority households are: (1) abaca landowners with up to two hectares of cultivable land; (2) households with disabled people or senior citizens; (3) single parents; (4) households with five or more children; (5) houses made of light materials; and (6) families with a monthly income of 10,000 PHP or less (179.70 US dollars / 170.12 euros).

### Lessons learned

The simulations for this early action revealed that local implementation often demands flexibility in the budget. The EAP for Typhoons, when submitted, included funds to rent a manual harvester, but none were available in the target area at the time of the simulation. The project team adapted by including more farmers in the cash-for-work intervention.

A further budget reallocation was needed when harvesters said they needed to rent a thresher to separate rice from its stalks, and to buy storage sacks; neither had been included in the initial EAP budget. Other examples of the need for a flexible budget included requests from some communities to prioritize the early harvesting of small fish in aquaculture farms over harvesting rice crops.

Other lessons include:

- simplify hazard alerts into clear messages and communicate in local languages
- make messages more relevant by including maps that show the forecast typhoon landfall and rainfall by municipality
- identify and confirm cash-for-work beneficiary lists in advance and advise people of the potential risks
- clarify expectations before the typhoon makes landfall; for example, explain that stripping bark post-typhoon will not be paid for through the cash-for-work scheme
- recruit more volunteers to implement early actions effectively
- provide transport for volunteers.

## Box 1. Steps for developing early actions

### 1 Identify impacts and risks

- 1.1. Review historical and current data
- 1.2. Literature review
- 1.3. Key informant interviews
- 1.4. Focus group discussions
- 1.5. Community visits
- 1.6. Stakeholder workshops

### 2 Prioritize impacts

- 2.1. Knowledge and attitude surveys

### 3 Brainstorm potential early actions

- 3.1. Policy and practice review
- 3.2. Review global database of early actions
- 3.3. Community ranking activities

### 4 Narrow and prioritize the list of early actions

### 5 Develop theories of change

### 6 Test theories of change

### 7 Finalize early actions

### 8 Develop and test the activation plan for the early actions

### 9 Make the rationale for those selected explicit in the EAP

<sup>3</sup> A *barangay* is the smallest administrative division in the Philippines, and used to describe a village, district or ward.

<sup>4</sup> All exchange rates as of December 2022.

## Early action 2: evacuation of livestock

Evacuation assistance is provided by truck for pigs, cows, goats and carabao (water buffalo). As well as moving the animals, it involves assembling pens in safe (i.e., high) areas, and providing food and water for livestock for up to three days. There is also a cash assistance element, as after completion of works (e.g., assembling pens), each worker receives 500 PHP (8.98 US dollars / 8.51 euros) per day.

### Impact identification and justification

Evacuating livestock from areas likely to be affected by a typhoon is a flexible early action, one that could be transferred to other hazards. It contributes to reducing the loss of life among both livestock and their owners, who might be reluctant to leave their animals behind.

### Target population

Target areas are those with a high concentration of farmers.

### Lessons learned

This early action is more relevant in some regions of the Philippines than others. For example, in the north, some areas are consistently flooded during typhoons, meaning people need to evacuate their livestock (e.g., to prevent animals drowning, to access grazing areas). This demonstrates the need to have flexible early actions in EAPs, which can be adapted to local contexts. Other lessons included the need to:

Other lessons include:

- develop standard designs for livestock evacuation, as well as general guidelines
- tag animals properly so they can be reunited with their owners in safe areas
- consider what safe areas will look like, for example in terms of waste management
- establish how the evacuated livestock will be insured.

In light of these findings, the project team consulted the World Animal Protection organization for guidance on how to revise this early action.

### Box 2. Covid-19: an additional hazard

As well as adapting the early actions based on lessons identified through simulations, the project team had to make further adjustments due to the emergence of Covid-19. These were necessary to mitigate the potential risk of transmitting the virus through early actions (e.g., from volunteer to beneficiary). For example, the distribution of shelter-strengthening kits was controlled by local chapters of the Philippine Red Cross, and personal protective equipment and sanitizers were distributed alongside other materials. The EAP for Typhoons was also revised to include these contingency plans.



Photo © Madle Timm

## Early action 3: distribution of shelter-strengthening kits

The distribution of shelter-strengthening kits enables people to strengthen houses that have been identified as weak. After helping to strengthen eight houses, the team receives a total of 2,050 PHP (36.84 US dollars / 34.85 euros); skilled workers receive 500 PHP and unskilled workers 350 PHP each.

<b>Impact identification and justification</b>	The need to strengthen shelters ahead of typhoons emerged as a priority early action through consultations with stakeholders and communities. Reinforcing homes with these kits helps to save people's assets and preserves their dignity. It also costs less than retrofitting or repairing homes after a disaster, approximately 6,000 PHP (107.82 US dollars / 101.96 euros) compared to 10,000 PHP (179.70 US dollars / 169.95 euros).
<b>Target population</b>	Vulnerable populations include those with the most vulnerable houses or shelters.
<b>Lessons learned</b>	<p>It is important to balance design preferences with the realities of logistics and procurement. For example, during the simulation, the project team realized that their initial design for shelter-strengthening kits used too much wood. This meant the design would be challenging to implement at larger scales, as it would be difficult to buy and move enough wood for the target of 750 houses in the lead time under which they were operating.</p> <p>Local factors are also significant. For example, the proposed design used coconut timber. This is widely available on some islands in the Philippines, but rare or banned from being cut on others. The project team realized that this early action would be reliant on local market availability, local laws and locally available resources.</p> <p>Another useful lesson was the differences between disaster response and early actions. The shelter-strengthening kits were initially designed by a Philippine Red Cross staff member, who had extensive experience in shelter response after Typhoon Haiyan in 2013. However, when rebuilding homes as a disaster response, there is no imminent deadline. This is not the case for early actions; the lead time for this action is 72 hours, meaning all the shelters must be strengthened within this period.</p> <p>In light of these lessons, the Philippine Red Cross revised its EAP for Typhoons. For example, it brought in an external organization that specialized in resilient infrastructure and design to help redesign the shelter-strengthening kits, and also adapted the design to reduce the amount of wood required.</p> <p>However, a second simulation – using the revised design – reiterated the need to keep testing early actions. The new design still required too much wood and local materials were overlooked in favour of imported timber. This led to delays, and the team realized they needed to establish a memorandum of understanding with local timber suppliers for future activations. Other lessons from this second simulation included:</p> <ul style="list-style-type: none"> <li>● five people are enough to assemble a shelter-strengthening kit for one house</li> <li>● information about kits needs to be written in local languages</li> <li>● community-orientation activities give people the opportunity to learn how to strengthen their houses, even if they were not selected to receive a kit.</li> </ul> <p>After this simulation, the design was revised once more to replace the wood with iron bars. These are cheaper, widely available, easier to reposition and don't degrade over the timespan of the EAP (five years).</p>

### Box 3. Test, review and revise: the cycle for early actions

Even after the EAP for Typhoons was approved in November 2019, further lessons emerged about the distribution of shelter-strengthening kits. For example, in some areas, roofs are made from nipa leaves. These houses are too weak to sustain the weight of wooden or iron bars; instead, they have to be strengthened using fishing nets and rope. This reinforces the lesson that EAPs need flexible budgets to allow for adaptations to local circumstances and supply chains.



## Lessons learned and recommendations

### 1. Design of early actions

**Conduct an initial analysis before consulting a repository of early actions.** Early-action repositories<sup>5</sup> can be a very useful tool. Knowing what other countries are doing ahead of similar hazards can help to ensure that early actions address the main impacts of that hazard, while also introducing ideas that may currently be used elsewhere in a country or region. Nevertheless, to ensure early actions are tailored to the unique needs and context, it is best to conduct a preliminary analysis of a hazard's likely impacts, for example through community and key stakeholder consultations, before consulting repositories.

**Balance rigidity and flexibility – and complexity and ease of implementation.** The project team in the Philippines noted that the EAP for Typhoons became so complex that it was unwieldy and static, rather than a dynamic, living document. For example, for the third early action, they had to find the right balance between the perfect design for shelter-strengthening kits and the operational considerations in the country (e.g., supply-chain issues, procurement, storage, transport).

**Tailor early actions to national contexts to increase national interest.** The Philippine Red Cross has seen considerable national interest in its early actions for typhoons. For example, one city is now budgeting for shelter-strengthening kits; another is budgeting to follow the guidelines on livestock evacuation developed by the Philippine Red Cross. By laying the groundwork for partners to adopt and implement their early actions, the Philippine Red Cross has achieved an impact beyond the FbA by the DREF budget. However, at the same time there is a need to ensure early actions are tailored to local needs, especially when they are replicated from a different region.

**External service providers can complement internal knowledge and offer new perspectives.** In the Philippines, external consultants with expertise in designing resilient infrastructure helped the project team to design shelter-strengthening kits that reinforced houses effectively and made use of locally available materials.

**Consider which activities should be early actions and which should be another part of disaster risk management.** For example, shelter-strengthening kits reduce damage to infrastructure caused by typhoons. However, the project team will continue to advocate for more durable retrofitting to be funded as part of longer-term disaster risk-reduction interventions.



An early-harvesting simulation in Catanduanes, Philippines. Local farmers harvest abaca trees in the mountains to test the EAP system for cash distribution. © Madle Timm

**Consider how the early actions in an EAP can enhance or align with other disaster-preparedness efforts.** For example, in areas where farmers are already harvesting crops early, the EAP could focus on how best to support target populations to continue doing this themselves (e.g., providing materials, establishing guidelines and infrastructure).

### 2. Implementation of early actions

**Developing and testing actions increases professionalization, for example through creating evidence-based standards and guidelines.** Post-event evaluations showed that houses reinforced with shelter-strengthening kits sustained less damage than neighbouring houses, where residents had used different forms of anticipatory reinforcement. Furthermore, farmers who undertook their own early harvests yielded less than those that did so as part of the EAP early actions. Outcomes such as these demonstrate the value of EAPs – and the anticipatory action approach more broadly – to other stakeholders.

**Distribute capacity and responsibility.** The Philippine Red Cross team recommended starting out with activations across multiple areas, so that each local Red Cross chapter is responsible for fewer interventions (i.e., five chapters assist 200 households each, rather than one chapter assisting 1,000 households). This helps to mitigate the risk of acting in vain if the typhoon shifts its trajectory to strike areas other than those forecast. It also makes it easier for local chapters to implement early actions, giving them a higher chance of success.

**Scale up impacts by working with other partners and making early actions replicable.** For example, the Department of Agriculture in the Philippines now advocates for farmers to conduct early harvesting when typhoons are close.

<sup>5</sup> For example, the Anticipation Hub's early action database: [bit.ly/3W0K15g](https://bit.ly/3W0K15g)

**Flexibility in how budgets are allocated is useful.** The Philippine Red Cross recommends having preagreed early actions in an EAP, but including flexibility in how the agreed budget is spent. This allows local chapters to tailor early actions according to their distinct needs; for example, they could reduce the number of workers paid under a cash-for-work scheme, and instead use funds to hire a truck. This is key for gaining local buy-in to the process and empowering local chapters, as well as being practical for implementation in a country with wide regional variation.

### 3. Revision of early actions

**Go slow to go fast.** While the project team was initially reluctant to revise their design for shelter-strengthening kits, taking the time to do so – and bringing in a specialist organization to help – resulted in a more robust and scalable early action, one that is already showing promising results.

**An EAP is a living, dynamic document that should reflect evolving needs, lessons and hazard profiles.** For example, the project team revised their early actions to address the Covid-19 pandemic (see Box 2). Similarly, early actions should not be static, but should grow through a living, dynamic process. Currently, some practitioners feel the EAP process is cumbersome and rigid, which makes such revisions difficult.

**Act upon feedback – and communicate that it has been acted upon.** Following best practice in community engagement and accountability, it is vital that feedback gathered during simulations and when engaging with disaster-affected populations is acted upon and relayed back to those people.




Distribution of shelter-strengthening kits during a simulation exercise in Aurora, Philippines. © Madle Timm

**Risks are complex and impossible to predict fully.** The project team highlighted that despite their exhaustive research and multiple rounds of simulations, new lessons and considerations about their selected early actions continue to emerge. This reiterates the need for EAPs to be living documents with scope for continual revision and improvement.

**“We need to realize that we will not be able to imagine all of the different contexts and needs that will emerge. Keeping it flexible is best, complemented by rigorous standards. In the end, local chapters of the Red Cross implement [early actions] and make choices, [which] we help to enact.”**

– Damien Riquet, former forecast-based financing project delegate, German Red Cross

For more information about anticipatory action in the Philippines, visit the country profile on the **[Anticipation Hub](#)** 

Philippines EAP for Typhoons  
**[bit.ly/3FKxQ7j](https://bit.ly/3FKxQ7j)**


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