



Bangladesh Trying to survive rising seas. Surrounded by water in Kurikahunia village in Satkhira district. Photo: Rafiqul Montu

At the frontlines of the climate crisis

Summary findings from a climate resilience study in Afghanistan, Nepal, Bangladesh, and Myanmar

Creeping climate stresses and more frequent extreme weather events already push communities to the edge, testing and at times exceeding their coping capacities. The results of a Danish Red Cross (DRC) climate resilience study¹ in Afghanistan, Nepal, Bangladesh and Myanmar identify eight patterns and illustrate the urgent need for bold action. As projections show that a warmer world means that regional climates will be warmer, wetter, wilder, and drier in the decades to come, the study proposes a modular programme to raise climate resilience in the four countries.

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Discussing climate change typically has a future focus. But as the regional climate resilience study illustrates, the climate crisis has long begun. It is now.

Afghanistan, Nepal, Bangladesh, and Myanmar feature very different contexts. Yet, in all four countries, the imperative to act quickly and at scale is evident. In terms of opportunities to support climate resilience, the quartet of countries resembles two distinct pairs.

The first — Afghanistan and Myanmar — has severe operational constraints that limit programming opportunities. Here, basic options should be pursued that can be expanded and built upon when future situations allow.

The second pair — Nepal and Bangladesh — has favourable conditions that include comprehensive policy frameworks and strong networking options. Here, a mix of basic and large-scale approaches should be applied that together should aim for ambitious advances in climate resilience.

The study proposes a modular regional programming framework that has a logic of progressive growth (its five blocks build onto each other) and that should be contextualised for each country.

The objective of the Danish Red Cross (DRC) study was to explore how DRC could best

support its Partner National Societies (PNS) in strengthening climate resilience where it is needed the most. This included two aspects — *first*, to assess climate-related needs, and *second*, to provide an outline for a new climate resilience programme that DRC plans to roll out.

Research featured an extensive review of literature and policies, as well as in-country studies in Afghanistan, Nepal, Bangladesh, and Myanmar (May - June 2023). This included visits to communities in identified climate hotspots, notably the Karnali River Basin in western Nepal as well as Satkhira and Sunamganj districts in Bangladesh.²

Impact patterns

Despite the contextual differences between the four countries, the study identified eight cross-country observations relevant to climate resilience.

1. Impact of climate change has been observed in all four countries, especially on livelihoods. In many cases, this impact is so severe that the coping capacities of communities are exceeded.

To varying degrees, all twelve climate change impacts on human systems highlighted in the latest report of the Intergovernmental Panel on Climate Change (IPCC) (see *figure 1*) have been observed by this study in the four countries.

1. Bolte, P., S. Marr & S. M. Yin Chaw (2023): At the frontlines of the climate crisis. Scoping study for the development of a climate resilience programme in Asia (Afghanistan, Nepal, Bangladesh, Myanmar). Copenhagen: Danish Red Cross.

2. Climate hotspots were identified at the outset of the study, based on the review of current and projected risk, levels of vulnerability, and operational considerations.



3. In Afghanistan, three consecutive years of La Niña, which has a local impact of below-average rain/snowfall and warmer conditions, has contributed to severe water scarcity, as the country experiences a socio-economic drought. See [UN OCHA 2022](#) for details.

4. In Satkhira district of Bangladesh, these included the pollution of groundwater aquifers from aqua-farming, which increased salinity to dangerous levels.

5. In coastal areas of Myanmar and Bangladesh, sea-level rise will contribute to more flood risk from cyclone-induced storm surges, affecting areas several kilometres inland.

6. Coastal areas of Bangladesh have seen net out-migration for more than a decade; by 2050, the country expects up to 19.9 million internal climate migrants ([Rigaud et al. 2018:148](#)).

7. Secondary information suggests similar patterns in other countries. In Afghanistan's arid Kandahar province, for instance, farmers invested in solar and diesel pumps at huge scales, contributing to groundwater depletion.

8. Communities can directly protect and influence their natural resources like forests and water resources, and at scale, this can improve protection from hazards and limit further risks.

In visited 'climate hotspot' communities, the impact patterns are complex and varied but commonly exceed coping capacities, leading to net negative trends in socio-economic conditions.

Climate-induced migration (especially in its permanent form) was often reported as a 'means of last resort' and suggests local means of coping have been exhausted or exceeded (especially in Bangladesh).

2. Water scarcity is a key issue in all four countries and hampers health and livelihoods in particular.

Among the multiple impacts observed, water scarcity is the most common and one of the most consequential issues. Several factors contribute to this scarcity, including shifts in seasonal or reduced precipitation³, increased evapotranspiration, poor soil health, deforestation, excessive groundwater extraction, and other unsustainable practices of natural resource management.⁴

Numerous negative effects of water scarcity were observed on livelihoods, health, and overall conditions. These had a particularly negative impact on women, increasing their burden of work (e.g., carrying water over longer distances).

3. Climate projections indicate further serious adverse effects on all countries, even under the most optimistic scenario.

The Global to Regional Atlas, an annex to the Sixth IPCC Working Group II report ([IPCC 2022](#)) illustrates climate projections under different scenarios, as well as their impact on natural and human systems. These indicate that **average precipitation** will increase marginally in all four countries, but that it will shift in terms of extremes and seasonality.

Warmer climates will also increase evapotranspiration. The projected impact on crop yields in Asia is negative for wheat, maize, and soy-bean, and mixed for rice. Afghanistan will see amongst the world's highest stresses for wheat production (*ibid*: page 2830); of the four countries, it sees the highest overall risk to rain-fed agriculture (*ibid*:2836). All four countries will see increased human productivity losses due to heat (*ibid*: 2842) and temperature-related mortality rates (*ibid*: 2843).

Glacial melting and reduced snowfields will have substantially detrimental long-term consequences on Afghanistan and Nepal, while sea-level rise will render many coastal areas of Bangladesh and Myanmar unproductive (due to high salinity) and eventually uninhabitable.⁵

Climate-induced migration is already a major issue that will grow dramatically in scale by mid-century.⁶

4. The ultimate effects of climate change on communities is dependent on a complex interplay with other root causes such as structural vulnerability and environmental degradation.

For climate hotspots in Nepal and Bangladesh, problem trees were prepared on the basis of inputs from community members on observed changes. These illustrate a complex interplay between climate change, environmental degradation, and other factors.⁷ (*see fig.2*)

Greater variability and more frequent weather extremes induced by climate change requires better protection and bigger buffers. Intact ecosystems can provide these functions, but where they are degraded, their functions diminish when they are needed the most.

There is a 'positive in the negative', as local factors such as unsustainable natural resource management can be addressed directly (there is direct leverage over local risk factors).⁸

Climate resilience programming should seek to eliminate or reduce local risk factors while helping to adapt to those directly induced by climate change.

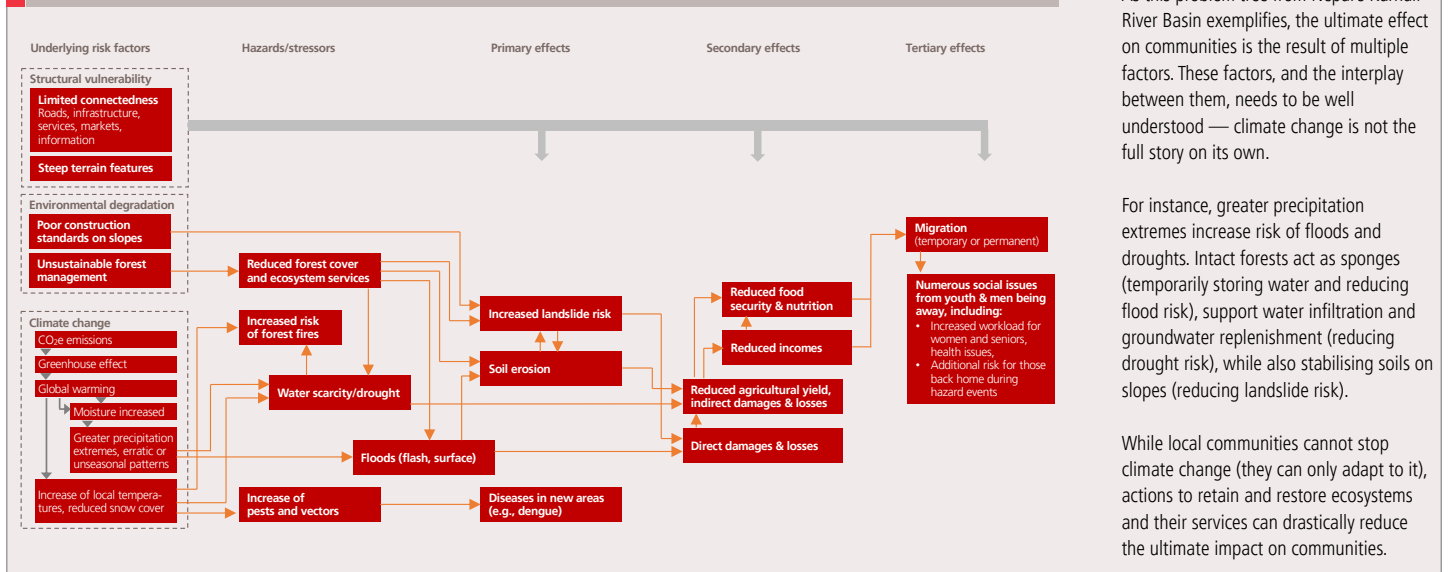
5. There is serious risk of maladaptation, and several cases of maladaptation have been observed.

In all visited communities, people have heard about climate change and were able to explain some of its manifestations. At the same time, the understanding of the physics, its interplay with other factors, and of ways to adapt to climate change are limited. The common combination of observed impact and incomplete knowledge of causes is a breeding ground for maladaptation and sub-optimal adaptation outcomes.

In Sunamganj (Bangladesh), one farmer recommended that the best way to reduce riverbank erosion was to increase the level of dredging. In Satkhira (Bangladesh), the move to aqua-farming was initially proposed as an adaptation measure.

And in all four countries, a common 'solution' to address water scarcity is to drill deeper wells (rather than making water use more efficient), with severe consequences for humans and for nature. Climate resilience programming must strengthen the community understanding of observed changes, combine local knowledge and traditional practices with science, and be based on holistic approaches to prevent maladaptation.

Fig. 2 | The interplay between climate change, environmental degradation, and vulnerability



As this problem tree from Nepal's Karnali River Basin exemplifies, the ultimate effect on communities is the result of multiple factors. These factors, and the interplay between them, needs to be well understood — climate change is not the full story on its own.

For instance, greater precipitation extremes increase risk of floods and droughts. Intact forests act as sponges (temporarily storing water and reducing flood risk), support water infiltration and groundwater replenishment (reducing drought risk), while also stabilising soils on slopes (reducing landslide risk).

While local communities cannot stop climate change (they can only adapt to it), actions to retain and restore ecosystems and their services can drastically reduce the ultimate impact on communities.

6. The governments' policy response is very strong in Nepal and Bangladesh, and very limited in Afghanistan and Myanmar. In terms of the quality and scope of policy responses, there is a neat dichotomy between the four countries.

In **Nepal** and **Bangladesh**, the governments have prepared excellent National Adaptation Plans (NAP) and a rich set of underpinning policies and compounding frameworks.

Although there are considerable implementation gaps (ambitious plans must be funded and implemented), these serve as strong entry points when devising country-level climate resilience programmes. DRC country teams are encouraged to read and use them when meeting key government agencies.

In **Afghanistan** and **Myanmar**, the effective policy response is limited, and the two new authorities face countless challenges that supersede climate change on the list of priorities.

Previous governments had done much groundwork, and many experts remain in lower levels of bureaucracies. However, in terms of public entry doors, the scope is much more limited and likely to be restricted to informal processes.⁹

7. All Host National Societies already work to strengthen climate resilience. While scope and depth varies greatly, stronger foundations are required.

All National Societies in the four countries have done some work related to climate change. This includes a climate resilience project in **Afghanistan's** Herat and Samangan provinces (supported by IFRC and funded by Japanese Red Cross), an urban heatwave early action project in **Myanmar's** Yangon Region (supported by

German Red Cross), and a climate resilience project in Mandalay Region (supported by IFRC and Finnish Red Cross), as well as a long list of projects in **Nepal**¹⁰ and **Bangladesh**.

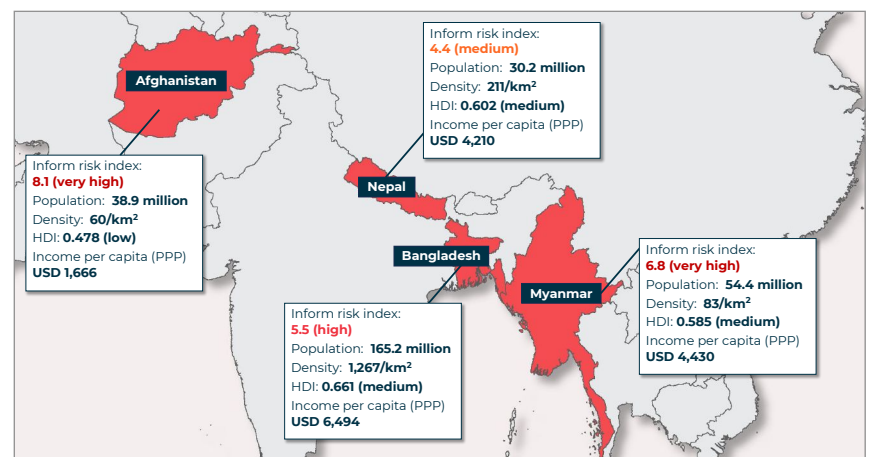
The level of climate expertise varies between National Societies and is topped by Nepal Red Cross Society (NRCS) and Bangladesh Red Crescent Society (BDRCS), who are both in the process of developing their climate change strategies. Nevertheless, all National Societies — including Danish Red Cross — have requested and would benefit from capacity strengthening in terms of knowledge, networking and approaches to better address the climate and environmental crises. A more solid foundation in this regard is seen as a crucial precursor to climate resilience programming.

8. The current country portfolios of Danish Red Cross offer a good range of entry points for strengthening work on climate resilience.

In all four countries, Danish Red Cross is a respected Red Cross/Red Crescent Movement partner and Partner National Society. It is acknowledged for its expertise in health as well

9. In Afghanistan, visits to the Ministry of Public Health and the National Environmental Protection Agency (NEPA) were insightful: in both agencies, the respective leaders were open and keen to discuss climate change and possible opportunities. NEPA officials had very detailed knowledge and were eager to share their pre-2021 work products.

10. In Nepal, DRC has supported NRCS for many years in implementing DRR projects. These included components on climate change adaptation and, more recently, anticipatory action.



as in mental health and psychosocial support (MHPSS), anticipatory action (Nepal), in community-based DRR and its approaches fostering social inclusion and links to local governments.

All country profiles offer entry points for climate resilience programming. In Bangladesh and Nepal, there is particular scope for ambitious and long-term action.

Movement ambitions

The Red Cross and Red Crescent (RC/RC) Movement has expanded its programmatic focus over past decades and now treats climate resilience as one of its strategic priorities.

Concrete efforts include IFRC's Global Climate Resilience Programme (that includes Nepal, Bangladesh, and Myanmar) as well as projects in all four countries led by IFRC and/or Partner National Societies. These projects vary in scale, scope, focus, and approach. **Anticipatory action (AA)** features in some of them (Nepal, Bangladesh, Myanmar), while the integration of **nature-based solutions (NbS)** is being prepared in Nepal and Bangladesh.

Danish Red Cross addresses several aspects related to climate resilience in its International Strategy 2022-25. These include health, disaster management (with a focus on anticipatory action), and inclusion/protection (with a focus on displacement and migration).

Regional programme outline

This study proposes that Danish Red Cross rolls out a modular regional programme over a **timeframe of ten years** (see fig. 3).

Its **five building blocks** (**block 1**: foundations, **block 2**: broad starters, **block 3**: community resilience, **block 4**: landscape resilience, **block 5**: climate migration (cross-cutting)) are designed with a logic of progressive growth (rather than sectors) and that can be contextualised for each country. Comparative strengths of DRC should be treated as foundations for each of them.

Block 1 seeks to strengthen the **internal capacities** of Host National Societies and DRC country delegations required for climate resilience programming. This includes efforts to develop, strengthen, and nurture local **partnerships** and networks.

Block 2 entails the use of 'broad starters' — awareness-raising campaigns coupled with small actions that demonstrate the effects of climate change and environmental degradation, while offering easy actions that can be implemented at

scale through existing entry doors (such as branches, health teams, and youth clubs).

Block 3 includes typical community-based projects. Here, the focus is on a) retrofitting current projects with the integration of aspects that foster climate resilience, as well as b) the development of new projects that are holistic in their approach.

Block 4 envisages longer-term efforts developed at landscape scale, and in strong alignment with government frameworks.¹¹ These will typically cover multiple communities connected by landscapes and may include NbS. Such broad efforts will be complex in governance and implementation but are seen as more effective and sustainable in addressing root causes of climate vulnerability.

Block 5 seeks to address the negative effects of climate migration and displacement, through efforts that promote safer migration, better access to services, and more beneficial outcomes for migrants and communities. Block 5 is envisaged as a cross-cutting aspect that can be embedded into efforts under blocks 1-4.

Country contexts

In **Afghanistan**, the current context effectively rules out formal partnerships with non-Movement actors. Here, DRC should focus on internal capacity-strengthening (block 1) and the roll-out of a 'water wise' campaign that promotes the efficient and safe use of water (block 2).

In **Nepal**, the policy and partnering context offers fertile ground for ambitious climate resilience programming. This should be centred around the Karnali River Basin, an identified climate hotspot in western Nepal.

In **Bangladesh**, an equally strong enabling environment provides the foundation for ambitious programming. Both coastal Satkhira and inland Sunamganj — the two identified climate hotspots visited for this study — would represent suitable programming areas.

In **Myanmar**, opportunities are currently limited due to operational constraints. Block 1 and 2 activities should be pursued initially in current project locations in Kachin and Shan States. Further engagement should consider Bago and Ayeyarwady Regions on the basis of risk and access considerations.

Strategic adjustments

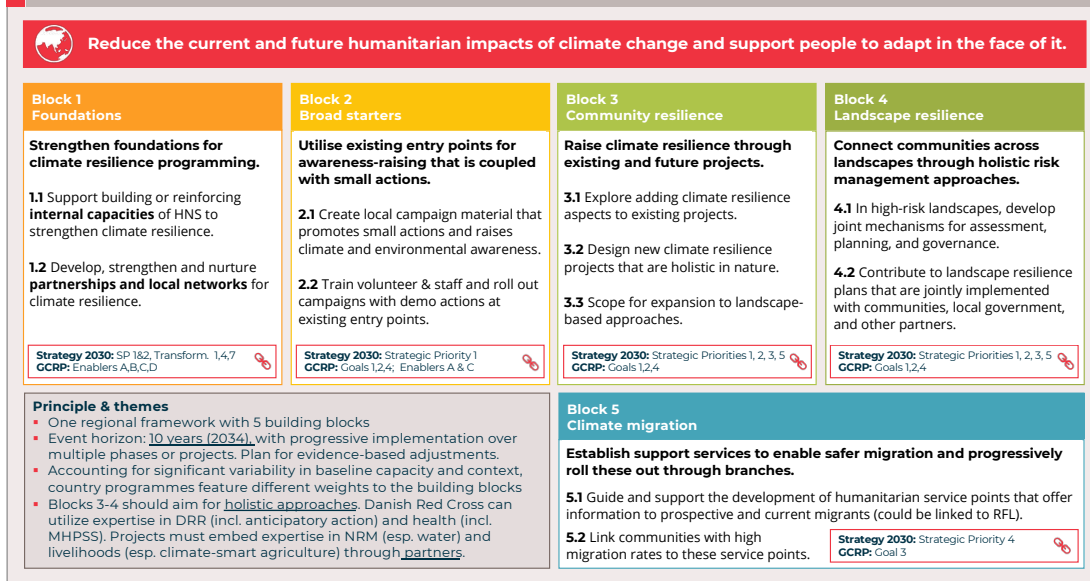
In order to maximise its effectiveness in climate resilience programming, the study suggests that Danish Red Cross should explore four areas of

11. Landscape-based approaches seek to reduce risk at a broader level and typically target multiple communities that are connected by a shared landscape and ecosystems.

Compared to projects that target individual communities, landscape-based approaches can also address risk factors that are beyond the control of individual communities. They account for the interdependencies between areas linked by a common landscape.

For instance, reducing forest degradation or replenishing groundwater aquifers for flood and drought mitigation requires efforts that are pursued across multiple communities in a landscape.

Fig. 3 | Proposed outline of the Regional Climate Resilience Programme



strategic adjustment, thereby extending or modifying its International Strategy:

- ▶ **focusing more on livelihoods** in terms of strategy and internal expertise (because to a large part, climate resilience is about resilient livelihoods);
- ▶ further **embracing partnerships** with actors that offer complementary expertise (because climate resilience requires holistic programming, and will need expertise in ecological assessments and multi-faceted solutions);
- ▶ **thinking longer-term**: addressing root causes of climate vulnerability necessitates master-planning that goes beyond the timeframe of most DRR projects; and
- ▶ **exploring new sources of funding**. There are several funding sources that DRC should utilise, in particular for Block 4 activities. However, these will require some initial investment and preparation.

Further programming guidance

The study proposes six critical points that should be considered when developing the new regional programme.

A. One size does not fit all:

The imperative for locally-led solutions

The 'regional-ness' of the new programme should not be over-emphasised: while all actions should contribute to the overarching goal of greater climate resilience, the regional frame should be treated as a catalogue from which to choose some key items, and then to customise these items as needed. It should share basic principles but retain flexibility for local innovation.

The present study should be seen as a scoping effort, rather than a needs assessment. The actual time researchers were able to spend in 'hotspot' communities was enough to get a good idea of patterns and trends. However, it does not replace a robust assessment of needs, challenges and possible responses.

Every community is different, and every community must be enabled to co-design solutions in partnership with DRC, Host National Societies, and relevant experts.

B. No quick solutions:

Master-plan for the long haul.

Looking at climate projections on the one hand and at the interplay with environmental degradation and vulnerability on the other, and considering the imperative of holistic approaches (lines of defence¹², multiple sectors and hazards), there is enormous need and potential for programming to make a tangible difference to 'climate hotspot' communities.

Where feasible (currently in Nepal and Bangladesh), DRC should be ambitious in moving towards holistic and landscape-based approaches that are best suited to tackle some of the root causes, and to adapt to others.

Yet, this will take time, funding, and commitment to systematic partnering and internal capacity development. While there is clear potential in Nepal and Bangladesh, neither Nepal Red Cross Society nor Bangladesh Red Crescent Society has experience in landscape-based approaches, and networking with environmental actors is in its infancy.

The proposed outline assumes a timeframe of ten years and envisages progressive growth,

¹² The lines of defence model classifies groups of actions that can be taken to reduce the impact of hazards and stressors on communities.

The lines of defence are:

- ▶ **reducing exposure** (e.g., restoring the functionality of ecosystem services);
- ▶ **decreasing sensitivity** (e.g., through more climate-resilient crop types and cropping patterns);
- ▶ **improving preparedness** (e.g., strengthening capacities of response teams and early warning systems);
- ▶ **enhancing coping capacity** (e.g., through weather index-based agricultural insurance and anticipatory action);
- ▶ **lowering social vulnerability** (ensuring that nobody is left behind and fostering cohesion and inclusion); and
- ▶ **raising adaptive capacity** (ensuring that communities have resources and processes in place to retain and improve their capacity to adapt to stressors).

developing internal capacities and networks first, and gaining further climate resilience experience at the community level.

It is suggested that DRC considers master-planning, rolling out climate resilience programming step by step.

C. Start here:
utilise existing **entry points**

In all four countries, there are suitable entry points to get started. These include the units involved in current projects, such as youth clubs, medical teams, branches, the *marastoons* (social entities in Afghanistan), heatwave volunteers (in Myanmar), and the structures in place in the context of anticipatory action/DRR projects (in Nepal).

Here, internal capacity strengthening and awareness campaigns on climate-related issues (such as on the efficient use of water or on heatwaves) can be coupled with small actions that demonstrate or help reinforce these practices (e.g., kitchen gardens with drip irrigation and rainwater harvesting).

DRC's community-based projects can form similar entry points — if additional funding can be secured, these could be modified to introduce aspects like climate-smart agriculture or soil conservation. Consider using the lines of defence model to scan for gaps (which lines are not yet addressed?).

D. Align where you can:
harness **enabling environments**

In **Nepal** and **Bangladesh**, the strong enabling environments for climate resilience pose a perfect opportunity for ambitious actions. This includes not just the National Adaptation Plans and policies, but also a broad set of committed actors from government departments, research institutions, NGOs, civil society organisations, and international organisations.

DRC delegations in these countries should explore the plans and align programming with these frameworks, investigating how the auxiliary role of Host National Societies could be enacted.

In **Afghanistan** and **Myanmar**, the conditions should be monitored closely to harness opportunities as they arise.

E. Partner, network, grow: Nurture networks to address root causes at scale

Addressing the main issues and root causes of vulnerability requires holistic approaches, and reduces the risk of maladaptation.

But neither DRC nor Host National Societies have, or need to have, the full set of technical expertise on issues like crop insurance, ecosystem assessments, reforestation, or the design of recharge ponds.

What they need to have is the willingness to explore new partnerships with actors that have this expertise.

The study lists numerous possible partners, and some advances to partnerships have been made. Some of the Danish NGOs, such as Danish Refugee Council and Dan Church Aid, as well as WWF and Care, would also make suitable partners. Host National Societies and DRC bring a lot to the table that others don't have — notably, a large volunteer base and strong experience in DRR.

Reaching out and developing new partnerships and exchanges with actors outside the Red Cross/Red Crescent Movement is seen as critical for activities under Block 3 and 4 of climate resilience programming.

F. Get funded: Widen the donor base

Money talks, and funding is essential to put words and ambitions into action. While DRC receives core funding from the Danish Ministry for Foreign Affairs (MFA), climate resilience programming offers the opportunity to widen the donor base to include some of the funds specifically geared to strengthen climate resilience.

Undoubtedly, this will necessitate some groundwork, as these sources come with their specific eligibility and accreditation requirements. DRC should work with Movement partners in Nepal and Bangladesh to explore these funding opportunities. IFRC can assist in this context, both through its Asia Pacific regional office and the Global Climate Resilience Platform.

For **Myanmar** and especially for **Afghanistan**, funding opportunities are likely to be limited for the foreseeable future; here, a case may need to be made to the Danish MFA for increased funding.