What is climate-smart programming and how do we achieve it?

IFRC and Red Cross Red Crescent Climate Centre
March 2020

Introduction

The humanitarian system is under pressure from climate impacts that are aggravating existing vulnerabilities such as poverty, conflict and displacement, requiring a long view from humanitarian organizations and donors.

It is the stories and evidence from our staff and volunteers worldwide that are now capturing the world's attention and providing the backdrop for international policy processes – stories from places that are becoming entirely uninhabitable, of coastal areas now too risky to live in, and from farmers who do not know how to feed their families.

A combination of deep concern and powerful voices demanding change placed climate change at the top of the agenda for 33rd International Conference of the Red Cross and Red Crescent in December 2019. The rapidly rising demands on the Red Cross and Red Crescent humanitarian system mean we have to engage in climate-related policy dialogues and scale up climate-smart programming around the world.

As emphasized in the International Red Cross and Red Crescent Movement's *Ambitions to address the climate crisis*, the scaling up of climate-smart programming is key. This is echoed in the IFRC's *Strategy 2030*, focusing on 'integrating climate risk management across all of our programmes, operations and advocacy'.

The ambitions call for further guidance on the practical aspects of climate-smart programming for National Societies, and that is the aim of this note. In Section 1, we start with the concept of *climate-smart* for the Red Cross Red Crescent.

1. What is climate-smart programming?

There is no universally accepted definition of 'climate-smart programming'. It equates simply to 'good and sustainable programming' supporting development and enabling people to anticipate, absorb and adapt to climate shocks.

It stresses the need to use climate information across timescales, considering landscapes and ecosystems as key areas of intervention – all in close collaboration with governments, specialists and the private sector.

Most of our development, preparedness, response and recovery work is affected by climate variability and change, such as more intense rainfall, prolonged droughts, more intense storms and heat waves. We must adjust to the new context of increased uncertainties, growing vulnerabilities, scarce resources, future trends and long-term change in general.

For the humanitarian and development sectors, **climate-smart programming means that planning is not only based on past and current risks, but also prepares for future changes and variability** (see Table 1). It is ironic that the best way to explain what climate-smart means is to indicate what would fail if we don't make our work climate-smart.

We have seen examples of government or private investors establishing irrigation schemes in rivers that go dry, for example, or drinking water tanks that get flooded. It is these types of unsustainable practices that fail to allow for what is likely – even in the near future – and hence fail to be climate-smart.

Climate-smart	Climate-smart programmes and initiatives that strengthen peoples' awareness and incorporate climate and weather information in assessing and addressing climate risks and vulnerabilities. They enable early warning early action and empower people to anticipate, absorb and adapt to climate shocks and changing risks (see the 2013 *Minimum Standards* for detailed guidance for community-level programming).
Climate-aware	Programmes and initiatives that use climate and weather information and include educational elements to raise people's awareness of climate risks. They are an important first step in climate-smart programming, short of systemic action based on climate and forecast information.
Climate not considered	Programmes and initiatives that have not considered changing climate risks or made use of climate and weather information. This may be deliberate because climate may not be affecting the particular activity, or it may be due to lack of capacity or resources.

Table 1. Levels of integration of climate change in our work.

Green response and mitigation of carbon emissions are also part of climate-smart programming. We will continue to prioritize disasters as a humanitarian organization, but it is important that different trade-offs are explored by National Societies for greener solutions in their work. We need to increasingly embrace interventions that reduce risks and vulnerabilities for people, through providing environmental solutions that could reduce emissions and increase quality in ecosystems, waste, energy, water and forests.

In addition, the Movement aims to play its part in reducing carbon emissions and greening our own ways of working, contributing to limiting the long-term impacts of climate change on vulnerable people and the planet. Climate mitigation is an obligation on us all. We need to continue to innovate and explore new types of climate mitigation programming in communities, which could become strategic components of humanitarian operations or part of long-term programmes. These aspects are described in section 5.

The following sections of this paper will elaborate on preparatory steps, planning, implementation and complementary actions to enable an environment for climate-smart programming that is applicable to the entire humanitarian-development continuum, as exemplified below and in the IFRC's *Framework for Climate Action Towards 2020*.

2. What steps will make our work climate-smart?

The practical guidance below supplements the examples on climate-smart programming listed in the Annex (see pages 37-41) to the *IFRC Framework for climate action towards 2020*.

2.1 Assessing how climate may affect people, vulnerability - and our work

A starting point for a National Society is to assess how current and expected changes may affect vulnerability and hazard patterns in their respective country or in a project area, and use this information to inform prioritization within and amongst programming and initiatives (Fig. 1). The assessment may draw on publicly available information on climate trends and projections - maybe supplemented by a specific request to national weather agencies – coupled with the National Society's own insights into disasters and vulnerability patterns from recent disaster needs assessments and community programmes, if applicable.

Below are the types of broad questions that should be guiding the National Society when assessing changes in of climate risks and how to adjust National Society programming:

- What are current climate trends and how could extremes develop?
- Which hazards and risks (*see* Figure 1) are changing most and how does this affect vulnerabilities?
- What sectors and which vulnerable people will be most affected in a changing climate?

- What early warning systems exist and which stakeholders are active with them?
- What institutional changes may National Societies consider? (for instance, having a climate change focal point that can coordinate collaboration across departments and with Hydro-Met Service, having Early Action Plans in place, etc.)
- How can disaster risk reduction (DRR) and preparedness for response in general be reinforced?
- Do legal and policy frameworks take weather and climate into account?
- Are existing funding models adapted to climate change and changing risks?

The assessment and the questions above apply to the overall National Society planning and programming. For getting started on collaboration with the weather agencies, the guidance note *Collaborating with national climate and weather agencies: a guide to getting started*. More specific tools exist for community-based efforts and will be listed below.

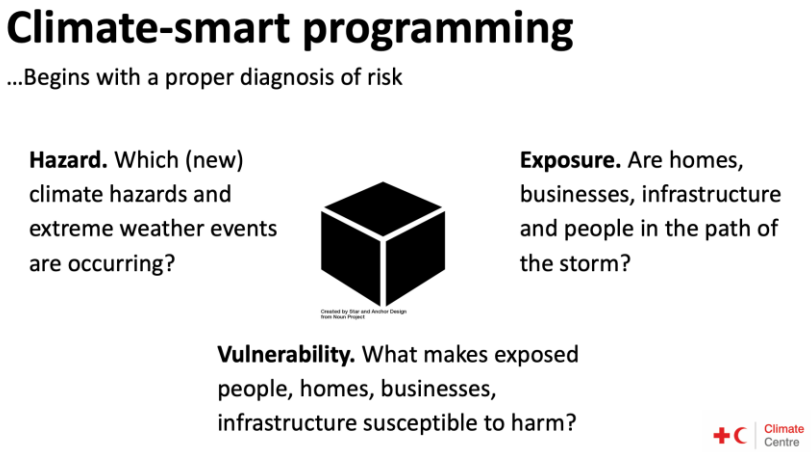


Figure 1. Risk as a combination of hazards, exposure and vulnerabilities

2.2 Planning and implementation

Overall, climate-smart programming is about adjusting all the National Society's activities and plans so they can face new weather conditions and extremes.

This includes ensuring that staff, volunteers and vulnerable people are not taken by surprise by extreme weather. A key aspect is making use of weather forecasts (days, seasonal) and climate projections (years and decades) and investing in capacity building for people to access, understand and translate those warnings at different time scales to practical actions. This applies to whatever programmes the National Society is implementing or supporting: Humanitarian response and recovery operations, long-, medium- and short-term risk reduction and disaster preparedness, livelihoods planning, WASH and disease prevention etc. All need to be scaled up in the face of climate change, taking climate risk-information into account. Examples are provided below.

2.3 Monitoring and evaluation

Since climate-smart programming is often experienced through 'learning-by-doing' within National Societies, learning, monitoring and evaluation are important components to ensure the activities are not just 'business-as-usual' but actually adjusted based on available evidence and projections of changing risk patterns. We encourage 'learning-by-doing' and exchange of knowledge, experiences and skills.

2.4. Disaster management - and Preparedness for Effective Response (PER)

Climate-smart disaster management means including scenarios that consider climate trends and weather extremes, and ensuring that proposed measures take these into consideration. Anticipatory action is a key element of being climate smart. The impacts of extreme weather events can be reduced if preventive action is taken before the events hit, based on forecasts. This requires applying the *early warning, early action* approach in disaster preparedness planning (see further below for Forecast-based Actions).

One of the most obvious entry points for climate-smart disaster management is the process of developing contingency plans for new or unprecedented weather extremes (see *IFRC Contingency Planning Guide*); relevant questions to consider include:

- What is a realistic worst-case scenario for a disaster considering the new weather extremes projected for the region?
- What preparedness and planning measures could address new extreme scenarios?
- Review location of humanitarian warehouses: would they be safe and accessible in case of unforeseen extreme events?
- Is there a need for training more volunteers to assist in rescue and relief operations in case of new extreme events?
- Do we need to establish volunteer teams (and conduct early warning awareness raising with inhabitants) in new areas that have been relatively safe in the past, but may be at risk in case of new extreme events?
- Are planned sites for camps for refugees or displaced people safe from extremes such as floods or storm surges? How would the planned shelters feel in extremes of heat or cold?

It is also key to consider climate-smartness in relation to the broader preparedness efforts under *IFRC's Preparedness for Effective Response (PER)*. The elements of the PER where climate-considerations are most relevant to consider are marked in Figure 2 below. In the Climate Training Kit and other sources offer further guidance on how to consider climate in the highlighted areas.

In addition, specialised anticipatory actions are being developed and under scaling-up: With IFRC's fund for early action (called *Forecast-based Action by the DREF*), funding and pre-defined early actions can be triggered prior to a potential disaster as part of the *forecast-based financing* approach (*see* this German Red Cross *manual*).

In relation to ***post-disaster recovery***, safe zones – also for new extremes – need to be considered before rebuilding or relocation, e.g. shelters on higher ground or platforms in flood-prone areas. The WWF/American Red Cross *Green recovery and reconstruction guidelines* provide guidance for integrating climate adaptation into project design, water and sanitation projects and construction projects for post-disaster recovery programming. In addition, a PER environmental sustainability guidance is under development.

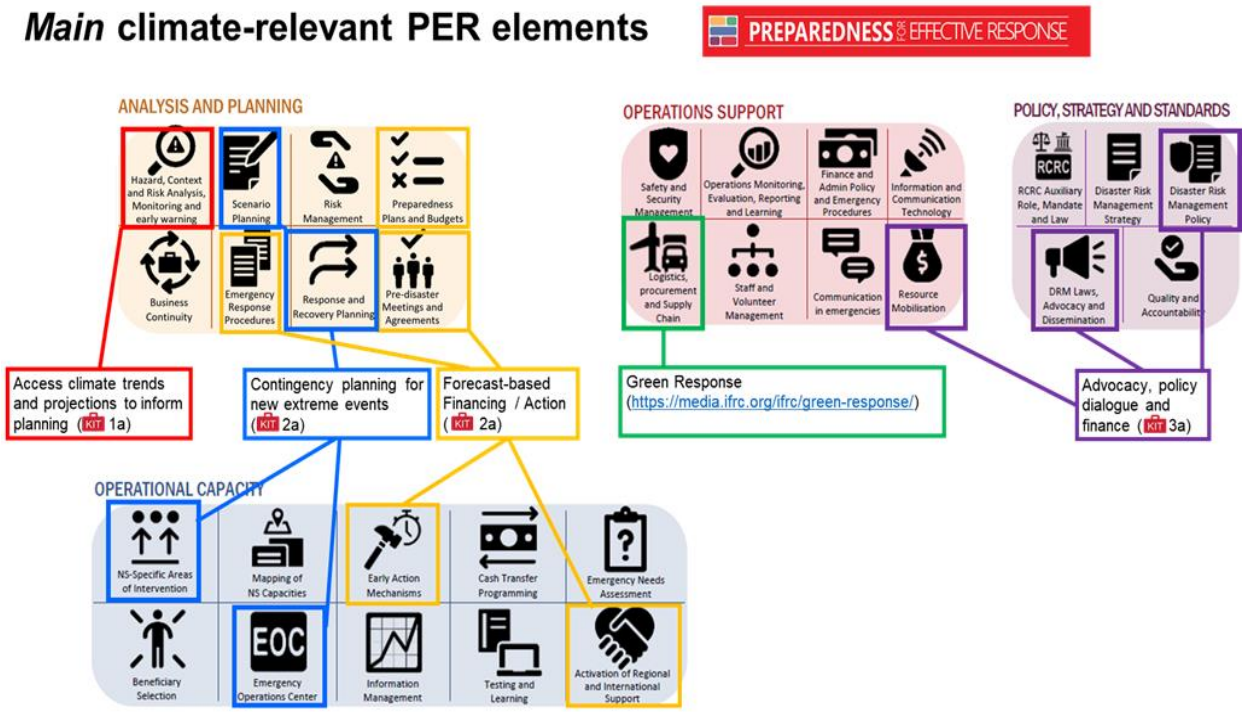


Figure 2. Main opportunities for integrating climate considerations in the PER efforts

2.5. Long term community resilience

For long term community resilience programming, it's important to ensure that they are based on assessments that include the future-climate and ecosystem lens as incorporated in the IFRC's enhanced Vulnerability and Capacity Assessment (EVCA) guidance. Conducting an EVCA also provides local evidence of patterns of vulnerability and adaptation needs which the National Society can carry forward in their advocacy work (see below). When using other assessments tools, e.g. the participatory assessments used in CBHFA programming, seeking inspiration in the EVCA can help climate-smart programming in other areas of work.

The findings on vulnerability can then be considered in relation to weather and climate patterns on which scientists can now provide good information (if not for a specific locations).

It's important to collaborate closely with national agencies providing meteorological and hydrological services and others. (See the Climate Training Kit, Modules 1a, Science and impacts and 2c, Community resilience and climate.)

Climate-smart community planning (*see Figure 3 below*) – based on EVCA or similar assessments – needs to take into account new or changing extreme events along with the changes in exposure and vulnerability, including:

- Risk reduction and adaptation measures can then be designed from an understanding of climate trends, backed up by strengthened capacity to act on forecasts.
- Stakeholders, partners and vulnerable groups can be supported in understanding *early warning, early action* – and the associated community preparedness measures such as team training, evacuation plans and WASH infrastructure can be developed with new extremes in mind.
- Risk reduction hardware 'micro-projects' in community plans should be designed with the best technical advice available, to withstand new or more intense extremes (*see* examples and exercises C and D in the *Climate Training Kit*, *Module 2c, Community Resilience and Climate*, which also includes further reading and materials).

Community resilience projects that ignore climate projections and extreme uncertainty may be undermined and create a false sense of safety and security. For example, an irrigation scheme might stop functioning along a river that goes dry, or rising sea-levels or flash floods may jeopardize sustainability of drinking water projects.

Another important elements is for communities to have an opportunity to explain their particular adaptation needs to local government; National Societies can help sharpen focus on the most vulnerable and marginalized people.

The 2013 *Minimum Standards* is a practical checklist to help local community leaders and National Societies ensure their community resilience efforts are climate-smart.

2.6. Reducing our environmental footprint - 'greening' our operations Greening

The Red Cross Red Crescent Movement is aiming to reduce its carbon emissions and make progress in greening our ways of working, reducing our CO2 footprint and playing our part in limiting the long-term impacts of climate change on vulnerable people and the planet.

Climate mitigation is an obligation for of our organizations. In many cases, green solutions are cheaper to sustain and less environmentally harmful; much of our work on disaster resilience includes benefits from ecosystem services like clean water or nature-based measures to control floods and erosion.

This helps to reduce risks and strengthen livelihoods, but can also help to reduce greenhouse gas emissions – when planting or protecting trees, for example.

Our focus will always be on interventions that reduce risks and vulnerabilities for people, but where possible we give special consideration to win-win solutions that also reduce carbon emissions.

Among our efforts to reduce our carbon footprint is the *green response*, while programmes such as Partners for Resilience also apply *ecosystem criteria*. Green Response is a way in which we, as a Red Cross Red Crescent Movement, approach our work that emphasizes stronger accountability towards affected populations by actively promoting alternative, more environmentally beneficial solutions in addressing needs. In short it is about extending the fundamental humanitarian principle of 'do no harm' to the environment and ecosystems which the people we seek to assist are reliant on, recognizing that sustainability is generated through environmentally sound actions. Mainstreaming Green Response in operational contexts can facilitate a swifter recovery and builds on established mechanisms in the communities – with a further opportunity of enabling more innovative, environmentally sustainable solutions to be promoted and established.

Many National Societies have been promoting nature-based solutions such as the IFRC's Caribbean *Resilient Islands* project, inland reforestation in *Kenya to reduce slope erosion and water runoff*, or mangrove planting in *Indonesia* and *Vietnam*.

A 2011 IFRC study of Vietnamese Red Cross coastal afforestation found that every year it compensates for the average emissions of 425,000 people. This is surely a great example of win-win-win-win activity – reducing disaster risks while providing adaptation, mitigation, livelihoods and health benefits. The IFRC is a member of the *Global Mangrove Alliance* which will also allow us to strengthen our work onm nature-based solutions. More broadly, watershed and wetlands management is key to limit the damages from floods and storm surges. Coastal wetlands, such as mangroves noted above, protect against flooding and serve as buffers against saltwater intrusion and erosion. Inland wetlands such as floodplains, lakes and peatlands absorb and store excess rainfall, which reduces flooding as well as delaying the onset of droughts by storing water. Protecting the watershed can help sustain the water source, and provide other services such as water retention and filtration; the *training kit for green recovery and reconstruction* provides a chapter on using a watershed management approach.

Climate-smart community planning – a quick guide

Climate Centre

INTERNATIONAL FEDERATION

Scientific information

Past weather trends, including seasonality (Insert your *National* level & *Local* level data, if possible, from nearest weather station, through your Met Service):

- Increased average temperature and no. of warm days
- Increase / decrease in total annual rainfall
- Increase in number of days with heavy rainfall
- etc.

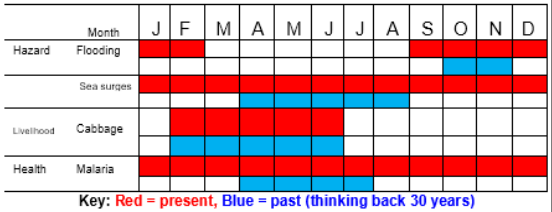
Future changes *(future projections for coming decades for country/ region – cannot zoom in on target area):*

- Further increases in average temperature and frequency of 'hot days'
- An increase in extreme rainfall events will be 'very likely'
- Sea-level rise, if relevant, etc.

Community information – assessment tools

Seasonal calendars document seasonal shifts in weather, hazards, health and livelihoods

Example of Seasonal Calendar



Key: Red = present, Blue = past (thinking back 30 years)

Guiding questions for analysis:

- What were the observed changes in the seasonal events such as weather, hazards, livelihood, health problems, etc.?
- If there were changes in the seasonal cycle, what actions has the community taken or is considering?

Comparative mappings identify community growth, areas impacted by different hazards, changes in water sources etc. Also, external ("upstream") factors beyond community control should be discussed/noted.

Guiding questions for analysis:

- What are main changes in community's environment and land use?
- What are the "old" and "new" areas affected by different hazards?
- Are there any changes in the exposure?
- What are the hazards experienced by the community due to the external factors?

Historical Profiles identify changes in frequency and intensity of hazardous (and other) events.
Guiding question: Have any hazards become worse or more frequent over time?

Livelihoods Analyses identify changes in peoples' livelihoods, some of which may be (significantly) affected by variations in rainfall patterns etc. but also by social and economic factors.

Hazards – Vulnerability – Capacity Matrices capture e.g. existing early warning methods, which elements are currently most at risk, and how hazards and disasters are normally dealt with (current practices are basis for improvements and scaling up).

Questions to guide the Planning

- Does the information people report match the scientific climate information? (If not, then the reported changes may have other reasons than climate change, and climate projections are less helpful in the planning – *see example in table below*)
- How is climate change likely affecting existing risk patterns?
- If the trends observed by communities and science continue, how may risks shift in the future?
- How do people normally deal with the challenges? Can existing practices be adjusted and scaled up to handle more frequent and more severe events?

***Example* of assessing climate versus other causes of observed changes**

Changes observed by the community	***Possible reasons for changes***	
	Evidence based on scientific information	Other factors that may explain observed changes
Example 1 Sea eroding the coastline	Sea level rise 4 mm per year in the region	Some sand mining along the coast
Example 2 Getting hotter in the summer	Temperature rising, more hot days recorded	none
Example 3 Flooding more often, higher	Meteorological office reports that no change in extreme rainfall events	Logging intensified upstream, probably affecting flow

Advocacy

Use the evidence gathered to:

- Stimulate community 'demand creation' towards local authorities on the need for assistance to meet increasingly challenging conditions
- Help develop government priorities (climate adaptation planning) so climate change adaptation funding reaches people in at-risk communities

Community resilience plan elements (*examples*)

ACTIONS TO ADDRESS CHANGING RISKS

Community disaster preparedness plans:

- Contingency plans and SOPs not only based on past disaster events and hazards knowledge, but prepare for more extreme events
- Early warnings (awareness and practice) enhanced – start with available public weather and climate forecasts

Shelter and small- scale infrastructure measures:

- Design with new extremes in mind; seek technical assistance, and understand the local building materials and their markets to gauge their effects on the environment and local (natural) resources
- Consider (supplementary?) sustainable 'bio-engineering' alternatives to maintenance-demanding concrete solutions

Water, sanitation and hygiene (WASH):

- **Water quantity**: Diversify the water sources, increase water storage, manage better available water (water conservation, rainwater harvesting…)
- Water **quality**: Improve resilience of wells to flooding, treating water at HH level
- Sanitation **and hygiene**: Raised pit latrines, septic tanks, relocation of latrines.

Livelihoods and basic needs:

- If challenges are agriculture, help communities seek external advice for adapting to changing water/temperature conditions towards government extension services, or assistance from specialised NGOs
- Argue for *livelihood diversification* or *agricultural diversification* – not only shifts to new crops – to prepare for more a variable future

Health:

- Build on and adjust existing effective health outreach programmes and encourage scale-up of successful health practices to existing and/or new geographical areas to address new or emerging (vector/water/food//heat related) health risks.

Displacement:

- Design actions that alleviate pressures and minimise permanent displacement, e.g. environmental degradation that make living conditions increasingly precarious or livelihoods eroded.
- Where planned relocations or permanent displacement is foreseen, ensure both voices of those relocated and host-communities are heard in assessing changing risks and related decision-making processes.

Figure 3. Climate-smart community planning – a quick guide

Climate Centre IFRC

3. Strengthening the enabling environment for climate-smart programming

In order to ensure our climate-smart programming is sustainable and leads to broader institutional changes, we need to engage with many different actors, engage in policy dialogues, strengthen capacities and raise awareness about the urgency of climate change.

3.1. Advocacy and dialogue on policy

National Societies gain a lot of insights on vulnerabilities and adaptation needs through the regular interventions with volunteers and people at risk. These perspectives can be used to contribute to policy and planning processes and to advance our in advocacy work. In particular, National Societies could:

- Present learning and evidence from community assessments, resilience planning and disaster assessments to policy-makers to demonstrate that local climate-smart disaster risk reduction and early warning early action need to be included/integrated in local and *National Adaptation Plans*.
- Engage in dialogue with authorities for the potential development of disaster laws and policies that include perspectives on climate change.
- Initiate partnerships and dialogue with actors who can support climate-smart programming. Which ones are already investing in climate change adaptation? Which ministries or other agencies are active?
- Is the private sector engaged? Is there already a good working relationship with agencies providing hydrological and meteorological services?

The *Climate Training Kit's Modules 3a and 3b* offer material on climate-related policy dialogue and partnerships, including a new working paper on *companies and resilience*.

3.2. Capacity strengthening and awareness raising

Apart from the internal capacity building of leadership, staff and volunteers in the National Societies and other Movement entities on climate-smart approaches, we should ensure vulnerable people are aware and prepared for changes to come and, more broadly, the public is aware of the need for adapting and how to contribute to reducing carbon/environmental footprints:

- Invest in awareness raising on how to access, understand and translate forecasts and early warnings into effective early actions.
- To raise awareness, consider 'out-of-the box' ideas like art and games; or appoint 'ambassadors' who can spread your message.
- Mobilize volunteer and youth groups; a dedicated curriculum called *Y-Adapt* is available for National Societies to empower youth to take action. In addition, interactive methods like *flash mobs* and 'tactical urbanism' can motivate them still further.

In capacity strengthening, it is also important to be mindful of two critical points regarding adaptation:

- *Avoid maladaptation*: A prerequisite for adaptation and climate-smart programming is first to 'do no harm'; that means to avoid actions that may be more harmful than helpful in the long run – we always need to avoid 'maladaptation', as it's called. Two examples: if we support a livelihoods programme in drought-prone region by facilitating a *shift* in their main crops to more drought-resistant crops – instead of *diversifying* to a wider range of crop types – we may risk people become more vulnerable to the flash floods and wet periods that may also be an effect of with more variable weather patterns in the long run. Or if we support a livelihoods programme where coastal mangrove forests may be cut down and turned into shrimp farms to help increase the income of local households, we also reduce

the protection against coastal waves that mangroves offer – and thereby leave coastal communities more vulnerable to storm surge damages on the longer term.

- *Limits of adaptation:* While we must do all we can to reduce vulnerability and adapt to the unavoidable consequences of changing climate risks, we should also be mindful that there are limits to adaptation. This is emphasized in the IPCC Special Report on 1.5°C, where they highlight that some human and natural systems at global warming of 1.5°C will be at a loss, and beyond our adaptive capacity. IPCC's 5th Assessment Report devotes a whole chapter on the *Adaptation Opportunities, Constraints, and Limits*.

  Hence, in our work we should strive to be realistic and not create false promises for people who may not be able to adapt in the long run. The challenges have most profiled in relation to low-lying areas and small island states, where rising sea levels may render certain areas uninhabitable, forcing people to relocate at some point. In the international negotiations on climate change under the UN, such large-scale effects have led to negotiations on 'loss and damage' compensation to the states most affected.

  In general, strategies to deal with limits to adaptation may involve investments that have no direct links to climate risk management. For instance, investments in education systems for all - education is opening doors for individuals to pursue alternative livelihoods options and careers and, possibly, in new areas of an increasingly urbanised world.

Annex: Examples of climate-smart programming by sector

Areas of work and potential interventions

WASH

Water supply units and water storage tanks, rain water catchment units.

For adjusting so changing risks are taken into account, consider:

1. Are WASH structures (e.g. the water storage tanks on picture) designed in *collaboration with HydroMet services* and communities with traditional knowledge, to ensure it can withstand dry periods or higher flood records based on climate projections so it has a better chance of providing the expected services over the next 5-15 years? (The water storage tank in picture was not – it was designed long ago, before climate-smart programming was beginning to be considered)
2. Are there any indications (from rainfall and flood level trends and projections) that the flood zone is changing, and that new areas may become at-risk in the coming decade(s)?
3. Are the root causes of risks identified in the wider landscape? Can water run-off also be influenced by additional interventions in the area, such as water protection dams and terracing hill slopes, addressing ecosystem degradations, drainage of rivers, etc?
4. Are the communities aware of climate change and how it may influence them in the future?
5. Is the community empowered to voice these concerns for local adaptation planning?
6. Are the communities (or specific groups) receiving and understanding the locally available weather information, and do households know which appropriate actions to take when inclement weather is approaching?

FIRST AID

First Aid training to Community Disaster Response Teams and volunteers.

For adjusting so changing risks are taken into account, consider:

1. Heatwaves are on the rise in all parts of the world. Is there enough understanding of, e.g., heatstroke and heat stress in first aid trainings for volunteers and staff?
2. At cultural events, often the Red Cross or Red Crescent provides first aid. With potential extreme weather are we considering an advocacy role to ensure events get cancelled if it is unsafe for participants?
3. During a heat wave, is there enough attention or services in place to support elderly or outdoor workers? Are local authorities and key stakeholders aware of heat risks and actions to prevent heat impacts?
4. Is there good *collaboration with the HydroMet services* for warnings to extreme weather?

DISASTER MANAGEMENT

Early warning system to households near the rivers

For adjusting so changing risks are taken into account, consider:

1. Is the river providing a flood risks: is there a need for early warning early action and improved collaboration with upstream and downstream communities?
2. Has a landscape assessment been done to assess the river and upstream and downstream activities and investments?
3. Is there good *collaboration and coordination with the HydroMet services* and private sector and the water user groups/ women/ communities on weather forecasts – also for upstream areas that impact downstream river levels?

4. Have the project communities carried out 'vulnerability and capacity assessments' that note observed changes in weather, seasonality and hazard patterns and used the information to develop local action plans?
5. Are community groups empowered to advocate for their own adaptation needs?

LIVELIHOODS AND DRR

Implementation of small-scale irrigation schemes; farmers benefit from improved irrigation schemes for their crops

For adjusting so changing risks are taken into account, consider:

1. Is there a chance the river goes dry in with future climate projections?
2. Is this irrigation scheme in an area where farming has been severely under pressure for a while, due to, e.g., changing weather patterns, poor access to markets, etc – and is there a risk we may be supporting unsustainable farming practices?
3. Are there additional things that need to be considered in this area such as livelihood diversification to ensure we are not providing false hope for increased production?
4. Are the activities done in relation to assessments of the landscape and upstream activities and investments?
5. Can rainwater harvesting be enhanced to supplement water available in streams and wells
6. Is there good *collaboration and coordination with the HydroMet services* and agricultural extension services and the farmer associations on upcoming seasons and weather forecasts?
7. Do the farmers have appropriate understanding and access to seasonal weather forecasts?

DISASTER CONTINGENCY PLANNING

Organisational preparedness activities - training of staff, prepositioning of emergency stock, identification of triggers for activation of preparedness and rapid response scenario planning etc.

For adjusting so changing risks are taken into account, consider:

1. What is a realistic worst-case scenario for a disaster considering the new weather extremes projected for your region?
2. What preparedness and planning measures could address new extreme scenarios?
3. Review location of humanitarian warehouses: would they be safe and accessible in case of unforeseen extreme events?
4. Is there a need for training more volunteers to assist in rescue and relief operations? And maybe establish volunteer teams (and conduct early warning awareness raising with inhabitants) in new areas that have been relatively safe in the past, but may be at risk in case of new extreme events?
5. Are planned sites for camps for refugees or displaced people safe from extremes such as floods or storm surges? How would individual shelters feel in extremes of heat or cold?