

REDUCING THE HEALTH AND WATER, SANITATION AND HYGIENE (WASH) IMPACTS OF CLIMATE CHANGE

SETTING THE SCENE ON HEALTH, WATER,
SANITATION AND HYGIENE (WASH) RESPONSE
IN A CHANGING CLIMATE

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This paper is a resource for National Red Cross Red Crescent Societies and their partners seeking to address health risks that are aggravated by climate change. It outlines the adverse impacts of climate change on human health and seeks to unpack the second pillar of the [Movement Ambitions to Address the Climate Crisis](#), which focuses on reducing the health impacts of climate change. It frames Red Cross and Red Crescent commitments on health and WASH in a changing climate, in particular for the most vulnerable. It explores the urgency of climate action with respect to health and offers examples for action for National Societies and partners.

INTRODUCTION

Climate change is one of the greatest threats to public health in the 21st century. It is a humanitarian emergency, requiring urgent action globally at scale. The number of climate- and weather-related disasters has been increasing since the 1960s, and has risen almost 35 per cent since the 1990s, according to [World Disasters Report 2020](#). Climate change has already been killing people and devastating lives and livelihoods every year, and it will only get worse without immediate and determined action [[WDR 2020](#)]. Currently climate change already causes an estimated 150,000 deaths annually [[WHO/UNEP HELI \[2\]](#)]. A conservative projection by WHO estimates that approximately 250,000 additional deaths will occur each year due to climate change between 2030 and 2050 [[WHO 2014](#)].

Climate change is widening inequalities and creating new vulnerabilities through its impacts on health and WASH, nutrition, livelihoods, air quality, labour productivity and income, and displacement amongst others (*See Figure 2*). According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services ([IBPES](#)), current trends in biodiversity loss and ecosystems degradations undermine progress towards 80 per cent (35 out of 44) of the Sustainable Development Goals related to poverty, hunger, health, water, cities, climate, oceans and land [[IBPES 2019](#)]. Climate change could push more than 100 million people within developing countries below the poverty line by 2030 [[World Bank, Shockwaves report, 2015](#)].

The marginalized and the poorest with limited adaptive capacity, who do not have the resources to access to health and protect themselves from disasters and who, more often than not, live in areas where climate impacts like floods, droughts and storms hit hardest, are forced to make do with limited health services. Women and girls are disproportionately impacted, experiencing unequal access to resources and decision-making, especially in areas faced with high levels of poverty. It is important to identify gender-sensitive strategies that respond to this ([UNDP, Gender and Climate Change 2017](#)). The IFRC network is committed to meet the urgency and scale of the climate crisis, which is strongly reflected in [IFRC Health and Care Framework 2030](#) and [IFRC Strategy 2030](#). Reducing the health impacts of climate change is one of the key pillars of the [Movement's climate ambitions 2020](#).

1. MAJOR HEALTH IMPACTS RELATED TO CLIMATE CHANGE

Climate change is adversely affecting human health, directly through exposure to hazards and indirectly through natural and socio-economic systems. Intersecting issues such as annual variability and rising frequency and intensity of extreme weather, pressures on natural resources, voluntary and involuntary migration and rapid urbanization have serious consequences on both physical as well as mental health and well-being. Health systems face moving targets as both vulnerabilities and the population at risk are constantly evolving and expanding in all regions of the world. The first four sections below are listing direct health impacts of climate change; the next five focus on the more indirect health impacts of climate change or on contexts that require specific attention.

1.1 HEALTH, LIVELIHOODS AND NUTRITION

Over 70 per cent of global rain-fed agriculture and the 1.3 billion people dependent on deteriorating agricultural land are **at risk of losing their livelihoods and from nutritional insecurity** given the shifting patterns and extremes of temperature and precipitation. Climate change is expected to depress growth in global agriculture yields up to 30 per cent by mid-century unless adaptation efforts are undertaken [[Global Commission on Adaptation 2019](#)].

CO₂ concentrations affect the quantity and nutritional value of staple crops and will drive *hidden-hunger crises* by adding an extra 122 million people who are protein-deficient, an extra 175 million who are zinc deficient, and 1.4 billion women and children under five in countries with high levels of anaemia losing more than 4 per cent of their dietary iron [[Smith et al. 2018](#)]. The UN Food and Agriculture Organization (FAO) suggests that the world is off track to achieve zero hunger by 2030. On current trends, the number of people affected by hunger would surpass 840 million by 2030. In 2019, one in ten individuals globally (nearly 750 million) were exposed to severe levels of food insecurity. According to the World Bank [[2020](#)], the Covid-19 pandemic may add between 83 and 132 million people to the total number of undernourished in the world in 2020 (depending on the economic growth scenario).

1.2 VECTOR-BORNE DISEASES

Impacts are escalating faster than anticipated and are already being felt across the world, with climate-vulnerable communities hit the hardest. Vector-borne diseases represent up to one sixth of illness and disability suffered around the world. An estimated 1 billion people are infected annually with vector-borne diseases, including malaria, dengue, schistosomiasis, leishmaniasis, Chagas disease, yellow fever, lymphatic filariasis and onchocerciasis. The WHO says that over half of the global population is at risk [WHO 2014]. Climate change will affect vector range (expansion/contractions), influence life cycles of vectors as well as reproduction rate of parasites and potentially lengthen/shorten seasonal activity of vectors and the risks associated with bites [Semenza *et al.* 2018]. Scientists estimate up to 6 billion people could be at risk of dengue by 2085 [Hales *et al.* 2002] due to a variety of factors, such as rapid urbanization, increased global travel and climate change. However, the climate change impacts on vectors is not uniform, forcing communities and individuals to adapt to changing risks: increases in infection will occur in some areas where there is less experience with (and therefore less resilience to) these diseases, and decrease in others [Ryan *et al.* 2020]. Over 70 per cent of diseases are vector-borne or zoonotic in origin [Morens *et al.* 2020, Morens *et al.* 2004], which calls for effective routine monitoring of evolving risks and vulnerabilities using the one-health approach (plant, animal and human health surveillance and response).

1.3 WATER-BORNE DISEASES

Climate change increases rainfall variability; too much and too little rain both have a severe impact on human health. Around four in ten people are affected globally by water scarcity [WHO 2018] and water security for 80 per cent of the world's population is under threat [Ebi *et al.* 2019]. The number of people lacking sufficient water at least one month per year is projected to increase from 3.6 billion today to more than 5 billion by 2050 [Global Commission on Adaptation 2019]. At least 25 per cent of global health-care facilities already lack basic water services and 20 per cent have no sanitation service [WHO/UNICEF 2019]. Although there are financial, technological and physiological limits, **prioritizing adaptation, including measures to adapt to increased water scarcity, is critical in the fight to reduce the impacts of climate change.** Changes in rainfall have **altered distribution of some water-borne illnesses** and disease vectors, for some vulnerable populations globally, according to the IPCC. Diarrhoeal disease, mostly resulting from contaminated water and food sources, is a leading cause of child mortality and morbidity around the world. For instance, according to the WHO, diarrhoea is a major cause of malnutrition, and malnourished children are more likely to fall ill from it, thus creating a vicious circle [WHO 2017].

1.4 HEATWAVES

In many parts of the world, **more intense and frequent heatwaves** are occurring due to climate change. The frequency and intensity of heat is expected to rise further in most land regions (high confidence) [Ebi *et al.* 2019]. Extreme heat is most acutely felt in cities, where the urban heat-island effect exacerbates extreme temperatures. With rapid urbanization, even more people will be exposed and impacted by extreme heat in the coming decades. Heatwaves are (a) hitting everywhere (e.g. making it the most deadly disaster events of 2019 and 2020 in Europe); and (b) heat mortality is very poorly registered, so we don't even know how big the problem is, especially in developing countries, where we see the impacts are enormous. Extreme heat is a risk to human health and well-being. The elderly, street vendors, young children, those with pre-existing medical conditions, and people living in informal settlements are amongst the most vulnerable to the heat. Extreme heat can occur over large geographic areas and can combine with other factors such as humidity to increase the risk of negative health impacts and death. However, there are many simple, low-cost solutions that can save lives and need to be urgently adopted in cities across the world to adapt to this increase in heat risk.¹ The *Lancet Countdown* report of 2019 says we might face nearly 1 million work life-years lost by 2030 due to heat related fatalities, which could be up to 70 million work life-years lost due to reduced labour productivity. [Kjellstrom T, *et al.* *Occupational heat stress: contribution to WHO project on "Global assessment of the health impacts of climate change"*, which started in 2009, and Kjellstrom T, *et al.* *Threats to occupational health, labor productivity and the economy from increasing heat during climate change: an emerging global health risk and a challenge to sustainable development and social equity*]

1.5 AIR POLLUTION

Annually over 7 million deaths are linked to exposures to **outdoor and indoor air pollution** [WHO 2014]. Improving air quality can have benefits for health including reduction in non-communicable diseases (NCDs) such as stroke, heart disease, chronic and acute respiratory disease. Cutting emissions and tackling pollution (climate mitigation) are crucial, and will have multiple benefits to health. The health risks are more related to the causes of climate change (emissions), and as such measures to address it will offer benefits to address climate change. Sometimes air pollution can be linked to several impacts of climate change, such as the mixtures of air pollutants produced by wildfires, which adversely affect human health both directly and indirectly. Or climate variability can influence air quality, including

¹ For examples of actions that can be taken to address heat, please see the *Heatwave guide for cities* and the *Heatwave guide for Red Cross Red Crescent branches*.

effects on airborne allergens like pollen, or elevated concentrations of near-surface ozone during heatwaves, which cause significant mortality. Lastly, household air pollution (HAP) is in many countries a significant health challenge. Traditional biomass and coal stoves used by almost half of the world's population cause major negative impacts on health, mainly in relation to chronic obstructive pulmonary disease and pneumonia in children under five.

1.6 AGGRAVATED HEALTH IMPACTS IN CONFLICT AND DISPLACEMENT

The ICRC report *When rain turns to dust* (2020) highlights how **climate risks disproportionately affect countries in situations of armed conflicts**. Climate risks in conflict-affected areas exacerbate food insecurity and health disparities, and it limits access to essential services, while weakening the capacity of governments and institutions to provide basic support [[ICRC 2020](#)].

The Global Compact on Refugees, adopted in the UN General Assembly in 2018, recognizes that **climate, environmental degradation and natural disasters increasingly interact with the drivers of refugee movements** [[United Nations, 2018](#)]. Changing environmental conditions such as floods, droughts, changing precipitation patterns and agricultural land degradation, negatively affect people's lives, with large numbers forced to relocate in order to survive. Conflict and migration (forced or voluntary) have multiple impacts on population health, whether directly causing death or injury, or indirectly by resulting in lack of access to, or interruption of, health services. It is noteworthy that competition over scarce natural resources and new displacement patterns can generate intercommunal conflict and aggravate already existing vulnerabilities.

Up to 25 million people were displaced due to disasters in 2019, out of which almost 24 million were displaced due to climate- and weather-related disasters [[World Disaster Report 2020](#)]. Ensuring that minimum standards are maintained in health services can be challenging because of a lack of qualified staff, lack of knowledge or understanding of displacement-related health risks and the health profile of the displaced population, or lack of respect for human rights, such as the right to privacy and confidentiality during all stages of treatment.

1.7 MENTAL HEALTH AND PSYCHOSOCIAL SUPPORT (MHPSS)

Extreme-weather events associated with climate can impair the mental health and psychological well-being of communities, in particular leading to increases in depression and post-traumatic stress disorder. Also the more gradual changes caused by global warming can be harmful to mental health. There is increasing evidence that a significant proportion of people might be experiencing a harmful level of anxiety associated with their perception of climate change [[Viola Mambrey, et al. 2019](#)]. Mental health impacts of climate change have the potential to affect a significant proportion of the population. More research is needed to document the extent of these impacts as well as the best options for preventing and treating them.

1.8 SEXUAL AND REPRODUCTIVE HEALTH

There are four major climate change-related drivers affecting sexual and reproductive health. The first are the impacts of increased extreme-weather events, which will aggravate sexual violence, sexual exploitation and abuse, trafficking and domestic violence faced by women and girls during and after disasters [[World Disaster Report 2020](#)]. Secondly, an increase of sexually transmitted diseases, maternal mortality and mental health issues occurs in forced displacement and migration [[IPCC WGII AR5](#)]. Thirdly, an IUCN 2020 study highlights the strong link between degradation and/or loss of natural resources and sexual exploitation, sexually based violence and child marriage. This includes, for instance, women and girls facing sexual threats as they walk further, more frequently, to collect water and firewood. Lastly, some of the direct health impacts of climate change trends, such as severe heat, longer dry days or changes in humidity as well as water scarcity will disproportionately fall on women and children [[WHO, 2014](#)]. For instance, pregnant women are twice as vulnerable to malaria and maternal malaria and this results in a higher risk of spontaneous abortion, premature delivery, low birth weight and still birth. Or for instance, at times of water crisis there is a highly adverse impact on hygiene practices during menstruation.

1.9 COVID-19 AND CLIMATE

As highlighted by the [Lancet Countdown Report 2020](#), climate change and Covid represent a converging crisis. They point out that we do not have the luxury to focus on just one of them. While disasters continue to strike, we'll need to continue to invest in community resilience and disaster risk reduction, whilst also grappling with covid measures. [A new analysis](#) in September 2020 on **the COVID pandemic**, published by the IFRC and the Climate Centre, reveals that at least 51.6 million people worldwide have been affected by floods, droughts or storms and Covid-19. The pandemic is increasing the needs of people suffering from climate-related disasters, compounding the vulnerabilities they face and hampering their recovery. At least a further 2.3 million people have been affected by major wildfires and nearly 432 million in vulnerable groups have been exposed to extreme heat, while contending with the direct health impacts of Covid-19 or measures implemented to curb its spread. The analysis, which quantifies the overlapping vulnerability of communities, shows that out of 132 unique extreme weather events that have occurred so far in 2020 alone, 92 have overlapped with the Covid-19 pandemic. Our prevention planning needs to be tailored to this reality.

2. IFRC PLANS TO ADDRESS CLIMATE-RELATED HEALTH CHALLENGES

The IFRC recognizes that the ownership and responsibility for the provision of essential services lies with governments, with varying levels of support provided by non-governmental actors, including the private sector, civil society and communities themselves. As community-based organizations, acting as auxiliaries to public authorities, National Societies are well positioned to strengthen the link between national policies, communities and the health systems that serve them.

The IFRC consists of 192 National Societies, with an estimated 465,000 staff and 13.7 million volunteers. Latest available data indicate that, annually, some 103 million people are reached directly with health services, as well as another 15.9 million through WASH. These numbers highlight the significant contribution of the IFRC to global health and WASH outcomes.

Within the different approaches, there are some consistent areas of focus of Red Cross Red Crescent work in health and WASH:

- 1. Disease prevention and health promotion.** The IFRC supports individuals and communities by increasing their capacity to gain control over their own health and well-being, strengthening health literacy and taking multi-sectoral action to promote healthy behaviours and empowerment, and to address stigma and discrimination.
- 2. Service delivery in health and WASH.** In contexts where this is appropriate, staff and volunteers are involved in task shifting, learning and implementing new skills and tasks to confront the most important health problems for their local contexts. This includes ensuring that operations reach the most vulnerable and marginalized such as persons living with disabilities.
- 3. Health and WASH emergencies preparedness and response.** All over the world volunteers trained in first aid (traditional and psychological first aid and in pre-hospital care) serve their immediate communities during emergencies.

4. **Epidemic/pandemic preparedness and response.** Community-based surveillance and early detection at community level are beneficial in tackling a potential epidemic at its onset. Similarly during an outbreak, communities that are well educated about the mode of transmission and treatment of the disease as well as its psychosocial impacts, can significantly contribute to the swift ending of an epidemic.
5. **Humanitarian diplomacy in health and WASH.** Humanitarian diplomacy involves persuading decision-makers and opinion leaders to act at all times in the interests of vulnerable people, and with full respect for fundamental humanitarian principles.

Climate-related health vulnerabilities can be appropriately addressed in all relevant approaches as listed above.

The Red Cross Red Crescent Movement ambitions on climate say: *We will systematically integrate climate risk management across our health programmes and anticipate the health-related consequences of climate change and environmental degradation, focusing on people experiencing increased exposure and vulnerability. This will require scaling up our health literacy, health promotion, hygiene promotion and community preparedness interventions for climate-related diseases, including vector-borne, water-borne and chronic respiratory diseases in high-risk areas. We will seek to use climate information to anticipate, prepare for and reduce the impacts of climate-related health emergencies, including in conflict settings.*

To meet these ambitions, and to integrate climate risk management into the IFRC's health areas of focus, it will require changes and improvements to how we develop and implement our programmes and operations.

2.1 PROGRAMMATIC MODALITIES

[The Health and Care Framework 2030](#) together with the [IFRC Strategy 2030](#) presents the collective priorities and programming modalities that define the work of National Societies in health and care including climate change. It illustrates a pathway for their programming in their auxiliary role around health and care, and links the work of the IFRC network in health and care to the global agenda of the Sendai Framework and the SDGs. Our vision is to reduce the current and future humanitarian impacts of environmental degradation and climate change and enable people to adapt and thrive in the face of it.

Translating commitment into action will include a clear **local focus and incorporating climate information across our health, WASH and care operations, programmes and advocacy work.** By making better use of climate information across timescales – long-term projections, medium seasonal

forecasts and short-term weather forecasts – we can better anticipate, prepare and invest in risk reduction; also with regards to health programming and ensuring to no one is left behind. Our efforts will also include emission reductions. Ultimately, we will be looking for optimal benefits for health and well-being, through simultaneous action on preventing and responding to ecosystem degradation, climate change and disaster risk reduction, and essentially building back better and greener.

Below we have identified seven steps to support large-scale evidence-based action to reduce the health impacts of climate change, by demonstrating how specific climate and health risks will be addressed within our overall approach to resilience and disaster risk management.

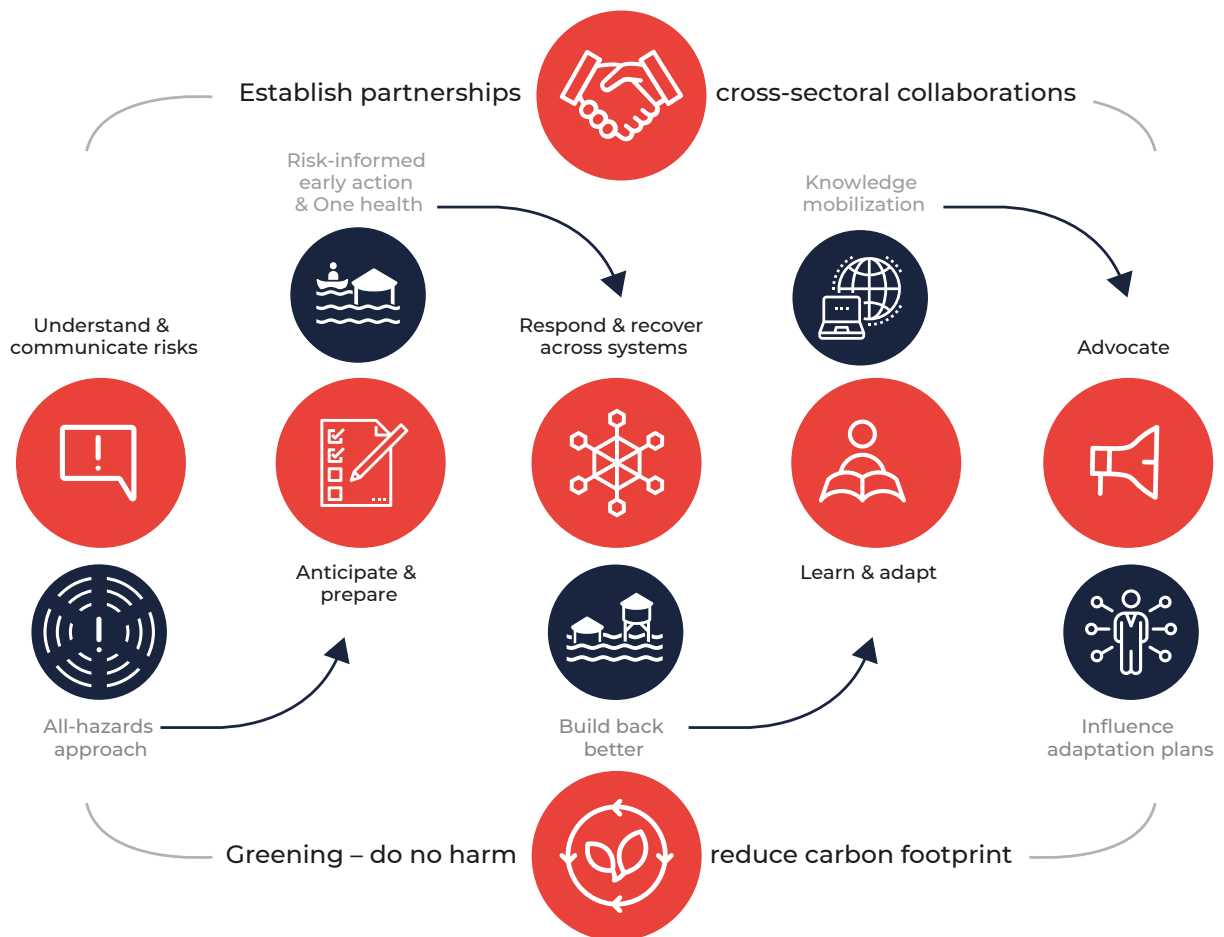


Figure 1. Seven steps to support large-scale evidence-based action to reduce the health impacts of climate change.

- 1. Understand and communicate how climate change aggravates health risks.** This will include developing stronger analytical capability for integrated (using an all-hazard approach) health and climate risk assessments at the national and local levels [[UNISDR Sendai Framework 2015-2030](#)]. We will focus on identifying specific drivers of vulnerability for health, social and economic impacts of environmental and climate change in the medium and long-term (e.g. demography and livelihoods). Effective assessments and communication of risks (including capacity building through staff training) as well as barriers to behaviour modification will form the mainstay for improving community engagement and mobilizing action. More research will also be needed to understand the indirect linkages of climate change impacts on health, for instance the impact of climate change upon sexual and reproductive health.
- 2. Anticipate and prepare for health risks.** Our programmes and projects adopt a multi-hazard early warning early action/early detection approach. We will aim to make existing programmes [climate smart](#) (especially for vector-, water- and food-borne diseases. *See Figure 1*) by systematically integrating medium and long-term climate information to anticipate, prepare for and reduce the health impacts in high-risk areas, including through the One Health approach, increased community-based surveillance, and [forecast-based early action](#) principles and mechanisms. We will achieve this by working in close collaboration with the national hydro-meteorology services and health authorities. Long-term adaptation options are also crucial to reduce health risks and can be achieved with cross-sectoral collaborations within our *One Health* approach, with its focus on human, animal and environmental health.
- 3. Respond and recover across systems.** Through the support of skilled and empowered communities, volunteers and staff, we will promote integrated, risk-informed, systems-level responses to address climate-related health vulnerabilities. In addition, we will scale up existing community-based surveillance efforts for early detection and response to outbreaks of emerging and re-emerging climate-sensitive outbreaks of infectious disease. We will adopt a build back better (and greener) approach to reduce future vulnerabilities (e.g. addressing the root causes of risks when caused by ecosystem degradation or drivers of environmentally motivated voluntary and involuntary displacement). Community-risk perception and local adaptation knowledge will be at core of solution-oriented programmes.
- 4. Learn and adapt.** We will work with communities and volunteers to systematically collate a stronger evidence base for health within adaptation action and facilitate sharing of better practices in climate-health risk assessments, health prevention and management across the Movement (knowledge mobilization). We will strengthen monitoring and evaluation of existing climate-adaptation programmes and establish feedback loops for system-wide transformations to scale up evidence-informed practice for both climate mitigation as well as adaptation.

5. **Advocacy.** We will seek to achieve the right level of ambition for both adaptation and mitigation. We will also strive to embed locally led, inclusive DRR and health prevention into national (and local) adaptation plans and strategies. Community needs and solutions to climate change will be at the heart of all investments aiming to tackle climate change. We will work with national representatives to support policies and planning processes including ambitions for health within the Nationally Determined Contributions (NDCs) and align our activities to augment the local and National Adaptation Plans (NAPs) [[WHO 2019](#)].
6. **Cross sectoral partnerships.** We will establish partnerships to complement our efforts to reduce risks and adapt to climate change. We can't address climate change on our own, partnerships are essential to [climate-smart programming](#), especially with governments, including meteorological offices, communities, academia, private sector, WHO and civil society organizations (CSOs), amongst others.
7. Guided by the Green Response Framework [[IFRC 2018](#)], the Movement Ambitions to Address the Climate Crisis and the current Climate and Environment Charter under development, we will strive to **Green the Red, to do no harm, and consider including environmentally sustainable practice into all operations, programmes and advocacy work.**

3. EXAMPLES OF OPPORTUNITIES FOR ACTION

2021 is an important year for international climate action. Whilst recovering from the global Covid-19 pandemic, and the associated impacts upon lives and livelihoods and sustainable development, it is clear that governments are prioritizing healthy and sustainable recovery packages. National Societies are uniquely placed to promote and play a role in **green and inclusive, resilient recovery packages, that leave no one behind** [[IFRC 2020](#)].

In this section we propose **several concrete programming opportunities** for National Societies to scale up preventative *health programming in a changing climate*. It is by no means an exhaustive list, but it intends to inspire and provide further ideas to action. Secondly, we highlight several approaches and enablers for action.

Many of these concrete ideas show that climate action is not a completely new line of work; we are already doing it in so many places as part of our portfolios on health, risk and resilience, as well as humanitarian diplomacy. Often climate programming has been undertaken by disaster management departments, but a more cross-cutting approach is needed. For instance, with DM teams early action protocols are being developed for deployment with DREF funding, but often many early actions are related to health and WASH.

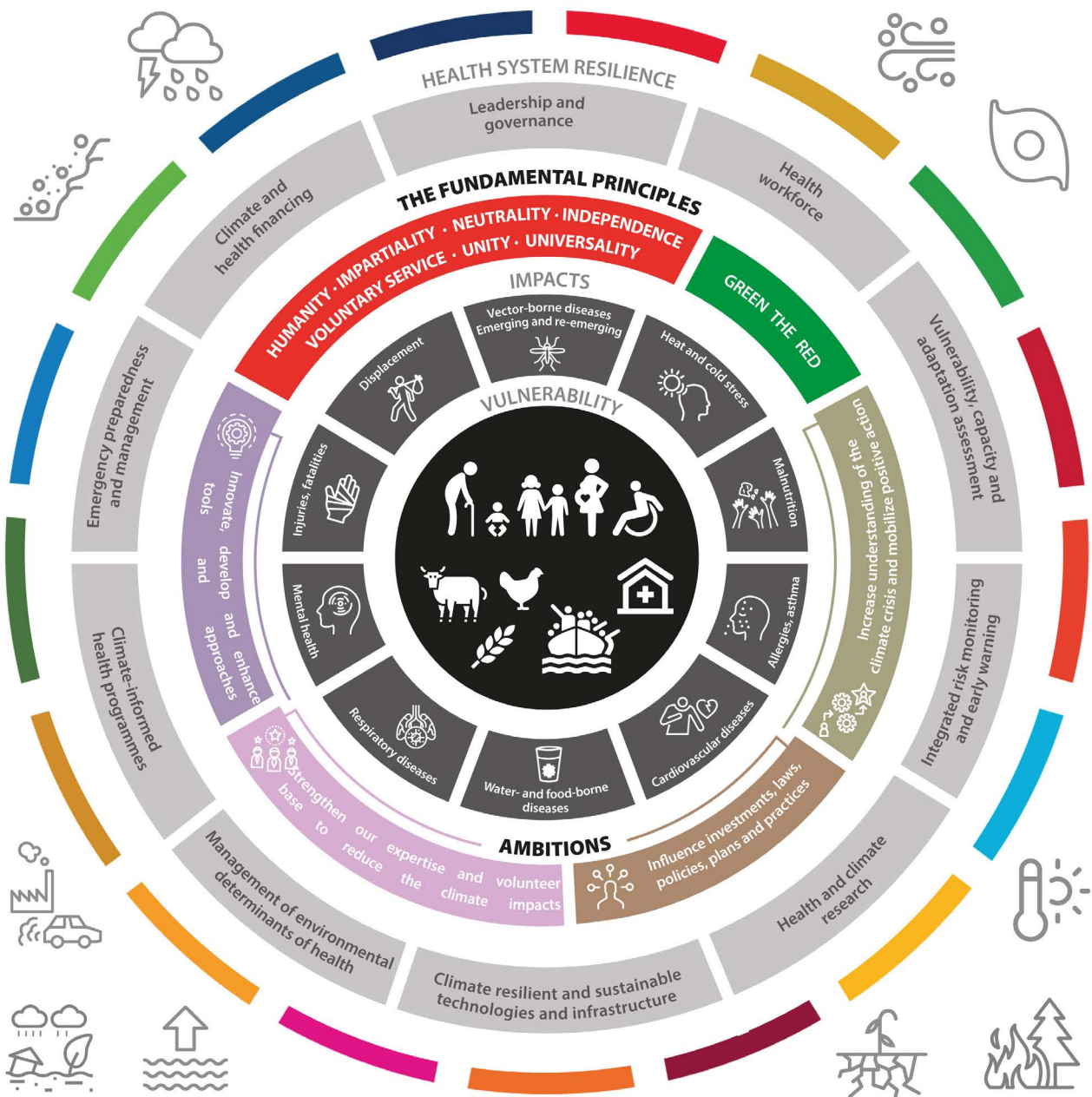


Figure 2: Addressing the drivers of health and climate vulnerability at the community level; reducing differentiated needs, vulnerabilities and capacities (centre) and strengthening community resilience through IFRC action on the ground will support the resilience of health systems as well as progress towards the Sendai Framework for Disaster Risk Reduction as well as the Sustainable Development Goals (outer ring).

3.1 COMMUNITY-BASED SURVEILLANCE AND EARLY WARNING EARLY DETECTION

Scaling of community-based surveillance and early warning early detection systems for diseases that can be monitored and sometimes (partly) predicted by forecasts, will be beneficial. It offers important roles for community volunteers and staff, especially in remote areas. The relationship between disease outbreaks and climate variability, coupled with the predictability of climate variability events like ENSOs provide good opportunity for humanitarian organizations to strengthen health preparedness activities. This may include, but is not limited to, enhanced surveillance, increased surge capacity for health workers to supplement government efforts and supporting community-level, disease-preventive actions (e.g. water purifying tablets to prevent diarrhoea).

3.2 HEALTH AND CLIMATE ASSESSMENTS

Health priorities can be best determined by dedicated country or local level health and climate-risks assessments (with disaggregated data collection for women and marginalized groups). From a recent round of health and climate assessments in Asia and African countries, the IFRC saw how many of the prioritized climate-induced health risks are interrelated. For instance, malnutrition and food shortages are often due to poor use of land, and aggravated by longer drier spells or water scarcity, and can best be tackled through integrated risk management approaches. Such approaches should include landscape and ecosystem-based approaches, with a very strong focus on gender. Often we witness a lack of solid health expertise in such resilience approaches, while the solutions to the identified risks to resilience often touch upon health concerns. Resilience and DRR, however, should include a strong focus on community and emergency health and WASH, and vice versa.

3.3 HEAT ACTION

An important opportunity identified by the IFRC, is the scaling up of preventative heat action, especially in urban areas. Addressing the impacts from the increased frequency and intensity of heatwaves is important for many countries. Many cities over the past decade have been confronted with inadequate capacity to respond to heatwaves. Mortality and morbidity from heatwaves, however, can be greatly reduced through the implementation of relatively simple and cost-effective actions. The IFRC has ample guidance tools in place to address heatwave risks, including a *Heatwave Guide for Cities*.

3.4 VECTOR-BORNE DISEASES

A most urgent risk of the climate crisis to human health in many countries is the geographic expansion of climate sensitive vector-borne diseases (such as malaria and dengue). The scaling up of **preventative vector-borne disease programming can address this growing burden**. There are often many factors contributing to an unexpected outbreak of vector borne diseases, so there can be limited predictability for action to be activated. However, seasonal outbreaks can benefit from anticipatory seasonal planning, and ideas are being developed to explore the potential to develop anticipatory action plans for these outbreaks. It will also be key to strengthen capacities and adopt new strategies to address changing disease patterns in new areas. The development of tailored action plans can enable National Societies to better shape their response activities against vector-borne diseases.

3.5 WATER-BORNE DISEASES

National Societies can use weather and climate information services to anticipate and prepare for potential outbreaks of water-borne diseases due to climate change, especially disaster-related disease outbreaks. Interventions in community-based resilience programming need the full integration of water, sanitation and hygiene (WASH). Climate trends can amplify the need to focus on issues such as, sufficient access, quality and quantity of water through water harvesting, or low-cost interventions such as chlorinating water supply. Changing rainfall patterns, shifting seasons, and higher temperatures can also indicate the need to reallocate attention around different WASH interventions; for instance, food hygiene measures, menstrual hygiene, or hygiene interventions specific to the prevention and control of particular diseases after disasters. School safety programmes also offer a good entry point for climate related water, sanitation and hygiene promotion, to strengthen the resilience of communities and achieve behavioural change. It is important to find local inclusive solutions by harvesting community knowledge, and value-adding if necessary, on low-cost, traditional ways to clean and store water and maintain hygiene.

3.6 WASTE MANAGEMENT

With increased climate variability and more extreme events, the clogging of drainage and sewage systems poses serious risks to health during and after flooding events. Solid waste management can reduce the risk of disease outbreaks after floods. Cleaning campaigns offer an easy and meaningful way to improve human, animal and environmental health, and make the public more aware of the impact of waste as well as opportunities to recycle it.

3.7 INDOOR POLLUTION

Traditional open cooking fires pose a serious threat to indoor pollution and further spur deforestation. **Fuel-efficient cook stoves** reduce health risks from indoor air pollution, while at the same time allowing significantly lower fuel costs and reduced deforestation. Indoor air pollution has often been addressed by National Societies and there are many good practices within the IFRC network.

3.8 MENTAL HEALTH AND PSYCHOSOCIAL SUPPORT (MHPSS)

Climate change affects mental health in a variety of direct, indirect, and overarching pathways, disproportionately affecting the most marginalized. The mental health implications of climate change can result in mental problems and illness as well as affirmative psychosocial outcomes. Adaptation measures that address the psychosocial impacts of climate change come in a variety of forms:

- **Policy responses:** improving access and funding to mental health care.
- **Surveillance and monitoring:** administering epidemiological surveys after extreme weather events, and monitoring emergency department visits during heat waves and following extreme weather events.
- **Practice:** the application of a stepped-care approach to mental health that is often used in disaster mental health to support different levels of interventions depending on the timing of the disaster and the level of distress [[Bower et al. 2005](#), [Twomey et al. 2012](#)].
- **Preparation and response:** climate change adaptation/resilience planning in the mental health system.
- **Community-based interventions:** climate change resilience plans that address psychosocial wellbeing.
- **Special training for care providers and first responders:** e.g. psychological first aid.

3.9 COVID-19 RECOVERY AND CLIMATE ACTION

The converging crisis of climate change and Covid-19 are stretching our capacity to cope and both demonstrate the unequal burden upon the most vulnerable. We cannot focus on just Covid or just climate change. While disasters continue to strike, there is a need to continue to invest in (locally led) community resilience and disaster risk reduction, whilst also grappling with Covid measures. Our prevention planning needs to be tailored to this reality. National Societies can also promote and play a role in green and inclusive, resilient recovery packages, that leave no one behind. Current estimates suggest that barely 0.2 per cent of the nearly US\$ 12 trillion committed to Covid recovery by the world's 50 largest economies has been committed to stimulate low-carbon, greener elements of their economies [[IFRC 2020](#)]. National Societies can support governments with Covid recovery plans, while emphasizing that climate action as defined in the country's commitments to the Paris Agreement (such as the NDCs and NAPs) offer helpful elements to help shape such a recovery. Dedicated climate-smart health action is a substantial component of many of the NDCs and NAPs.

3.10 RESILIENT HEALTH SYSTEMS

Health system resilience means “the ability to prepare for, manage (absorb, adapt and transform) and learn from shocks” [WHO, European observatory, 2020]. As auxiliaries to the government, National Societies can play a strong role in countries' health systems. The Red Cross Red Crescent can identify gaps, weaknesses and propose or even implement complementary support to strengthen the resilience of health systems, all of which are vulnerable to shocks and changes. Health systems can even become dysfunctional or collapse due to major disasters or health emergencies [[Health System Resilience](#), My Friday et al., 2020]. In 2007, WHO introduced a framework of resilience to strengthen health systems in such a way that disruption or collapse can be avoided [[WHO 2007](#)]. Addressing the resilience of health systems has now become increasingly important, as the major impacts of Covid have laid bare many of the vulnerabilities of health systems in many countries.

3.11 ONE HEALTH

For the climate and health agenda, the **One Health** approach can offer many advantages. Especially to reduce increasing pressure on livelihoods in areas that are experiencing more climate variability and ecosystem degradation, the **One Health approach**² can be recommended. It strengthens the ability of communities, National Societies and other partners to prevent, detect and respond to disease threats and play a significant role in preparing for future risks. It adopts a whole of society, all-hazard approach to epidemic and pandemic preparedness, embedded in One Health in community health promotion and community-based surveillance (CBS) activities. This approach builds greater buy-in and sustainability for improved community engagement in human and animal disease prevention, earlier alerting of local health authorities, and earlier action for the timely control of possible outbreaks. It reflects **the interconnected nature of human and animal health, as well as the environment**, which is often considered as the neglected component of the triad.

3.11 ADVOCACY AND PARTNERSHIPS TO PROMOTE LOCAL HEALTH INITIATIVES IN ADAPTATION STRATEGIES

Country commitments to Paris are formulated in NDCs and NAPs. National Societies are well placed to engage in dialogues on climate adaptation with their governments and can bring the voice of the communities (local needs and solutions) to the table. Often local DRR and health prevention are not identified as adaptation practices, while it should be at the heart of it. We can ensure that adaptation does not comprise solely large infrastructural developments, but that it can start with less costly necessary community-based adaptation practices.

2 The **One Health** approach encompasses issues such as food safety and security, zoonoses, which comprise diseases that can spread between animals and humans, as well as antibiotic resistance. Changes in temperature, precipitation patterns and humidity, combined with deforestation, unsustainable agriculture practices and irresponsible use of antibiotics in agriculture and human medicine, are bound to have devastating effects in each component of the **One Health** triad.

4. TARGETS FOR SUCCESS

- By 2025, 75 National Societies have completed a climate and health impact assessment.
- By 2025, 60 National Societies have developed a specific plan of action or programmes in place to address the priorities identified by a climate and health impact assessment.
- By 2025, 60 National Societies are engaged with their government in policy dialogues on adaptation, and/or promote local health needs and solutions as an adaptation strategy in policy dialogues.
- By 2025, 250 million people are covered by new or improved multi-hazard (heat, cold, flood) early warning early action systems.

These indicators will part of the health and care framework monitoring and evaluation.

ANNEX 1. GUIDING PRINCIPLES

Leave no one behind. Inequalities impede human development and drive negative health outcomes especially amongst those who are furthest behind. Aligned with the Universal Health Coverage (UHC) agenda, the Red Cross Red Crescent will continue to reach those in need, including climate-related vulnerable people, and ensure that the health needs of a majority are identified, monitored and addressed, accounting for contextual changes over time, including after the Covid pandemic.

Engage and empower the vulnerable. With community outreach, capacity building and capability enhancing activities, and an inclusive and gender-sensitive approach, National Societies will empower youth, volunteers, marginalized groups, and women to understand risks better and take up or call for dedicated evidence-informed climate action at the local and national levels.

Strengthen climate responsiveness and resilience of health systems. Red Cross Red Crescent community-based health and surveillance programmes and its extensive volunteer network and action on the ground will support public health systems to sensitize, prepare for and manage (absorb, adapt and transform) the current and future health impacts of climate change.

Foster and strengthen partnerships. The Red Cross Red Crescent will leverage capacities and resources within and outside the humanitarian and development sectors, such as academia, CSOs, the private sector, governments and communities. It will work closely with national agencies and donors to improve finance flows, strengthen infrastructure, facilitate access to technology-based solutions and innovations for climate adaptation and resilience as well as support forecast-based financing mechanisms to scale up anticipatory on the ground adaptation.

Agile and cross-sectoral approach. [Climate-smart programming](#) requires a flexible and dynamic (iterative and incremental) approach. The Red Cross Red Crescent aims to accommodate the uncertainties and variability of evolving risks and vulnerabilities, both at the national and sub-national levels. Our approach will support the needs of demographic, nutritional and epidemiological transitions within communities in a changing climate.

ANNEX 2. KEY DOCUMENTS

INTERNATIONAL RED CROSS AND RED CRESCENT MOVEMENT

1. [STRATEGY 2030 A Platform for Change](#)
2. [Strategy 2030 Update Report – Visions for the Organization](#)
3. [Ambitions to Address the Climate Crisis](#)
4. [International Federation of Red Cross and Red Crescent Societies Framework for Climate Action Towards 2020](#)
5. [The Cost of Doing Nothing: The humanitarian price of climate change and how it can be avoided](#)
6. [ICRCs Strategy 2019-22](#)
7. [Climate Training KIT](#)
8. [Climate-smart programming guidance](#)
9. [Minimum Standards for local climate-smart disaster risk reduction.](#)
10. [Green Response](#)
11. [Health and Climate Change: taking care of humankind at +2°C](#)
12. [Heat guide for cities](#) and [Heat guide for Branches](#)
13. [Heat and COVID19 Guide](#)
14. [World Disasters Report 2020 \(IFRC\)](#)
15. [Forecast-based Financing](#)

OTHERS

1. [Lancet Countdown: Tracking progress on health and climate change](#)
2. [UN Sustainable Development Goals](#)
3. [WHO Operational framework for building climate resilient health systems](#)
4. [WHO Guidance for Climate Resilient and Environmentally Sustainable Health Care Facilities](#)
5. [The Sendai Framework for Disaster Risk Reduction 2015-2030](#)
6. [Words into Action: Engaging for resilience in support of the Sendai Framework for Disaster Risk Reduction 2015-2030](#)

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