

Climate resilient and environmental sustainability toolkit for vision and eye care programmes



Contents

Abbreviations	3
Introduction	4
Context analysis	5
Climate risks.....	5
Questions you may have and suggested resources.....	7
Taking action: climate adaptation and mitigation activities at facility level	9
Facility governance and policy	9
Facility infrastructure	12
Energy resilience.....	12
Water management.....	15
Building design and thermal resilience.....	18
Waste management and recycling.....	23
Supply chain	28
Capacity development for healthcare staff, community and patient engagement	32
References	38
Appendices	39

Abbreviations

EH	Eye health
EMR	Electronic medical record
HVAC	Heating, ventilation and air conditioning
IAPB	International Agency for the Prevention of Blindness
LED	Light emitting diode
NAP	National Adaptation Plan
SOP	Standard operating procedures
UNFCCC	United Nations Framework Convention on Climate Change
UV	Ultraviolet
WHO	World Health Organisation

Introduction

Climate change has significant implications for health and wellbeing. It impacts individuals through environmental exposures and influences the social determinants of health, including health-related behaviours and socio-economic factors. It can have a direct impact on health through heat-related illnesses, exposure to pollution and trauma resulting from extreme weather events. It can also increase the transmission potential of infectious diseases, such as West Nile virus, dengue, malaria and trachoma, by affecting their geographic spread and transmission potential.

Socio-economic factors are impacted through the loss of livelihoods and productivity due to droughts and flooding, as well as food insecurity resulting from related heatwaves and droughts, and changes to marine resources due to increased sea temperature and acidification. Climate change also directly affects the availability of services and the ability of health systems to adapt through damage to infrastructure and disruption of supply chains.

This toolkit is designed to allow eye health programmes and facilities to assess their vulnerability to climate change. It suggests adaptations to current and future climate risks, enabling them to protect and improve the health of their target population in an unstable and changing environment. We take a 'climate-smart' approach, focusing on strengthening the health system to decrease greenhouse gas emissions and increasing its resilience to the negative impact of climate change.

At the end of the assessment, programmes and facilities are expected to develop an action plan with clear timelines and an accountability system to ensure the timely delivery of the recommended actions. The assessment needs to be repeated when the actions are fully implemented to ensure new climate risks and implementation approaches are both identified and monitored.

The toolkit has been developed based on the review of several documents and resources, as well as Sightsavers' experience in implementing Green Vision Centres in selected eye health programmes.

Some resources consulted during the development of the toolkit include:

1. WHO operational framework for building climate resilient health systems.
2. WHO guidance on climate-resilient and environmentally sustainable healthcare facilities.
3. Smart Hospital Toolkit by Pan American Health Organisation, Washington, D.C.
4. The International Agency for the Prevention of Blindness' guide for environmentally sustainable practices in eye health facilities by the IAPB Climate Action Working Group.
5. Mainstreaming Climate Adaptation Planning and Action into Health Systems in Fiji, Ghana and Benin. A working paper by the World Resource Institute, 2021.

Context analysis

Climate risks

Understanding the vulnerabilities to climate change in the countries and districts where eye health facilities are located is important when considering how to create more resilient facilities and manage climate-related health risks more effectively. The diagram on the next page, adapted from WHO, illustrates some of the health threats which may be exacerbated by climate change.

Vulnerability, in the context of climate change, includes:

- Vulnerability factors - such as demographic, geographic, socioeconomic and biological factors, health status and sociopolitical conditions.
- Exposure pathways - such as extreme weather events, heat stress, air quality, water quality and quantity, food security and safety, and vector-borne diseases and ecology.
- Health system capacity and resilience - including leadership and governance, health workforce, health information systems, essential medical products and technologies, service delivery and financing.

Health outcomes related to climate-sensitive health risks include:

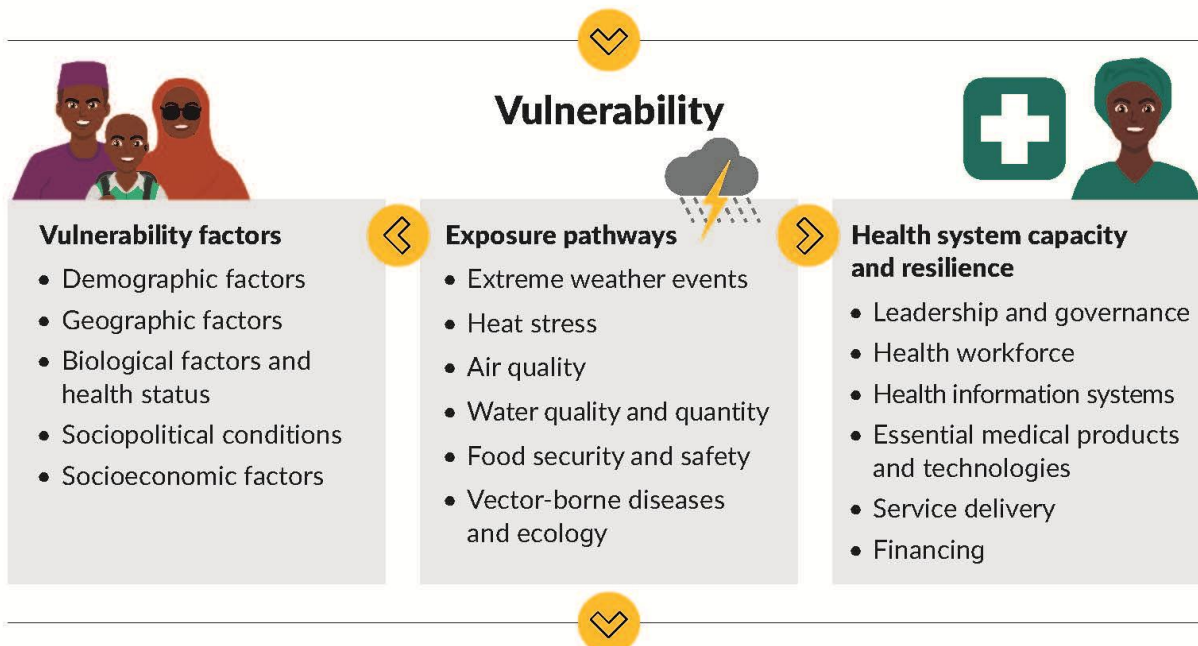
- Injury and mortality from extreme weather events
- Heat-related illness
- Respiratory illness
- Waterborne diseases and other water-related health impacts
- Zoonosis
- Vector-borne diseases
- Malnutrition and food-borne diseases
- Noncommunicable diseases
- Mental and psychosocial health

Health systems and facilities outcomes of climate-sensitive health risks include:

- Impacts on healthcare facilities
- Effects on health systems

Climate-sensitive health risks

Climate change



Climate-sensitive health risks

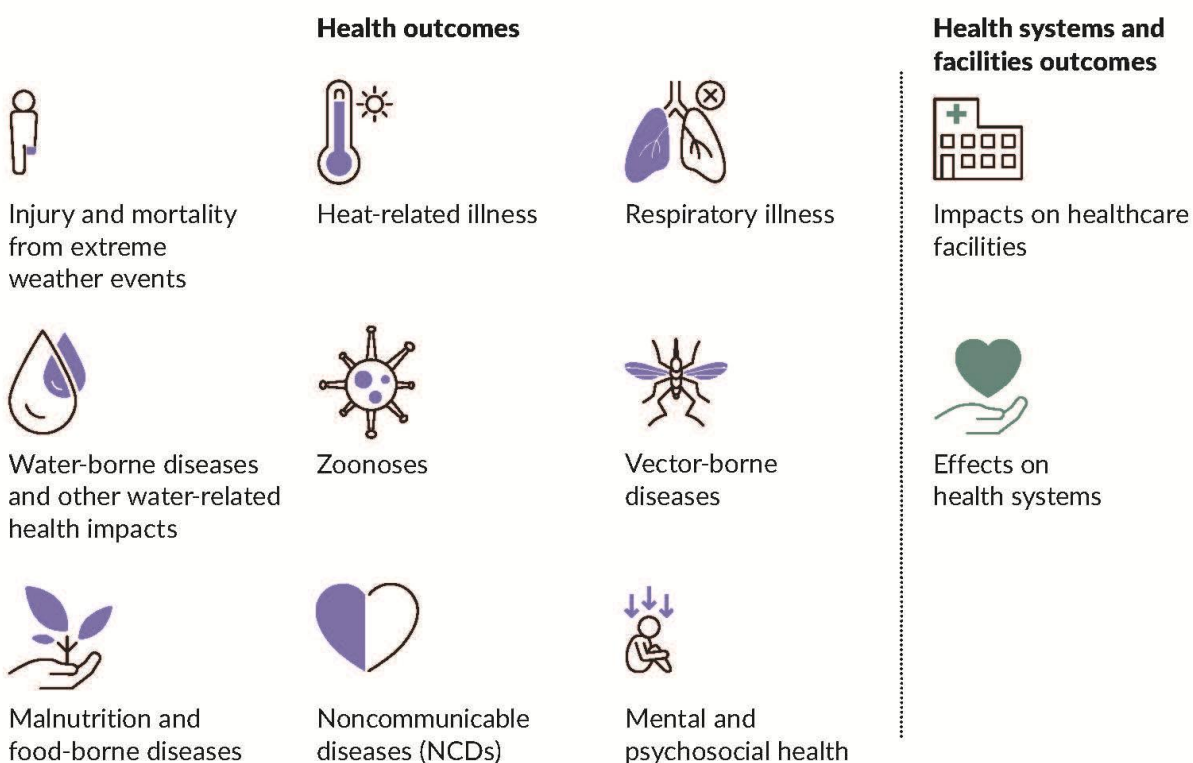


Figure 1: Adapted from WHO: Review of Health in National Adaptation Plans (<https://www.who.int/publications/i/item/9789240023604>)

Questions you may have and suggested resources



How vulnerable is [country]?

Suggested resource: [WHO Climate Change and Health Scorecards](#)

Highlights from the resource:

- The health and environment scorecards provide an overview of how countries perform in addressing six major environmental threats to health: air pollution; water, sanitation and hygiene (WASH); climate change; exposure to chemicals; radiation; and occupational health.
- The scorecards help policymakers identify priorities and areas that need urgent attention and resources.
- They have a complementary reading guide that provides additional explanations, details on the methods and results of the summary score, and a set of questions and answers to address the key priorities.
- The scorecard can be browsed by country, with specific country profiles available.



What are the vulnerabilities relating to [country], including those related to the health sector?

Suggested resource: [UNFCCC National Adaptation Plan \(NAP\)](#)

Highlights from the resource:

- Not available for all countries. A list is available of developing and least developed countries that have submitted NAPs.
- National circumstances may include information on the geography of the country, socio-economic context, urbanisation, gender issues, environmental issues and other relevant factors.
- Climate trends are likely to be highlighted, as well as extreme events and future climate projections.
- Vulnerabilities discussed, together with regions affected.
- Relevant policies are included.
- Consider risks such as extreme heat, extreme rainfall, flooding, storms (including wind and thunder), mud and landslides, and how these risks impact service delivery.
- The NAP will have a reference to health.



Where can I see all the climate acts and policies for [country]?

Suggested resource: [Climate change laws](#)

Highlights from the resource:

- Laws and policies relating to climate change, including targets (search country by geography).

For more specific information about the local area, the sources may be fewer, but they will be rich in lived experience.



What are the vulnerabilities relating to [area/district]?

Suggested resource: [UNFCCC National Adaptation Plan \(NAP\)](#), local government plans, local communities

Highlights from the resource:

- There is likely to be an indication of the vulnerabilities in different regions within the NAP, but this will be limited.
- Local and district councils should have local policies and plans, tailored to the specific local circumstances.
- Local communities have knowledge of the extreme weather events they have experienced, how these events have impacted them, and how they have dealt with these events.

The WHO has produced a comprehensive [climate change and health toolkit](#), which serves as a useful reference for this document.

Taking action: climate adaptation and mitigation activities at facility level

Facility governance and policy

Objectives of this section

- Have a good system for improved coordination of climate change and health actions.
- Understand the climate-related systems and policies established to integrate climate and health into planning eye health activities at all levels.

As part of the response to the threats posed by climate change, the WHO promoted a process for countries to integrate health-related approaches into their National Adaptation Plan (NAP), aimed at building the resilience of health systems to climate change in the medium and long term. This strategic document on health in NAP emphasises health as a priority sector susceptible to climate change; however, the extent to which health risks are considered and addressed varies between countries.

To achieve the objectives of this section and to develop the right policy or strategic document, we need to answer the following questions so we can understand what the national programme or facility is doing in terms of its policies towards climate action.



What exists?

Rationale: Does the facility have policies and standard operating procedures (SOPs) governing energy management, water management, procurement practices, waste management, training of staff on climate change/actions, climate risks and disaster preparedness?

Response/observation notes:



How often are these policies or SOPs reviewed?

Rationale: Was there any review of the policy or SOP since it was produced? What changed?

Was there any stakeholder engagement (e.g. staff, patients, local communities) to identify climate risks that inform the policy/SOP review and development?

Response/observation notes:



Where does accountability and responsibility sit?

Rationale: Who is accountable for the policy? Who is responsible for ensuring compliance with the policy and SOPs? Is there a climate change champion in the facility?

Do you have a committee with reasonable representation to monitor the implementation of the policies and SOPs?

Response/observation notes:



Where are the policies saved? Are they accessible?

Rationale: Are the staff aware of the policy and SOPs? Have they been trained and well informed about their contents?

Response/observation notes:

Recommendations

If your facility lacks these policies and wishes to develop their own, several key considerations should be taken into account.

- **Stakeholder engagement:** Engage with local organisations and hospital networks that are committed to developing climate and environmental sustainability policies to inspire the design of your local policy and SOPs.
- **Purpose:** Consider developing an environmental policy that is appropriate to the purpose and context of the health facility and programme, including the nature, scale and environmental impacts of its activities and services.
- **Framework:** The policy should provide a framework for setting the environmental objectives and commitment to protecting the environment.
- **Sustainable procurement:** The policy should embed the practice of selecting products based on their low environmental impact, including how they are shipped to the facility. Select products that consume less water and energy and use fewer harmful chemicals, and embed the principles of the circular economy; for example, what happens at the end of a product's life cycle.
- **Communication:** The policy should be maintained as a reference document and communicated widely to all staff and relevant stakeholders.

Facility infrastructure

Objectives of this section

- To assess how resilient eye health infrastructure and technology are in providing good-quality eye health services and protecting the population from the impact of climate change.
- To promote climate-resilient eye health infrastructures and resource management, including energy, water and waste.

Energy resilience

All health facilities require energy to operate, which is mostly derived from fossil fuels. These energy sources are often unsustainable, unreliable and are especially vulnerable to inflation-related price increases.

Climate change can impact access to energy in various ways across all health facilities. Extreme weather events, such as storms, may damage power lines and grids. Floods may affect generators, power lines or battery storage systems. Heatwaves may lead to increased electricity usage.

With the effective planning and assessment of climate risks – along with energy sources and usage – eye health facilities can operate in a more environmentally sustainable way, enhance climate resilience and reduce costs. Establishing a baseline for energy usage will inform the development of energy-reliant approaches for the eye health facility. We need to answer the following questions to help determine these baselines.



What is your main source of electricity?

Rationale: Identify if the main source is from the national grid, generators or other means. This will help in understanding the reliability of your energy source during any climate event.

Response/observation notes:



Does your facility have a renewable energy system installed?

Rationale: The installation of solar panels, wind turbines or other renewable energy systems that are sufficient to power the equipment in the facility can supplement or replace grid or generator power. It is necessary to assess the location of the energy backup or the renewable energy system to ensure it can withstand extreme weather events.

Response/observation notes:



Do you have an energy conservation and efficiency plan in place?

Rationale: The most cost-effective way to reduce energy use is to develop a conservation plan that lowers energy consumption and continues to produce energy savings in the long term.

- The plan should highlight the availability of a reliable emergency backup power system to ensure continuity of care during power outages caused by storms or flooding.
- It should consider investing in energy-efficient HVAC systems, lighting and appliances to reduce energy consumption and gas leakage from ACs and fridges. This reduces both costs and the carbon footprint.
- The plan should also include a maintenance plan to address preventable energy issues.

Response/observation notes:



Does your facility have efficient equipment, appliances, devices and patient management systems?

Rationale:

- Aim to conserve energy and improve energy efficiency in all energy-using equipment, devices and patient management processes.
- Indicate if you have energy-efficient equipment that can save energy and reduce waste when in use.
- Consider using LED bulbs for your lighting, both inside and outside the facility.
- Do you use an electronic medical recording system (EMR)?
- Patient management systems, including review, diagnosis and follow-up appointments, are efficiently managed to reduce patient travel, thereby contributing to lower overall carbon emissions.

Response/observation notes:

Recommendations

The goals are to reduce unnecessary usage, increase energy efficiency and increase resilience of the energy supply. Target interventions include reducing energy consumption in eye health facilities and adopting environmentally sustainable energy sources (solar power), and energy efficient lighting and equipment. Consider the following approaches:

- Establish a baseline energy data set for monitoring energy consumption and tracking energy-saving initiatives.
- Conduct regular energy audits to guide your decisions on retrofitting.
- Implement energy efficiency measures, including replacing traditional lightbulbs with LED bulbs and using energy-efficient equipment.
- Utilise renewable energy sources, such as solar power.
- Develop an energy usage plan to reduce disruptions in service delivery during extreme weather events.
- Implement education and awareness campaigns, along with capacity-building initiatives for staff, to promote a deeper understanding of energy access and consumption.
- Designate climate champions to foster a culture of energy savings by ensuring lights and other equipment are turned off when not in use.

Water management

There is a significantly uneven distribution of freshwater resources across the world, resulting in water scarcity in some regions. This is exacerbated by climate change and poor water infrastructure. Increased temperatures, flooding due to altered precipitation patterns, drought and rising sea levels are impacts of climate change that result in freshwater shortages, salinisation and contamination.

Healthcare facilities lacking high-quality water and a regular supply will experience poor sanitation and hygiene practices, such as handwashing. This issue can be further impacted by climate variability and change, leading to prolonged water shortages. Therefore, conserving water and implementing safe water supply approaches will not only be a prerequisite for healthcare delivery, but will also contribute to creating a resilient health system. Water conservation strategies aimed at preventing changes in water supply or quality, as well as methods for capturing excess water resulting from heavy rainfall, should be a priority for all healthcare facilities in regions at risk from climate change.

Healthcare facilities are encouraged to answer the following questions to assess their preparedness in water management.



Do you have safe water storage and recycling facilities?

Rationale: Adequate water storage and recycling systems ensure water availability during droughts or supply disruptions.

Response/observation notes:



Are these water storage facilities supported to withstand flooding, strong wind or other extreme weather events?

Rationale: Water storage tanks should be placed in areas that are not prone to flooding. They should have barriers to protect them from rising waters or other climate risks.

Response/observation notes:



Is a water conservation plan available? Are all staff familiar with it and do they adhere to its implementation?

Rationale: Healthcare facilities may need to conserve water, while others may need to increase their water usage.

A carefully designed water conservation and management plan should include alternative water sources and ensure that actions are balanced between conservation and usage.

Response/observation notes:



Where does the wastewater from the facility go?

Rationale: Wastewater should be safely managed by using an on-site treatment system or sent to a functional sewer system.

Response/observation notes:

Recommendations

The goals are to decrease water usage and promote the effective disposal of wastewater. Water usage can be minimised through:

- Monitoring and maintaining pipes, taps and toilets to stop leakage.
- Installing water-saving devices, including low-flow taps and toilets.
- Utilising rainwater collection for non-potable purposes, such as flushing toilets and irrigating landscapes.
- Developing water conservation plans, guidelines and monitoring systems.
- Implementing messaging and raising awareness among staff and patients about water conservation, including the use of posters in strategic locations.

Building design and thermal resilience

When the structural and non-structural elements of a health facility's infrastructure are well-designed and functioning properly, they help the facility to remain operational during and after any climate shock or stress. These elements include construction and roofing materials, ventilation systems and green landscaping. Other components to consider are addressed in other sections of this toolkit, and include water and sanitation services, energy systems, and waste and disaster management.

To assess the resilience of the eye health infrastructural design, answer the following questions.



Have you mapped the health facility to understand the climate risks that are likely to affect it?

Rationale: Understanding the risk type would help when designing the right infrastructural elements to be installed or during retrofitting as an adaptation mechanism to extreme weather events.

Response/observation notes:



Do you have a schedule for inspecting the building on a regular basis?

Rationale: A building inspection schedule will ensure regular inspections of the internal and external structures for signs of deterioration that could affect their ability to withstand climate risks.

Response/observation notes:



Does the facility have sufficient natural ventilation?

Rationale: As temperatures rise, hospitals must be equipped with efficient cooling systems and have backup arrangements in place to maintain patient comfort and protect sensitive equipment. Incorporate passive cooling techniques, such as cross-ventilation and shading, to reduce the need for energy-intensive air conditioning.

Response/observation notes:



Is the facility built using materials that can withstand extreme weather conditions, such as storm-resistant windows, flood-proof doors, and seismic-resistant foundations?

Rationale: Hospitals should be designed with disaster resilience in mind, considering the potential for natural disasters like earthquakes, hurricanes or wildfires. Use reflective roofing materials, green roofs and heat-resistant facades to reduce heat absorption in buildings.

Response/observation notes:



Do you receive information on early warning signs for extreme weather events? Do you know how to prepare the facility in response to various extreme weather events? Are resources readily available in preparing for these extreme events?

Rationale: This ensures prompt action to mitigate against the events. The development and use of a disaster emergency plan would ensure that facilities are well prepared for extreme weather conditions.

Response/observation notes:



Are shading and green landscaping practised at the facility?

Rationale: Plant trees and establish shaded outdoor areas to reduce the urban heat island effect, which can impact both patients and staff.

Response/observation notes:



Are floodwater barriers in place to reduce the risk of flooding in the facility?

Rationale: For hospitals in flood-prone areas, barriers or levees can protect against rising waters. These could include temporary barriers that can be deployed in emergency situations.

Response/observation notes:



Is stormwater safely managed?

Rationale: Healthcare facilities should be free of standing water due to flooding or an inadequate drainage system. The facility infrastructure should be elevated to prevent water damage during floods, and permeable pavements should be installed to reduce water runoff and manage heavy rainfall more effectively.

Response/observation notes:

Recommendations

The goals are to enhance infrastructure design and resilience through considering the location of facilities to decrease environmental risks, and design that maximises the use of natural light and ventilation. The following interventions should be considered:

- **Heat mitigation:** Integrate passive cooling strategies – such as tree canopies, shading and reflective surfaces – to reduce the urban heat island effect and provide more comfortable areas for waiting, thereby avoiding heat exposure around the hospital.
- **Patient-centred design:** Ensure that spaces are designed to cater to the needs of vulnerable populations (e.g. the elderly, children, those with chronic conditions) who are more sensitive to climate stresses.
- **Fire-resistant materials:** In areas prone to wildfires, hospitals should use fire-resistant building materials and clear vegetation around the facility to create defensible spaces.
- **Assess the climate risks** that can affect the structural and non-structural components of the health facility.
- **Climate-adapted emergency plans:** Develop and regularly update disaster response plans that align with national/local disaster emergency plans (accounting for climate risks such as heatwaves, floods, wildfires and pandemics) to ensure hospital staff are prepared for extreme conditions.
- **Conduct regular inspections** of both the internal and external structures of the facility, documenting any visible changes or damage, and develop clear action plans for retrofitting.
- **Communication systems:** Establish robust communication networks to keep patients, staff and the local community informed during extreme weather events. This may include apps or systems for alerting patients about appointment changes or service availability. Ideally, these systems should be aligned with national or local communication systems in an emergency.
- **Landscaping** of the right kind can also aid in water conservation and stormwater management.
- Refer to this WHO resource for additional information on safe, climate-resilient and environmentally sustainable healthcare facilities.
<https://www.who.int/publications/i/item/B09119>

Waste management and recycling

Sanitation and healthcare waste management services are essential for delivering high-quality care and ensuring the prevention and control of infections in healthcare facilities. These services also play a crucial role in promoting climate resilience and environmental sustainability within these healthcare settings.

Appropriate measures should be implemented to reduce wastage and ensure that generated waste is disposed of in a manner that mitigates its environmental impact.

Objectives of this section

- Promote the use of reusable consumables and equipment to reduce waste and save financial resources without compromising patient quality.
- Healthcare waste management systems are implemented with consideration for environmental sustainability and climate change.
- The capacity of healthcare staff is strengthened to manage healthcare waste.
- All health information and promotion actions related to healthcare waste management take into consideration climate resilience and environmental sustainability.

The following questions are to be answered to assess the resilience of the health facility in waste management.



What are the environmental and climate risks that could affect the collection, treatment, reuse and disposal of healthcare waste?

Rationale: Understanding local environmental and climate risks supports the development of an effective waste management plan.

Response/observation notes:



Does the health facility have a waste disposal system that is safe in any climate risk or emergency?

Rationale: Good practices in waste management during any climate emergency reduce risks to workers, patients and communities.

Response/observation notes:



Do you have a waste disposal mechanism or technology that can accommodate the large volume of healthcare waste produced in the facility? Can it withstand extreme weather events by operating under a range of climate conditions?

Rationale: Resilient waste management technology should be able to reduce the volume of waste disposed of in landfills.

Response/observation notes:



Does your facility have an established method for segregating and collecting all healthcare waste generated?

Rationale: An established segregation method for collecting healthcare waste would facilitate waste recycling and reuse, as well as appropriate disposal methods for other hazardous wastes.

Response/observation notes:



Do you have a recycling system for healthcare waste in the facility?

Rationale: The reuse or recycling of waste materials offers an opportunity to reduce the quantity of waste produced, thereby reducing the environmental impact of healthcare delivery.

Response/observation notes:



Do you use reusable instruments and consumables in your facility?

Rationale: The use of reusable instruments and consumables reduces the quantity of waste produced in healthcare delivery, particularly during surgeries and outpatient clinics.

Response/observation notes:



Does the facility have a system in place to ensure the appropriate management (including sterilisation) of reusable instruments?

Rationale: Appropriate management and sterilisation of reusable instruments and consumables prevent the spread of infection and contamination.

Response/observation notes:

Recommendations

- **Assess** the healthcare waste management system to identify and address any issues.
 - **Minimise waste generation**, especially through the use of single-use and disposable products, and promote the use of reusable products. Establish recycling systems to further reduce waste.
 - Develop localised and **appropriate waste disposal systems**, including waste infrastructure, and ensure their timely use to prevent spills and contamination. Consider a segregated waste collection system for infectious versus non-infectious waste. For non-infectious waste, separate collection can be made for recycling, domestic waste and clinical waste.
 - **Train** healthcare workers on **efficient use of resources** to reduce waste production and manage healthcare waste risks, and their emergency response to patients and communities.
- Integrate healthcare waste regulations** into existing environmental policies, taking into consideration local climate change hazards and environmental sustainability.

Supply chain

Healthcare facilities should commit to preventing pollution and actively encourage good environmental behaviour by monitoring energy consumption and procurement practices, and using products and supplies that are less harmful to the environment. They should aim to reduce their environmental impact through the positive management of resources and systems and encourage their beneficiaries, suppliers and staff to complement their activities with their own efforts. This can be achieved by procuring equipment, products and supplies from sustainable sources, purchasing recyclable and reusable products, and implementing systems for efficient supply chain management and service delivery to minimise the environmental impact of services.

Objectives of this section

- Understand whether the supported facilities procure and use equipment, processes and products that have a low environmental impact to ensure environmental sustainability.
- Identify the current service delivery process and systems.
- Ensure effective stock management to facilitate the timely procurement of medicines and supplies, avoid out-of-stock situations and prevent the wastage of medicines and consumables due to expiration or poor storage conditions.
- Recommend approaches that minimise the impact of products and services on the climate.

The facility should answer the following questions to determine the existing supply chain systems and how they impact the climate and the environment.



Do you assess the energy requirement of any equipment you plan to procure?

Rationale: It is essential to examine the energy requirement of any eye care equipment to ensure energy efficiency.

Response/observation notes:



Do you have a sustainable procurement policy statement or protocol to guide your procurement processes?

Rationale: A clear procurement policy statement or protocol will guide the purchase of climate and environmentally sustainable equipment and products.

Response/observation notes:



Have you identified local suppliers that have been assessed and approved for your local procurement?

Rationale: It is advisable to have local suppliers that meet quality standards and code of conduct requirements, and who are aligned with sustainable climate and environmental practices.

Response/observation notes:



Do you prioritise local procurement over central and international procurement in your annual programme procurement planning?

Rationale: The use of certified local suppliers reduces your carbon emissions and ensures efficiency. This also protects the supply chain system during extreme weather events.

Response/observation notes:



Do you consider purchasing environmentally sustainable products, such as those with minimal packaging, that are reusable or recyclable?

Rationale: This reduces the large production of waste and dangerous and non-degradable plastics.

Response/observation notes:



Do you have an efficient procurement and supply chain system that can deliver medicines, consumables and products in emergency or extreme weather events?

Rationale: A reliable and sustainable supply chain system enables uninterrupted service delivery in the event of a climate disaster or emergency.

Response/observation notes:

Recommendations

- Develop **procurement guidelines or protocols** for use by the facility or procurement staff.
- Encourage the **use of reusable products and instruments**. Conduct training on their use, including sterilisation and disinfection.
- Prioritise the **procurement of locally available products and equipment**, placing emphasis on reusable items.
- Improve **stock management systems** to ensure the timely procurement and distribution of medications/consumables with nearby health facilities.

Capacity development for healthcare staff, community and patient engagement

This section focuses on the concept of the “three Ps” around climate and environmental sustainability: prevention, (health) promotion and preparedness.

Objectives of this section

- Healthcare facility staff have the capacity and knowledge to plan and prepare actions around climate risks and environmental sustainability.
- Programme and facility staff understand the necessity to create and promote climate and environmentally sustainable actions in the course of their work.
- To build the capacity of staff to communicate and raise awareness on climate resilience and environmental sustainability among their colleagues, patients and communities, empowering them to make informed decisions about their eye health.
- To have a sustainable and safe working health facility that is free from climate risks and environmental impacts, thereby reducing the risks to workers and patients.

Promoting best practices and fostering a culture of environmental sustainability among health workers is essential for achieving climate action goals and objectives. To accomplish this, teams involved in developing and providing eye health services should recognise the significance of climate action, their role in ensuring environmental sustainability, and climate action-related global and national priorities.

Educational support and capacity building are essential to ensure national ownership of climate and eye health programmes, and are key to creating a community of practice for climate-resilient eye care. To support the design and implementation of environmentally sustainable eye health services, we need to focus on building staff capacity to ensure they have the necessary skills, tools and resources. They can then utilise their skills to prepare, prevent and promote environmentally sustainable practices, and deliver context-specific training as needed.

By engaging with patients and communities, hospitals can create a more resilient infrastructure that can better withstand the effects of climate change, while continuing to provide high-quality care during crises.

Effective communication is one of the most powerful tools we can use to protect and promote public health. The most significant impact our programmes can have on environmental sustainability is by raising awareness among health workers, patients and communities. This awareness will ensure that interventions are effective for their roles and needs within the healthcare pyramid. Communicating the health risks of climate change and the health benefits of climate action is both necessary and beneficial. Health professionals and staff are well positioned to play a unique role in helping their communities understand climate change, protect themselves and realise the health benefits of climate solutions.

The eye health workforce and beneficiaries can be affected by various mechanisms due to climate change. Therefore, the resilience of the system and processes needs to be assessed to ensure that appropriate and effective approaches are designed to address these issues.

The following questions can be answered to assess the resilience of the healthcare workforce, patients and communities to climate risks.



Have you assessed the likely risks that may affect the workplace during emergencies?

Rationale: Assessing workplace risks that may occur during any climate-related emergency would help address its impact on health workers and their patients.

Response/observation notes:



Do you have a contingency plan for transporting your staff during any climate emergency or disaster?

Rationale: Changes in the frequency and intensity of extreme weather events may affect the ability of health workers to reach the facility.

Response/observation notes:



Do you have a programme plan which provides services to patients and communities during any climate risk or emergency?

Rationale: Changes in the frequency and intensity of extreme weather events may impact the ability of patients and communities to access eye health services and facilities.

Response/observation notes:



Does your facility work with local communities to promote environmental sustainability?

Rationale: Community sensitisation and awareness promote and empower the beneficiaries to ensure environmentally sustainable actions.

Response/observation notes:



Are you involved in health talks at the facility and community awareness programmes to improve the knowledge and positive attitude of patients and communities towards climate risks and environmental sustainability?

Rationale: Staff, patients and communities should have the knowledge to conduct their daily lives in a way that is sustainable to the climate and environment.

Response/observation notes:

Recommendations

- **Awareness raising** sessions for healthcare facility staff, patients and the community are regularly conducted on climate change and related adaptation and mitigation approaches.
- Healthcare facilities are engaged in and **integrate community sensitisation activities** with climate-related messages.
- **Promote good health and early detection** to reduce the need for interventions, specialised healthcare and medications, such as avoiding complications from diabetic retinopathy by promoting a healthy diet, exercise and early detection of diabetes.
- Encourage staff involved in eye health and refractive error programmes to **undertake courses** that build their knowledge on climate change.
- The training programme developed by the WHO Academy on climate change and health can be considered. This course aims to enhance awareness of WHO tools and resources, foster in-depth comprehension of the intricate linkages between climate change and health, and build technical capacity to assess context-specific health risks and vulnerabilities. Participants will also gain expertise in developing mitigation and adaptation policies and interventions in health (and health-determining) sectors, ultimately safeguarding populations from the health risks associated with climate change. The link below directs you to the WHO Academy on climate change.

WHO Academy on Climate Change and Health Programme (early release) - [web-staging.lxp.academy.who.int/coursewares/course-v1:WHOA+0021_CCH_EN+2023](https://www.who.int/coursewares/course-v1:WHOA+0021_CCH_EN+2023)

WHO also offers training manuals and educational materials on a wide range of topics related to climate change and human health. The following modules can be relevant:

- Introduction to weather and climate
- Population health and climate change
- Policies and practices of mitigation and adaptation
- Assessment and prediction of the health impacts of climate change
- Air quality
- Assessing health vulnerability
- Adaptation
- Mitigation and co-benefits
- Disaster risk management
- Communicating climate change and health

Before we start raising awareness, we need to consider our audience. This will help us determine what is useful to say and what isn't.

Simple key messages, repeated frequently by trusted voices, are the most effective. Below are some that can be considered and contextualised.

- Climate change is bad for our eye health. The eyes are directly exposed to the environment, making them susceptible to diseases caused by environmental factors. As health professionals, we are already seeing the impacts firsthand.
- Climate change is likely to increase the incidence of trachoma infections, vitamin A deficiency, cataracts, severe allergic eye diseases, glaucoma, age-related macular degeneration and eye injuries.
- Extreme weather events can cause the destruction or temporary closure of medical facilities and disrupt supply chains for essential medical supplies, including medications, surgical supplies, spectacles and assistive products.
- Extreme weather events can increase the risk of physical injury, including to the eyes.
- Particles in the air and smog from greenhouse gas emissions can cause respiratory issues, but they also affect eye health. Traffic-related air pollution is linked to severe allergic eye diseases.
- Some people are more vulnerable to the effects of climate change, including children, women, people with disabilities, older people and those living in remote areas.
- Wear a pair of high-quality sunglasses with 100% UV protection when you're outside. Sunglasses are essential for children because their eyes are still growing and more sensitive to UV rays.

- Health professionals should be advised that when making referrals, they should refer patients to the closest, most appropriate facility to help reduce the environmental impact.
- Cooling and heating your health facilities and homes efficiently will help you remain comfortable all year round and save on energy.
- Individual actions can make a difference. Promote actions that reduce greenhouse gas emissions and offer health co-benefits; for example, walking, riding or using public transportation instead of driving, shifting to a healthier, plant-based diet, or switching to renewable energy sources.
- Taking action is a 'win-win-win' because these actions benefit our health, our economy and the climate.

References

1. WHO guidance for climate-resilient and environmentally sustainable healthcare facilities. Geneva: World Health Organisation; 2020. Licence: CC BY-NC-SA 3.0 IGO
2. Checklist to assess vulnerabilities in healthcare facilities in the context of climate change. Geneva: World Health Organisation; 2021. Licence: CC BY-NC-SA 3.0 IGO
3. Tye, S., and J. Waslander. 2021. "Mainstreaming Climate Adaptation Planning and Action into Health System in Fiji, Ghana and Benin." Working paper. Washington, DC: World Resource Institute. <https://doi.org/10.46830/wriwp.19.00119>
4. Integrating Climate Change Adaptation into Development Co-operation – Policy Guidance. Organisation for Economic Co-operation and Development, 2009.
5. IAPB Guide for Environmentally Sustainable Practices in The Eye Health Sector. International Agency for the Prevention of Blindness Climate Action Working Group; 2019.
6. The Climate Crisis is a Child Rights Crisis: Introducing the Children’s Climate Risk Index. New York: United Nations Children’s Fund (UNICEF), 2021.
7. ClimaHealth Knowledge for action on climate change and health. Geneva: World Health Organisation. <https://climahealth.info/>

Appendices

1. Example of a smart hospital checklist <https://www.who.int/publications/m/item/smart-hospitals-toolkit>
2. Additional useful resources and courses on climate change
 - <https://careclimatechange.org/academy/>
 - <https://unccelearn.org/>
 - **Climate Action Paybook for Hospitals - <https://climatecouncil.noharm.org/>**
 - **Climate change toolkit for health professionals - <https://cape.ca/wp-content/uploads/2019/05/Climate-Change-Toolkit-for-Health-Professionals-Updated-April-2019-2.pdf>**
3. The Action Plan Template enables you to create an action plan tailored to your facility, based on your responses and comments to the questions in various sections of this toolkit. The action plan will be a living document that tracks the recommended actions and their implementation progress.

It is advised that you copy the responses and comments from each section of the toolkit into the action plan table. Following this, you will develop actions for each comment and indicate how you will deliver on the action with clear timelines.

We work with partners in low and middle income countries to eliminate avoidable blindness and promote equal opportunities for people with disabilities.

www.sightsavers.org