

Environment in Humanitarian Action: Global Training Manual Template

Climate Change Adaptation and Disaster Risk Reduction





This module was developed as part of the UNEP/OCHA Joint Environment Unit's project titled Localisation of Environment in Humanitarian Action, and is part of a template of a training manual consisting of:

- 1 Introductory Module*
- 11 Technical Modules*
- 1 ToT Module*

The template is an open source and available for any organisation or individual to use or refer to in the development and delivery of their Environment in Humanitarian Action training.

What distinguishes this training manual is its comprehensive and flexible framework. We encourage users to adjust the content to meet with the specific needs within their specific Contexts. We kindly ask that credit is given when using or adapting this resource.

MODULE OVERVIEW

This module focuses on the integration of climate change adaptation and disaster risk reduction (DRR) strategies in humanitarian contexts. It emphasizes the importance of addressing the impacts of climate change on humanitarian efforts and implementing strategies to minimize disaster impacts. Participants will learn how to develop and implement adaptation plans, integrate DRR into humanitarian programming, and utilize tools such as environmental screening and risk assessments to ensure sustainable and effective responses. Additionally, the module explores innovative approaches like Nature-based Solutions, anticipatory action, and forecast-based financing, offering participants practical strategies to align their efforts with global climate goals while addressing immediate humanitarian needs.

Learning outcomes

By the end of this module, participants will:

1. Understand the relationship between climate change, DRR, environment, and humanitarian action.
2. Integrate climate change adaptation and DRR strategies into humanitarian programs.
3. Develop and implement adaptation and DRR measures for various disaster types at different levels.
4. Utilize climate risk assessments and environmental screening tools in humanitarian contexts.
5. Incorporate nature-based solutions, anticipatory action, and forecast-based financing into their strategies.
6. Analyze case studies to identify best practices for integrating climate change adaptation and DRR.

Estimated delivery time

Total time: 230 minutes

CONTENT OUTLINE

- 1. Introduction to climate change adaptation and disaster risk reduction** 04
 - Overview of climate change and its impacts on humanitarian contexts.
 - Key principles and objectives of climate change adaptation and DRR.

- 2. Nexus between climate change, disaster risk, environment, and humanitarian action** 07
 - Relationship between climate change, disaster risk, adaptation, environment, and humanitarian action.
 - Impacts of climate change on disaster frequency, duration and severity.
 - Integration of environmental and climate considerations in humanitarian actions.

- 3. Strategies for integrating climate change adaptation and DRR into humanitarian programs** 09
 - Methods for assessing climate risks and vulnerabilities.
 - Development of climate change adaptation plans.
 - Integration of DRR strategies in humanitarian action plans.
 - Incorporating nature-based solutions to enhance resilience.
 - Importance of anticipatory action.

- 4. Environment-focused adaptation and DRR measures** 11
 - Tailor adaptation and DRR strategies to specific environmental challenges.
 - Examples of successful adaptation and DRR measures.

- 5. Case studies and best practices** 14
 - Presentation of case studies that illustrate successful integration of climate change adaptation and DRR in humanitarian contexts.
 - Discussion of lessons learned and best practices.

FACILITATOR'S GUIDE

Step	Activity	Method	Duration	Materials Needed	Expected Outcomes
1	Introduce the module. Provide an overview of the module, its objectives, and the schedule.	Presentation, plenary discussion	5 mins	Slides, handouts	Understand the module's objectives and structure
2	Explain the introduction to climate change adaptation and disaster risk reduction. Overview of climate change and its impacts on humanitarian contexts. Introduce key principles and objectives of climate change adaptation and DRR.	Lecture, plenary discussion	15 mins	Slides, handouts	Understand the importance of climate change adaptation and DRR
3	Conduct a Q&A session: Defining Adaptation and DRR. Participants discuss and define climate change adaptation and DRR.	Q&A Session	10 mins	Flipchart, markers	Recognize the significance of climate change adaptation and DRR
4	Explain the nexus between climate change, disaster risk, adaptation, environment, and humanitarian action. Discuss the relationship between climate change, disaster risk, adaptation, environment, and humanitarian action. Explain how climate change impacts the frequency, duration and severity of disasters.	Lecture, Q&A	20 mins	Slides, handouts	Understand the nexus between climate change, disaster risk, adaptation, environment, and humanitarian action
5	Facilitate a Q&A session: Climate Risk Assessment. Participants assess climate risks for a hypothetical humanitarian scenario. Discuss how climate risk assessments can be integrated with environmental screening processes to avoid duplication and ensure comprehensive analysis. Highlight how these tools can complement each other, allowing humanitarians to streamline their assessments without the need for multiple, separate tools.	Q&A Session	30 mins	Flipchart, markers	Apply climate risk assessment and environmental screening in humanitarian scenarios to ensure comprehensive and efficient analysis.
6	Discuss approaches for integrating climate change adaptation and DRR into humanitarian programs. Introduce methods and tools for assessing climate risks and vulnerabilities. Discuss the development of climate change adaptation plans as key elements of early action and prevention strategies. Emphasize how these plans proactively reduce risks and enhance community resilience before disasters occur. Explore the integration of DRR strategies to ensure a comprehensive approach to risk management.	Lecture, demonstration	30 mins	Slides, handouts	Learn strategies for integrating adaptation and DRR with an understanding of their role in early action and prevention

7	Facilitate a group discussion/role play session: Developing an Adaptation Plan. Participants will engage in a group exercise where they design a locally led adaptation strategy with a hypothetical community. This will involve identifying local leaders, incorporating traditional practices, and ensuring that the adaptation measures are culturally appropriate and sustainable. As part of this exercise, participants will also identify and develop disaster-specific adaptation and DRR measures at various levels (national, regional, community) to ensure the plan is comprehensive and context-specific.	Group discussions	60 mins	Flipchart, markers	Develop effective climate adaptation plans, including disaster-specific measures tailored to different levels (national, regional, community).
8	Explain environment-focused adaptation and DRR measures. Tailor adaptation and DRR approaches to specific environmental challenges. Provide examples of successful measures.	Lecture, Q&A	20 mins	Slides, handouts	Understand specific measures for different environmental challenges
9	Present case studies and best practices. Presentation of case studies that illustrate successful integration of climate change adaptation and DRR in humanitarian contexts. Discuss lessons learned and best practices.	Presentation, group discussion	30 mins	Slides, handouts, case study materials	Apply best practices from case studies
10	Summarize and conclude. Review key points, reinforce main takeaways, and address any questions.	Presentation, Q&A	10 mins	Slides	Reinforce key learnings and address questions

Facilitator notes

Section 1: Introduction to climate change adaptation and disaster risk reduction

Key points

- Explain the impacts of climate change on humanitarian contexts.
- Introduce key principles and objectives of climate change adaptation and DRR.

Background information

- Climate change is exacerbating the frequency, duration and intensity of natural events, impacting vulnerable communities the most.
- Distinguish between climate shocks and stresses.
- Effective climate change adaptation and DRR strategies are essential to prevent, prepare for and minimize these impacts and build community resilience.



Content development: Introduction to climate change adaptation and disaster risk reduction

Concept	Description	Impact	Real-World Application
Climate change adaptation	Adjustments in systems and practices to mitigate the impacts of climate change.	Reduces vulnerability to climate-related hazards and supports long-term resilience.	Implementing early warning systems and resilient infrastructure in flood-prone areas.
Disaster risk reduction	Strategies to prevent new risk, reduce existing disaster risks and manage residual risks. Includes non-climatic events (such as earthquakes).	Enhances community capacity to cope with and recover from disasters.	Developing community-based disaster preparedness plans and conducting regular drills.
Multi-hazard approach	Understanding the interplay of various hazards and risks affecting vulnerable communities.	Provides a comprehensive approach to managing disaster risk in complex contexts.	Integrating flood, drought, and conflict risk management into humanitarian planning.
Rapid-onset disasters	Sudden events such as floods, cyclones, or earthquakes that occur with little warning.	Linked to climate change through increased frequency and intensity of extreme weather events.	Implementing immediate response measures such as evacuation plans and emergency shelters in cyclone-prone areas.
Slow-onset disasters	Gradual events such as droughts, desertification, and sea-level rise that develop over time.	Linked to climate change through prolonged changes in weather patterns and environmental degradation.	Developing long-term adaptation strategies such as drought-resistant crops and sustainable water management systems.
Anticipatory Action	Proactive measures taken to reduce the impact of disasters before they occur, based on forecasts and early warnings.	Helps to minimize damage and save lives by taking timely action before a disaster strikes.	Pre-positioning relief supplies and activating emergency response plans based on flood or cyclone forecasts.
Forecast-based Financing (FbF)	A financial mechanism that releases funds based on forecast triggers, enabling anticipatory action to reduce disaster impacts.	Ensures timely and effective response, reducing losses and enhancing community resilience.	Using climate forecasts to trigger early action plans and allocate resources in anticipation of drought or floods.
Nature-based Solutions (NbS)	Approaches that use natural processes and ecosystem management to reduce disaster risks and adapt to climate change.	Provides sustainable, cost-effective, and environmentally friendly ways to enhance resilience and protect the environment in humanitarian action.	Restoring mangroves to protect coastal areas from storm surges, reforesting degraded lands to prevent landslides, and creating urban green spaces to reduce heat island effects. In humanitarian contexts, NbS also help reduce environmental degradation caused by emergency responses, such as deforestation for firewood or improper waste management.

Adaptation to climate change	Resilient water management strategies can help communities adapt to the impacts of climate change, such as altered rainfall patterns and increased frequency of extreme weather events.	Increases resilience to droughts, floods, and other climate-related challenges; ensures continuous access to safe water.	Implementing rainwater harvesting systems in areas experiencing unpredictable rainfall ensures water availability during dry spells.
Economic impact	Proper management of water resources can reduce the financial burden on humanitarian operations by lowering the cost of water provision and mitigating the impact of water-related health issues.	Decreases operational costs, reduces the need for emergency water shipments, and improves the efficiency of aid distribution.	Investing in sustainable water infrastructure in camps reduces ongoing costs associated with water trucking and emergency supply missions.
Impacts of climate change	Climate change significantly increases the frequency, duration and severity of disasters, such as storms, droughts, and extreme weather events, which directly affect vulnerable communities. These impacts exacerbate existing crises and create new challenges for aid delivery and disaster response. Areas with environmental degradation have less resilience to withstand climate shocks and stresses. On the other side, healthy ecosystems buffer climate change impacts.	Understanding these impacts is crucial for developing effective adaptation and DRR strategies that enhance community resilience.	Rising sea levels increasing the frequency of coastal flooding, which threatens low-lying communities and infrastructure; more intense hurricanes and cyclones, and heatwaves leading to greater destruction and displacement.
Climate change adaptation (CCA)	Adjustments in systems and practices to mitigate the impacts of climate change.	Reduces vulnerability to climate-related hazards and supports long-term resilience.	Implementing early warning systems and resilient infrastructure in flood-prone areas to minimize damage and save lives; developing drought-resistant agricultural practices to ensure food security.
Disaster risk reduction (DRR)	Strategies to prevent new risk, reduce existing disaster risks, and manage residual risks.	Enhances community capacity to cope with and recover from disasters.	Developing community-based disaster preparedness plans that involve local populations in identifying risks and creating response strategies; conducting regular drills to ensure readiness and effective response.
Key principles and objectives of CCA	Enhancing resilience, improving risk management, and promoting sustainable practices that can withstand climate impacts.	Effective adaptation reduces vulnerability and ensures long-term sustainability.	Integrating sustainable agricultural practices to cope with changing weather patterns; reinforcing buildings and infrastructure to withstand stronger storms and floods and heatwaves; implementing community education programs on climate resilience.
Key principles and objectives of DRR	Involves prevention, mitigation, preparedness, and recovery.	DRR strategies minimize damage, save lives, protect property, and reduce economic losses.	Establishing early warning systems for tsunamis and hurricanes; constructing safe shelters in disaster-prone areas; creating evacuation routes and plans for rapid response during emergencies.

Section 2: Nexus between climate change, disaster risk, adaptation, environment, and humanitarian action

Key points

- Discuss the relationship between climate change, disaster risk, adaptation, environment, and humanitarian action.
- Explain how climate change impacts the frequency, duration and severity of disasters.
- Demonstrate how environmental and climate considerations are integrated together into humanitarian actions.

Background information

- Climate change is a significant driver of increased disaster risk, leading to more frequent and severe weather events.
- Understanding this nexus is essential for developing effective adaptation and DRR strategies in humanitarian contexts.
- Integrating environmental considerations ensures sustainable and effective humanitarian responses

Content development: Nexus between climate change, disaster risk reduction, adaptation, environment, and humanitarian action

Aspect	Positive Interactions	Negative Interactions
Climate change	Provides opportunities to incorporate long-term resilience and adaptation strategies into humanitarian efforts; Promotes innovation in sustainable practices and green technologies; Encourages international cooperation and funding for climate resilience projects.	Increases the frequency and severity of disasters, overwhelming humanitarian capacities and resources; Leads to displacement of populations, creating additional humanitarian challenges; Strains existing infrastructure and resources, leading to longer recovery times.
	<i>Real-World Application/Examples</i>	<i>Real-World Application/Examples</i>
	Implementing early warning systems and resilient infrastructure in flood-prone areas; promoting renewable energy solutions in disaster-affected regions.	Increased severity of hurricanes and cyclones leading to massive displacements and infrastructure damage; prolonged droughts causing water scarcity and food insecurity.
Disaster risk reduction	Integrating DRR into humanitarian action reduces the impact of disasters and builds community resilience; Encourages community involvement in preparedness and response activities; Promotes the use of local knowledge and resources in disaster planning and recovery.	If not properly integrated, DRR efforts can be seen as separate from immediate humanitarian needs, leading to fragmented responses; Resource allocation conflicts between immediate relief and long-term DRR efforts; Potential for lack of coordination between different agencies and organizations.
	<i>Real-World Application/Examples</i>	<i>Real-World Application/Examples</i>
	Developing community-based disaster preparedness plans and conducting regular drills; enhancing capacity building through training and workshops on DRR.	Fragmented responses in emergency situations leading to inefficient use of resources and delayed recovery; conflicts over resource allocation during simultaneous disaster relief and long-term DRR planning.

Climate change adaptation	Enhances the capacity of communities to withstand climate-related hazards; Promotes sustainable development practices that mitigate climate impacts; Integrates traditional and scientific knowledge for comprehensive adaptation strategies.	Adaptation measures can be resource-intensive and may not address immediate humanitarian needs; Potential for maladaptation if strategies are not properly implemented; Possible conflicts over land and resources needed for adaptation projects.
	<i>Real-World Application/Examples</i>	<i>Real-World Application/Examples</i>
	Creating climate-resilient agricultural practices and water management systems; developing infrastructure that can withstand extreme weather conditions.	High costs and resource demands for implementing climate adaptation projects; land-use conflicts arising from the need to allocate areas for adaptation measures such as reforestation or flood management.
Environment in humanitarian action	Ensures that humanitarian responses are environmentally sustainable, reducing long-term negative impacts; Incorporates environmental assessments into planning and implementation; Promotes ecosystem-based approaches to disaster risk reduction and climate adaptation.	Environmental degradation drives climate change impacts by reducing the resilience of ecosystems, leading to more severe disasters. Conversely, climate change exacerbates environmental degradation, creating a feedback loop that intensifies both challenges.
	<i>Real-World Application/Examples</i>	<i>Real-World Application/Examples</i>
	Conducting environmental assessments before implementing humanitarian projects; using sustainable materials and practices in emergency shelters and infrastructure.	Deforestation in emergency situations for firewood and shelter materials; improper waste management in refugee camps leading to water and soil contamination; increased vulnerability to climate-related disasters due to degraded environments.
Humanitarian action	Incorporating climate change adaptation and DRR ensures a holistic approach to disaster management, addressing both immediate and long-term needs; Enhances capacity building within communities; Facilitates access to international aid and technical assistance.	Lack of integration can lead to short-term fixes that do not address underlying vulnerabilities, increasing future disaster risks; Possible donor fatigue if funding is perceived to be repeatedly addressing the same issues without long-term solutions; Difficulty in prioritizing between urgent and preventive actions.
	<i>Real-World Application/Examples</i>	<i>Real-World Application/Examples</i>
	Providing training and resources to local communities for better disaster preparedness and response; integrating DRR and CCA into humanitarian funding proposals.	Repeated short-term relief efforts without addressing root causes, leading to recurring vulnerabilities; donor fatigue due to perceived lack of progress in achieving long-term resilience.

Conflict-sensitive approach	Ensures DRR or CCA activities do not exacerbate existing conflicts; promotes peaceful coexistence and reduces the risk of conflict-induced displacement.	Poorly managed DRR and CCA can exacerbate tensions and lead to conflict; lack of coordination can result in inefficient use of resources and increased vulnerability.
	<i>Real-World Application/Examples</i>	<i>Real-World Application/Examples</i>
	Integrating conflict sensitivity into disaster preparedness plans; promoting community dialogue and joint planning to address shared risks.	Displacement due to poorly planned disaster responses; increased tensions between host and displaced communities over resource allocation.

Section 3: Strategies for integrating climate change adaptation and DRR into humanitarian programs

Key points

- Introduce methods for assessing climate risks and vulnerabilities.
- Discuss the development of climate change adaptation plans as a key component of early action and prevention strategies.
- Explain how to integrate DRR strategies into humanitarian action plans.
- Incorporate nature-based solutions to enhance resilience.
- Highlight the importance of anticipatory action.

Background information

- Effective integration of climate change adaptation and DRR into humanitarian programs requires a comprehensive understanding of risks and vulnerabilities.
- Developing and implementing adaptation plans as proactive measures can significantly enhance the resilience of communities to climate-related hazards, reducing the need for reactive responses.
- Nature-based solutions can provide sustainable and effective means of increasing resilience as a long-term measurement.
- Anticipatory action helps mitigate risks before disasters occur, ensuring that adaptation and DRR efforts are both timely and effective



Content development: Strategies for integrating climate change adaptation and DRR into humanitarian programs

Strategy	Description	Importance	Examples
Climate risk assessment	Identifying and evaluating the risks posed by climate change. Link to environmental assessment.	Provides the basis for developing targeted adaptation strategies.	Conducting community-based vulnerability assessments to identify climate risks; utilizing climate models to predict future risks; assessing infrastructure vulnerability to climate impacts.
Adaptation planning	Developing approaches to mitigate the impacts of climate change, focusing on early action and prevention.	Ensures that communities are better prepared to cope with climate-related hazards, reducing the need for reactive measures.	Creating climate adaptation plans for agricultural practices to address changing weather patterns; developing water management plans in drought-prone areas; constructing flood defences in areas prone to flooding; providing knowledge, training and awareness on sustainable practices; setting up environmental and climate behaviour change approaches.
Integrating DRR	Incorporating DRR measures into humanitarian programs.	Reduces the overall risk of disasters and enhances community resilience.	Including disaster preparedness activities in humanitarian aid programs; implementing early warning systems in vulnerable communities; integrating DRR into school curricula and community training programs.
Nature-based Solutions	Incorporating reforestation, mangrove restoration, and green spaces to enhance resilience.	Provides sustainable and cost-effective ways to increase resilience and mitigate climate impacts.	Restoring mangroves to protect coastal areas from storm surges; reforesting degraded lands to prevent landslides and improve water retention; creating urban green spaces to reduce heat island effects and enhance community well-being.
Anticipatory action	Implementing proactive measures to mitigate risks before disasters occur.	Helps reduce the impact of disasters by taking action based on forecasts and early warnings.	Pre-positioning relief supplies in anticipation of floods; using climate forecasts to trigger early response actions; implementing cash transfer programs before predicted droughts to help communities prepare.
Forecast-based financing	Integrating financial mechanisms that support anticipatory action and mitigate impacts of seasonal humanitarian crises.	Enables timely and effective response to predicted climate-related events, reducing losses and damage.	Using forecast-based financing to trigger early action plans for impending droughts or floods; linking social protection systems with climate forecasts to provide timely support to vulnerable populations.
Risk-informed programming	Incorporating systematic risk assessments and overlaying risk analysis with development programme coverage to identify strategic mismatches and areas of high vulnerability.	Enhances the effectiveness and sustainability of humanitarian programs by aligning them with the most critical needs.	Conducting comprehensive risk assessments before program implementation; integrating risk analysis into program design and planning

<p>Innovative financing models</p>	<p>Utilizing financial instruments such as micro-insurance and risk-transfer to support community resilience and recovery efforts.</p>	<p>Provides sustainable funding mechanisms to enhance community resilience and ensure rapid recovery post-disaster.</p>	<p>Implementing micro-insurance schemes to support farmers in drought-prone areas; utilizing risk-transfer instruments to fund recovery efforts after major disasters.</p>
<p>Climate risk assessment</p>	<p>Identifying and evaluating the risks posed by climate change. Link to environmental assessment.</p>	<p>Provides the basis for developing targeted adaptation strategies.</p>	<p>Conducting community-based vulnerability assessments to identify climate risks; utilizing climate models to predict future risks; assessing infrastructure vulnerability to climate impacts.</p>

Section 4: Environment-focused adaptation and DRR measures

Key points

- Highlight adaptation and DRR strategies that directly impact the environment in humanitarian contexts.
- Provide a flexible framework for adapting approaches to specific environmental challenges across different sectors and for different groups (e.g. women, children, elderly etc.).
- Offer a range of examples to illustrate successful environment-focused adaptation and DRR measures.

Background information

- Tailored adaptation and DRR strategies help mitigate the environmental impacts of disasters in humanitarian settings.
- A flexible framework helps in developing targeted and effective responses for any environmental challenge.
- Understanding specific measures for different environmental impacts under different climate change impacts enhances preparedness and response.



Content development: Environment-focused adaptation and DRR measures

Environmental Challenge	Description	Adaptation and DRR Measures	Examples	Link to Climate Change and Environmental Degradation
Flooding	Overflow of water onto normally dry land, often due to heavy rainfall, storms, or dam breakage, leading to contamination and habitat destruction.	Building flood barriers; creating early warning systems; planning for evacuation routes; implementing sustainable drainage systems; restoring wetlands to absorb floodwaters.	Installing flood barriers in flood-prone areas; developing community evacuation plans; establishing early warning systems; restoring wetlands to manage floodwaters.	Climate change increases the frequency and intensity of rainfall, while environmental degradation like deforestation reduces the land's ability to absorb excess water, exacerbating flooding.
Water scarcity (drought)	Prolonged periods of low rainfall leading to water shortages, affecting agriculture, water supply, and ecosystems, causing habitat loss and biodiversity decline.	Implementing water conservation practices; developing drought-resistant crops; creating water storage systems; promoting efficient irrigation techniques; rainwater harvesting.	Establishing rainwater harvesting systems; promoting drought-resistant agricultural practices; developing community water storage systems.	Climate change alters rainfall patterns, leading to prolonged droughts. Environmental degradation, such as deforestation and soil erosion, further reduces water retention capacity, worsening drought conditions.
Extreme weather events	Intense storms, heatwaves, cold waves, and other weather events exacerbated by climate change, impacting infrastructure, ecosystems, and human health.	Strengthening infrastructure; creating evacuation plans; implementing early warning systems; building storm-resistant shelters; promoting urban greening and cooling centers.	Building storm-resistant shelters; setting up community-based early warning systems; developing urban green spaces to reduce heat island effects.	Climate change increases the frequency and severity of extreme weather events, while urbanization and loss of green spaces exacerbate heatwaves and reduce natural cooling effects.
Wildfires	Uncontrolled fires that spread rapidly, often exacerbated by dry conditions, high winds, and human activities, leading to deforestation and air pollution.	Implementing controlled burns; creating firebreaks; promoting fire-resistant building materials; community evacuation plans; early warning systems.	Conducting controlled burns; establishing firebreaks; using fire-resistant building materials; developing community evacuation plans and early warning systems.	Climate change contributes to drier conditions and more intense heatwaves, increasing the risk of wildfires. Environmental degradation, such as deforestation, removes natural barriers that could slow the spread of fires.
Landslides	Movement of rock, earth, or debris down a slope due to gravity, often triggered by heavy rain, earthquakes, or human activities, causing soil erosion.	Stabilizing slopes; improving drainage systems; reforesting slopes; community monitoring and early warning systems; constructing retaining walls.	Reforesting slopes to prevent landslides; improving drainage systems; stabilizing slopes and constructing retaining walls; implementing community-based monitoring systems.	Climate change can increase the frequency of heavy rains, while deforestation and soil erosion reduce slope stability, making landslides more likely.

<p>Coastal erosion</p>	<p>The wearing away of land or the removal of beach or dune sediments by wave action, tidal currents, wave currents, or drainage, often accelerated by human actions.</p>	<p>Implementing coastal defenses; restoring mangroves and coral reefs; sustainable coastal zone management; community awareness programs.</p>	<p>Restoring mangroves; implementing coastal defenses; conducting community awareness programs on sustainable coastal management.</p>	<p>Rising sea levels and increased storm intensity due to climate change accelerate coastal erosion. Environmental degradation, such as the destruction of mangroves and coral reefs, removes natural defenses against coastal erosion.</p>
<p>Earthquakes</p>	<p>Sudden shaking of the ground caused by seismic waves due to the movement of the Earth's crust, leading to infrastructure damage and triggering secondary disasters.</p>	<p>Constructing earthquake-resistant buildings; retrofitting existing structures; community-based preparedness and response training; developing rapid response teams.</p>	<p>Implementing earthquake-resistant building codes; retrofitting schools and hospitals; conducting community preparedness drills.</p>	<p>While earthquakes are not directly linked to climate change, environmental degradation, such as deforestation, can increase vulnerability to secondary disasters like landslides and soil erosion following an earthquake.</p>
<p>Conflicts</p>	<p>Armed conflicts and wars leading to displacement, habitat destruction, and resource depletion. Conflicts that arise over scarce resources.</p>	<p>Implementing sustainable resource management; establishing safe zones and evacuation routes; promoting conflict-sensitive environmental practices; restoring degraded environments post-conflict.</p>	<p>Managing natural resources sustainably in refugee camps; establishing safe zones and evacuation routes in conflict areas; restoring degraded environments in post-conflict regions.</p>	<p>Climate change exacerbates resource scarcity, which can fuel conflicts. Environmental degradation, such as deforestation and soil depletion, worsens resource scarcity, leading to competition and conflict.</p>
<p>Health-related disasters</p>	<p>Outbreaks of infectious diseases, pandemics, and other health crises that strain healthcare systems and disrupt communities.</p>	<p>Strengthening healthcare infrastructure; establishing early warning and response systems; promoting public health awareness and hygiene practices; ensuring safe waste disposal.</p>	<p>Implementing treatment centers and community education programs; establishing early warning systems for disease outbreaks; promoting public health campaigns and hygiene practices during pandemics.</p>	<p>Climate change and environmental degradation increase the risk of health-related disasters by altering habitats, increasing the spread of vector-borne diseases, and reducing the availability of clean water. Deforestation and pollution can exacerbate the spread of diseases, while changing weather patterns can extend the range of disease vectors like mosquitoes.</p>

Section 5: Case studies and best practices

Key points

- Present relevant case studies that illustrate successful integration of climate change adaptation and DRR in humanitarian contexts.
- Highlight lessons learned and best practices from these case studies.
- Provide real-world examples to reinforce the concepts discussed in previous sections.

Background information

The case studies are based on relevant guidelines and standards developed to integrate climate change adaptation and disaster risk reduction into humanitarian action. These guidelines and standards offer structured approaches and practical examples to address environmental challenges in humanitarian contexts. By examining these real-world instances, participants can gain insights into effective strategies and practices that have been successfully implemented in various settings, enhancing the sustainability and resilience of humanitarian efforts.



Content development: Guidelines and Case studies

<i>Case Study</i>	<i>Description</i>	<i>Relevance to Environment in Humanitarian Action</i>	<i>How It Can Be Applied in Context</i>
Sphere Unpacked Guide on Nature-based Solutions (NbS)	The Sphere Unpacked Guide offers comprehensive guidelines on integrating Nature-based Solutions into humanitarian actions. It emphasizes the use of natural processes and ecosystem management to address societal challenges, reduce disaster risk, and adapt to climate change. The guide includes practical examples, strategies, and benefits of NbS, highlighting their role in enhancing climate resilience in humanitarian contexts.	This guide aligns with humanitarian principles by providing a framework for environmentally sustainable practices in disaster risk reduction and climate change adaptation. It helps humanitarian actors incorporate environmental considerations into their programs, ensuring that aid efforts do not harm the environment and instead leverage natural processes to enhance resilience.	Humanitarian practitioners can use the guidelines to implement NbS in specific contexts: Refugee camps: establish green infrastructure, such as community gardens and green roofs, to improve living conditions, enhance food security, and reduce urban heat effects; Flood-prone areas: Implement reforestation and wetland restoration projects to absorb excess rainfall and reduce flood risks, protecting both infrastructure and communities; Coastal zones: Restore mangroves to act as natural barriers against storm surges and coastal erosion, providing protection for vulnerable coastal communities and biodiversity habitats; Drought-affected regions: Develop water conservation projects, such as rainwater harvesting and the restoration of natural aquifers, to ensure sustainable water supply for communities during drought periods.

<p>UNDRR Guidelines for Scaling Up DRR in Humanitarian Action</p>	<p>These guidelines emphasize integrating disaster risk reduction into humanitarian actions, focusing on risk analysis, planning, and response phases to address climate and disaster risks in protracted crises. The guidelines include detailed strategies for incorporating DRR into humanitarian programming, emphasizing the need for risk-informed approaches, collaboration, and sustainable practices.</p>	<p>The guidelines are crucial for humanitarian actors as they offer a structured approach to reducing disaster risks and addressing root causes of vulnerabilities. By integrating DRR into humanitarian programs, the guidelines ensure that aid efforts are sustainable and resilient to future disasters, protecting both communities and the environment.</p>	<p>Humanitarian actors can use these guidelines to improve risk-informed programming and foster collaboration among stakeholders; Risk analysis: conduct comprehensive risk assessments to identify vulnerabilities and capacities within communities; Planning: integrate DRR strategies into humanitarian response plans, ensuring that environmental and climate risks are considered; Collaboration: work with local and national authorities to align humanitarian actions with existing DRR frameworks and policies; Sustainable practices: Promote sustainable resource management and environmentally friendly practices in all phases of humanitarian action, from preparedness to recovery.</p>
<p>Climate and Environment Charter</p>	<p>The Climate and Environment Charter for Humanitarian Organizations provides a framework for humanitarian actors to address climate and environmental crises. It includes commitments to reduce risks and vulnerabilities through climate change adaptation, disaster risk reduction, and anticipatory action. The charter emphasizes environmental sustainability, local actor leadership, and collaborative efforts to mobilize ambitious climate action.</p>	<p>The charter is essential for integrating environmental considerations into humanitarian actions. It encourages humanitarian organizations to adopt sustainable practices, reduce greenhouse gas emissions, and engage with local communities to enhance resilience. The charter aligns humanitarian efforts with global climate goals and international standards.</p>	<p>Humanitarian organizations can apply the charter's principles by: Resilience building and Risk reduction: implementing climate adaptation and DRR measures across all phases of humanitarian action and climate and environmental risk-informed programming in humanitarian action; Sustainability: reducing emissions and managing natural resources responsibly in all operations; Locally-led adaptation measures: Supporting local actors and integrating traditional knowledge into resilience-building activities; Collaboration: Partnering with various stakeholders to strengthen climate action and environmental protection efforts.</p>

<p>Forecast-based Financing in Togo and Uganda</p>	<p>Both Togo and Uganda suffer flood impacts, and the frequency of this climate-driven disaster risk is expected to increase. Forecast-based Financing (FbF) is a mechanism for releasing humanitarian funding triggered by a pre-established forecast threshold. This ensures rapid mobilization of pre-planned activities to reduce risks, enhance preparedness, and improve response.</p>	<p>FbF integrates scientific forecasts with traditional indicators to enhance preparedness and mitigate flood impacts. It ensures timely and cost-effective disaster management by enabling anticipatory actions based on forecasts.</p>	<p>Uganda: - Implemented FbF in four villages targeting over 2,000 people at high risk of flooding. - Used the Global Flood Awareness System (GloFAS) for forecasting.</p> <ul style="list-style-type: none"> - Early actions included prepositioning relief stocks, distributing relief items, and community mobilization for flood preparedness. - Uganda Red Cross Society activated Standard Operating Procedures (SOPs) based on forecast triggers, leading to timely distribution of relief items and community mobilization. <p>Togo:</p> <ul style="list-style-type: none"> - Implemented FbF in 15 villages anticipating flood impacts from the Nangbeto dam. - Developed the FUNES (functional estimation) flood-risk prediction model to extend flood risk predictions from hours to days. - Early actions included radio spots, water purification tablets, preparation of evacuation sites, and protection of vital documents. - Togo Red Cross activated SOPs based on risk levels, enabling communities to prepare evacuation sites before floods arrived.
<p>Anticipatory Action for Cyclone Remal in Bangladesh</p>	<p>Cyclone Remal caused heavy rain and thunderstorms across coastal Bangladesh, displacing an estimated 800,000 people. Start Bangladesh, in collaboration with FOREWARN Bangladesh, activated two key funding mechanisms (Start Fund and Start Ready) to deliver rapid and targeted assistance to areas affected by Cyclone Remal.</p>	<p>Highlights the effectiveness of anticipatory action and rapid financing mechanisms in mitigating the impacts of cyclones, emphasizing proactive measures and pre-arranged contingency plans to enhance community resilience and response efficiency.</p>	<p>Start Fund and Start Ready mechanisms were activated based on forecast data. Funding was awarded for anticipatory actions such as evacuations and provision of essential supplies. Post-landfall, additional funding was allocated for response activities. This approach ensured timely and targeted humanitarian assistance, showcasing the importance of pre-positioned financing and collaborative efforts in disaster management.</p>

ACTIVITIES

1. Interactive exercise: defining adaptation and DRR

- Participants discuss and define climate change adaptation and DRR in pairs.
- **Discussion points:** *What do climate change adaptation and DRR mean in humanitarian contexts?*

2. Brainstorming session: Sustainable water management techniques

- Participants assess climate risks for a hypothetical humanitarian scenario.
- **Discussion points:** *Assess climate risks for a new refugee camp.*

3. Case study analysis: Water management during disasters

- Participants develop a climate adaptation plan for a hypothetical community.
- **Discussion Points:** *Develop an adaptation plan for a drought-prone area*

4. Interactive exercise: disaster-specific measures

- Participants identify and develop adaptation and DRR measures for specific disaster types.
- **Discussion points:** *Identify measures for flood-prone areas.*

5. Case study analysis

- Participants analyze provided case studies and discuss lessons learned and best practices.
- **Discussion points:** *How were climate change adaptation and DRR integrated? What can be learned from these examples?*

RESOURCES

Materials

- **Printed case studies and examples:** Distribute printed materials that highlight key case studies and examples discussed throughout the module.
- **Multimedia resources:** Utilize videos, infographics, and interactive media that showcase successful climate change adaptation and DRR practices in various humanitarian contexts.
- **Key humanitarian and environmental standards documents:** Provide copies of essential documents, such as the Sphere Standards, Climate and Environment Charter, and UNDRR guidelines.

References

- Climate and Environment Charter for Humanitarian Organizations (2021). Retrieved from <https://www.climate-charter.org/>The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response.
- Red Cross Red Crescent Climate Centre. (2020). Forecast-based Financing: Case Studies from Togo and Uganda. Retrieved from <https://library.alnap.org/help-library/forecast-based-financing-case-studies-from-togo-and-uganda>
- Sphere Association. (2023). Sphere Unpacked Guide: Nature-based Solutions (NbS) for Climate Resilience in Humanitarian Action. Retrieved from <https://friendsofefa.com/wp-content/uploads/2023/05/sphere-nbs-23-04-2023-english.pdf>
- Start Network. (2024). Start Bangladesh activates two key funding mechanisms to deliver rapid financing of close to £1 million to Cyclone Remal-stricken areas. Retrieved from <https://startnetwork.org/learn-change/news-and-blogs/start-bangladesh-activates-two-key-funding-mechanism-deliver-rapid>
- United Nations Office for Disaster Risk Reduction. (2023). Recommendations for Scaling Up Disaster Risk Reduction in Humanitarian Action. Retrieved from <https://www.undrr.org/publication/scaling-disaster-risk-reduction-humanitarian-action>

Delivery method

- **Lectures:** Use lectures to introduce the key concepts, principles, and objectives of climate change adaptation and disaster risk reduction (DRR). Present case studies and best practices to illustrate the integration of these strategies in humanitarian contexts.
- **Q&A sessions:** Facilitate question and answer sessions to engage participants and deepen their understanding of the material. Use these sessions to clarify concepts and address any questions or concerns participants may have.
- **Group work:** Engage participants in group discussions and activities to foster collaboration and deeper understanding of the topics covered in the module. Encourage the sharing of experiences and knowledge.
- **Interactive exercises:** Conduct hands-on activities such as defining adaptation and DRR, assessing climate risks, and developing adaptation plans. These exercises help participants apply the concepts learned in practical scenarios.
- **Simulations and role-playing:** Utilize role-playing exercises and simulations to allow participants to practice integrating climate change adaptation and DRR measures into hypothetical scenarios. This will help them apply the concepts learned in real-world contexts.
- **Presentations and plenary discussions:** Use presentations to provide an overview of key topics and facilitate plenary discussions to engage all participants in the learning process.

Assessment tools

- **Quizzes:** Short quizzes at the end of the module to assess understanding of key concepts. Ensure quizzes cover all major topics discussed throughout the module.
- **Reflection questions:** Open-ended questions for participants to reflect on what they have learned and how they can apply it to their work. Encourage participants to think about practical applications of the strategies discussed.
- **Case study analysis:** Participants analyze provided case studies to assess their understanding of how climate change adaptation and DRR strategies are implemented in real-world scenarios. This activity also allows facilitators to evaluate participants' ability to draw lessons and apply best practices.
- **Group exercises:** Engage participants in group exercises that involve developing adaptation plans and identifying disaster-specific measures. These exercises serve as both a learning activity and an assessment tool, allowing facilitators to observe participants' ability to apply concepts in a collaborative setting.
- **Feedback forms:** Collect feedback on the entire module to continuously improve content and delivery methods. Use feedback to identify areas for enhancement and address any gaps in the training.

Reflection and review questions

Section 1: Introduction to climate change adaptation and disaster risk reduction

- What are the key principles of climate change adaptation and how do they differ from traditional DRR strategies?
- How does climate change exacerbate the frequency and intensity of natural disasters, particularly in vulnerable communities?
- Reflect on a recent disaster you are familiar with. How could better integration of climate change adaptation and DRR strategies have altered the outcome?

Section 2: Nexus between climate change, disaster risk reduction, adaptation, environment, and humanitarian action

- Discuss the interplay between environmental degradation and climate change. How do these factors influence disaster risk in humanitarian contexts?
- Provide examples of how environmental considerations can be effectively integrated into humanitarian responses.
- Reflect on the challenges of balancing immediate humanitarian needs with long-term environmental sustainability in disaster response efforts.

Section 3: Strategies for integrating climate change adaptation and DRR into humanitarian programs

- What are the benefits of linking climate risk assessments with environmental screening in humanitarian programs?
- How can adaptation plans serve as key components of early action and prevention in disaster-prone areas?
- Consider the role of nature-based solutions in your local context. How could these solutions be implemented to enhance resilience in your community?

Section 4: Environment-focused adaptation and DRR measures

- Identify the key environmental challenges associated with climate change and suggest specific adaptation and DRR measures for each.
- How can integrating nature-based solutions into humanitarian actions help mitigate the negative impacts of environmental degradation?
- Reflect on a time when a humanitarian response failed to consider environmental impacts. What were the consequences, and how could the situation have been improved?

Overall module review

- How has this module changed your understanding of the relationship between climate change, DRR, and humanitarian action?
- In what ways can you apply the concepts and strategies learned in this module to your work or community?
- What are the biggest challenges you anticipate in integrating climate change adaptation and DRR into your humanitarian programs, and how might you overcome them?

KEY TAKEAWAYS

1. **Understanding the relationship between climate change, DRR, and humanitarian action:**

Climate change significantly increases the frequency, duration, and intensity of natural disasters, impacting vulnerable communities the most. Addressing these impacts through integrated climate change adaptation (CCA) and disaster risk reduction (DRR) strategies is essential for building community resilience.

2. **Integrating climate change adaptation and DRR:**

Effective integration of CCA and DRR into humanitarian programs helps mitigate the impacts of climate-related hazards, enhances preparedness, and reduces vulnerabilities. Proactive measures, such as developing climate adaptation plans and implementing early warning systems, are critical components of this approach.

3. **Nexus between climate change, disaster risk, environment, and humanitarian action:**

The interconnected nature of climate change, disaster risk, environmental degradation, and humanitarian action necessitates a holistic approach. By understanding these linkages, humanitarian actors can implement strategies that simultaneously address immediate needs and contribute to long-term sustainability.

4. **Environment-focused adaptation and DRR measures:**

Tailoring adaptation and DRR strategies to specific environmental challenges, such as flooding, drought, and coastal erosion, enhances their effectiveness. Nature-based solutions (NbS), such as reforestation and mangrove restoration, offer sustainable and cost-effective ways to reduce risks and enhance resilience.

5. **Innovative approaches to adaptation and DRR:**

Anticipatory action, forecast-based financing (FbF), and nature-based solutions (NbS) are innovative approaches that help humanitarian actors pre-emptively address climate-related risks. These strategies ensure timely and effective responses, reducing losses and enhancing community resilience.

6. **Case studies and best practices:**

Analyzing real-world case studies, such as the use of forecast-based financing in Togo and Uganda or anticipatory action for Cyclone Remal in Bangladesh, provides valuable insights into successful integration of CCA and DRR. These examples illustrate the importance of early action, collaboration, and context-specific solutions.

7. **Tools and techniques for risk assessment:**

Utilizing climate risk assessments, environmental screening tools, and other data-driven approaches helps identify vulnerabilities and tailor adaptation strategies to local conditions. These tools enable humanitarian actors to make informed decisions and enhance the effectiveness of their interventions.

8. **Balancing immediate and long-term needs:**

Balancing the urgency of humanitarian response with the need for long-term sustainability is a key challenge. Integrating environmental considerations into humanitarian actions ensures that immediate relief efforts do not undermine future resilience and environmental health.

9. **Engaging local communities and incorporating indigenous knowledge:**

Engaging local communities in the planning and implementation of adaptation and DRR measures enhances the sustainability and cultural relevance of interventions. Incorporating indigenous knowledge and practices can provide valuable insights and improve the effectiveness of these strategies.



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