Promoting sustainable development by making communities and infrastructure climate-resilient

Climate change – Infrastructure – Communities

UNOPS

Draft position paper

This paper is intended to introduce UNOPS position on the connections between climate change, infrastructure and communities in the overall context of sustainable development.

If you are interested in the above or wish to learn more about how UNOPS can help infrastructure and communities become more climate-resilient, please contact:

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Promoting sustainable development by making communities and infrastructure climate-resilient

Climate change is a major barrier to eradicating extreme poverty and ensuring the social, economic and environmental dimensions of sustainable development.

The longer-term gradual impacts of climate change on communities and their livelihoods, as well as increased frequency and severity of extreme weather events expose settlements to a wide range of risks they are often ill-equipped to handle. Rural and urban communities lose livelihoods and homes, suffer physical danger and health problems and may need to relocate. Disadvantaged communities, including subsistence farmers, slum and coastal dwellers are particularly affected.

Additionally, displacement may create a conflict and insecurity, disenfranchising minorities and women. UNOPS is committed to promoting and protecting human wellbeing in line with international declarations, standards and covenants. UNOPS has adopted a Social and Environmental Sustainability Policy for infrastructure projects, which reflects our commitment to protect and promote human development.

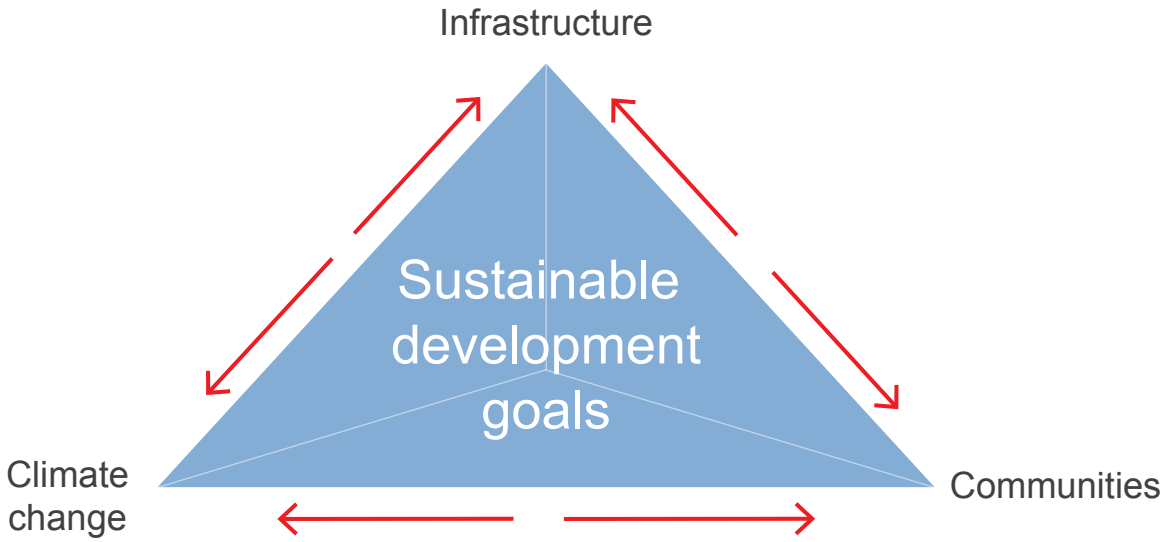
Governments are often forced to repeatedly commit limited resources to rebuilding vital infrastructure for transport, energy, education, sanitation and health services.
This damage to communities and infrastructure stalls the development process. But when both infrastructure and communities are made more resilient, it is possible to manage risks and foster sustainable development.

From UNOPS particular vantage point, with its specific expertise implementing projects in infrastructure and the environment sector, often in close partnership with beneficiary communities, it seems clear that an integrated approach has the best chance of success.

This integrated approach would boost sustainable development by developing infrastructure with a focus on community benefits - based on the nexus of 'Climate Change-Infrastructure-Communities' (C-I-C). Bearing this nexus in mind can ensure that climate change does not derail development goals.

UNOPS helps disaster-affected communities learn new skills, earn income and rebuild vital infrastructure, such as in this Haiti shelter project funded by the European Commission, the American Red Cross, Sweden and the United Kingdom. The shelters were designed by UNOPS in accordance with the latest disaster risk reduction techniques, and can withstand wind speeds up to a Category One hurricane.

The Climate Change – Infrastructure – Communities nexus



"The more we delay, the more we will pay – in lost opportunities, resources, and lives."

- Ban Ki-moon,
UN Secretary General

Infrastructure

Well-designed and properly maintained infrastructure helps communities and nations develop markets, foster trade and provide employment opportunities and access to social services. These tools are indispensable for any nation's sustainable development and thus the achievement of all Millennium Development Goals (MDGs).

Communities

Infrastructure development, like any development initiative, is more successful and sustainable when it involves local communities in planning, decision-making and, where possible, direct execution of the works. This encourages local solutions, creates local ownership and provides benefits to those most in need. Such an approach also ensures the concrete translation of policies into actions, while aligning local, national and global planning strategies.

Climate change

The damage caused by climate change can have an adverse affect on infrastructure and communities and thus on sustainable development. However, if the threats from climate change are managed properly, associated risks that may jeopardize the achievement of sustainable development goals can be reduced.

Sustainable development through climate-resilience in the short, medium and long term

Designs for climate resilience take into account projections for rainfall, tides, temperature and population in order to be prepared for the needs of the future.

In the longer term, infrastructure has to better withstand the effects of severe weather events predicted over the next decades. However, while this longer term climate resilience concept is being implemented, there is also a need to protect communities and their assets in the short and medium term.

Practical solutions

UNOPS has considerable experience implementing projects on the ground in challenging locations, making it ideally placed to bridge the existing implementation gap, on behalf of partners including national governments, other UN bodies, NGOs etc.

Two areas where UNOPS can provide direct practical support have emerged from climate change priorities identified by developing countries. Both are based on an integrated approach in line with the Climate Change – Infrastructure – Communities nexus.

1. **Constructing climate-resilient infrastructure**
   Through appropriate design, correct use of materials, appropriate site selection, etc.

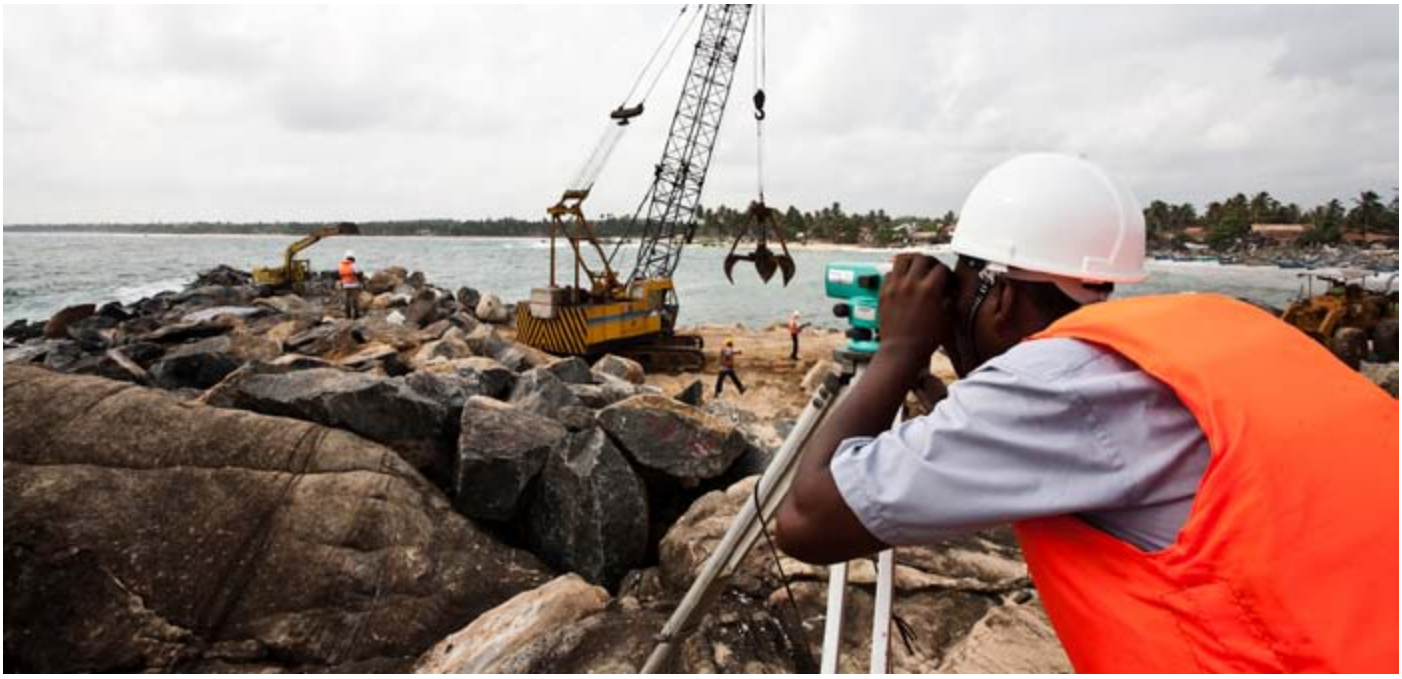
2. **Increasing the resilience of communities against climate-induced natural disasters**
   Through strengthened knowledge of climate change impacts, diversification of crops, better evacuation measures, well-designed sanitation and water systems etc.

Solution 1:
Constructing climate-resilient infrastructure

Because infrastructure projects often take considerable time to design, contract and implement, they represent longer term solutions to climate change adaptation.

Climate-resilient infrastructure can be achieved in several ways, including by:

- identifying the best possible location for infrastructure to minimize the risk of future impacts of climate change
- developing building codes and land use planning to withstand the anticipated effects of climate change, including drought, decreased/increased rainfall, sea-level rises, storm surges and more
- improving urban planning for housing and transport
- integrate renewable energies and technologies, water management and coastal zone management
- retrofitting and protecting existing infrastructure that cannot be relocated
- using appropriate materials and building methods to maximize environmental sustainability



UNOPS manages the construction of coastal infrastructure which can withstand large weather events, such as this harbour in Sri Lanka, built on behalf of Greece and the International Fund for Agricultural Development.

UNOPS can help countries to undertake the above-mentioned measures by providing support on three different levels:

1. building the capacity of governments to create strategies to deliver robust infrastructure works
2. managing the construction works and building the capacity of local construction firms
3. promoting community involvement throughout the process, from gathering community views during initial planning to relying on a labour-based approach during implementation (see box below)

UNOPS can also help countries limit the impacts of climate change by building climate-resilient infrastructure while minimizing carbon emissions. UNOPS pays particular attention when planning an infrastructure project to ensure that up-to-date construction techniques are used and that buildings are well designed. This leads to better, more sustainable buildings, which are more durable and use fewer resources in the long run. Natural resources are used sustainably in a range of ways, from the selection of building materials to promoting recycling. Sustainable building techniques are included in many construction projects supported by UNOPS, such as a prison funded by the Netherlands in the occupied Palestinian territory. In that case, solar panels, special insulation and a wastewater treatment plant were included.

Renewable energy technologies are also promoted by UNOPS, for example through the construction of 54 fuel efficient stoves in school kitchens built in Sri Lanka for the World Food Programme. Many projects also use environmental criteria during procurement processes, such as insisting on fuel-efficient engines when buying ambulances for the Government of Peru.

Labour-based approach

UNOPS believes that securing decent work and ensuring a minimum income empowers families and promotes early economic recovery after a crisis. In many instances, UNOPS hires local people to provide the labour needed to implement its partners' infrastructure projects. These labour-based infrastructure operations engage community groups or local contractors to deliver durable and sustainable work that meets international standards. This helps to restart local economies, provide livelihoods and develop useful skills in the local population, in line with the UNOPS commitment to enhance local and national capacities.

The amount of work created for local communities through these methods is measured in days of paid labour. UNOPS has been committed to this form of project delivery, generating tens of millions of days of paid work for people in need every year. In addition to employment generation, a labour-based approach reduces the carbon footprint of infrastructure projects whilst building capacity for replication, operation and maintenance of works. An added benefit is an increase in ownership and sustainability at a local and national level.

Communities in the Democratic Republic of Congo help to improve local roads while increasing family income, in a project managed by UNOPS in partnership with UNDP. UNOPS helps construct and rehabilitate over 2,000 km of roads every year, on behalf of a range of partners.

Community workers conduct mitigation works in Haiti to reduce the effects of weather-related damage in time for the rainy season. UNOPS assessed hundreds of temporary settlements, before implementing mitigation measures such as cleaning canals and constructing retaining walls, in a project funded by UN OCHA.

Solution 2:

Increasing the resilience of communities against climate-induced natural disasters

Natural hazards induced by climate change are not necessarily disasters. Disasters occur when natural hazards strike ill-prepared societies. The magnitude of a disaster therefore depends on the social, economic and physical context in which it takes place, i.e. the resilience level of a particular community. A climate-resilient community is one that can anticipate, efficiently respond to and rapidly recover from a climate-related shock.

UNOPS can support communities to build resilience and adaptive capacity to reduce their vulnerability to future climate change events in a range of ways, as follows.

a) **Reduce and anticipate risk:**

- support communities in undertaking preventative measures such as building retaining walls and planting trees for flood protection and sustainable energy sources
- improve access to water
- diversify income base
- promote low carbon and climate-resilient agricultural techniques
- raise awareness on climate change impacts through training
- retrofit communal facilities to serve as evacuation centres in case a natural hazard strikes

b) **Recover:**

- construct transitional shelters and improved sanitation systems
- procure non-food items
- conduct structural damage assessments

c) **Reconstruct:**

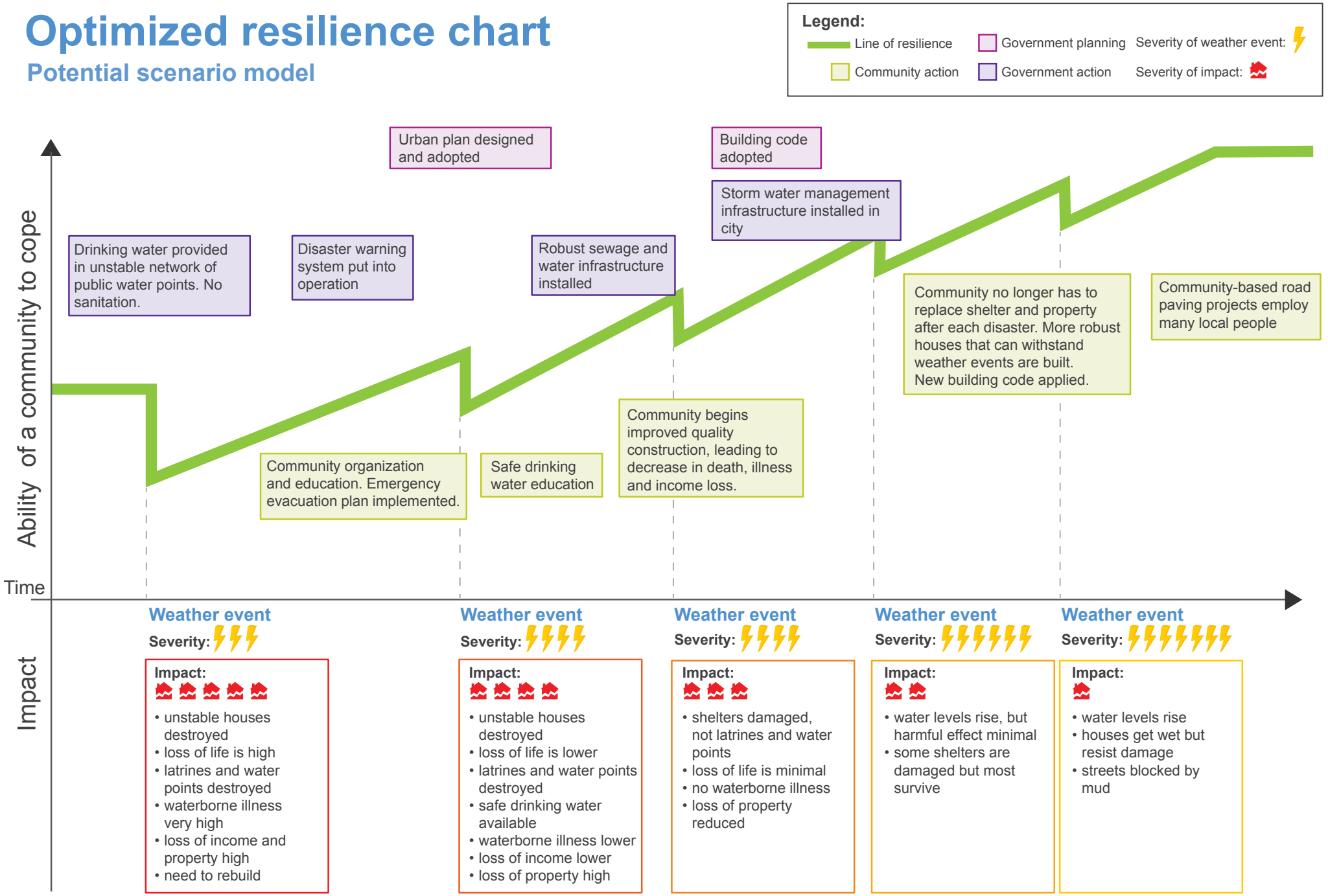
- reconstruct infrastructure while supporting livelihoods by using a labour-based approach

Optimized resilience

According to current climate models we should expect the frequency and severity of climate-related weather events to continue increasing. However that does not mean that the suffering of communities must increase correspondingly. With well-designed initiatives, which improve infrastructure and engage communities, we can reduce the impact of these events. See chart on next page.

Optimized resilience chart

Potential scenario model



UNOPS built over 200 schools across Indonesia on behalf of UNICEF, which set new standards in disaster resistance. Hezisokhi Hulu, headmaster of one of the schools, said: “Many people in the community helped with the labour for this school...we all contributed by bringing the materials from the river crossing through the jungle and up the mountain. This is by far the best building in the community.”

UNOPS ability to address the C-I-C nexus

UNOPS implements more than $1 billion worth of projects for a range of international partners every year, operating in more than 80 countries, often in the most challenging of environments. The organization is a “central resource for the United Nations system in procurement and contracts management as well as in civil works and physical infrastructure development, including the related capacity development activities” as reaffirmed by the United Nations General Assembly in December 2010.

From Mali to Bangladesh, UNOPS has worked closely with communities around the world to reduce their immediate risks from climate change, whether it is preventing floods, providing water systems for drinking and farming or improving housing. It has also designed and constructed major infrastructure projects such as schools, roads, bridges and hospitals to the highest standards, able to withstand extreme weather events.

UNOPS competencies allow it to draw on the experience of engineers, architects and project managers specialized in post-crisis recovery and rehabilitation, environmental and social protection, civil works infrastructure development and community engagement.

It offers professional design and project documentation services to partners worldwide through its in-house design service.

UNOPS has a range of partnerships with international firms specializing in engineering, architecture and construction law, providing shared standards, tools and personnel exchanges. Other long term agreements with international specialists allow the organization to rapidly mobilize to project sites.

“Working with governments, UNOPS wants to help communities protect their investments in infrastructure - their dwellings, schools, clinics, official buildings, roads and bridges, communications, energy, agriculture and other critical facilities that enable them to build healthy and productive lives.

This requires knowledge, good planning, finance and action on the ground.”

- Jan Mattsson,
UNOPS Executive Director

UN collaboration – Delivering as One

UNOPS works in partnership with UNDP and UNEP and other UN bodies on a number of initiatives. These include projects funded under the Global Environment Facility (GEF) and the Adaptation Fund among others. Long term successful collaborations include UNOPS operational support to the UNDP-implemented GEF Small Grants Programme. This programme provides grants to non-governmental and community-based organizations in over 120 developing countries to help them tackle climate change, conserve biodiversity, protect international waters, reduce the impact of pollutants and prevent land degradation.

Working together, UNDP and UNOPS have the skills to support countries in the design and implementation of projects to increase the resilience of local communities and infrastructure against natural disasters induced by climate change.

The eight Millennium Development Goals (MDGs) provide a framework for the entire international community to tackle extreme poverty and build a safer, more prosperous and equitable world. UNOPS actively supports the MDGs, with many individual projects supporting multiple goals. ***Credit:*** UNDP.

UNOPS mission

UNOPS mission is to expand the capacity of the UN system and its partners to implement peacebuilding, humanitarian and development operations that matter for people in need.

UNOPS vision

Working in some of the world's most challenging environments UNOPS vision is to always satisfy partners with management services that meet world-class standards of quality, speed and cost effectiveness.

UNOPS goals

1. Rebuilding peace and stability after conflict
2. Early recovery of communities affected by natural disaster
3. The ability of people to develop local economies and obtain social services
4. Environmental sustainability and adaptation to climate change

UNOPS cross-cutting objectives:

1. Gender equality and the empowerment of women
2. National capacity development
3. Environmental sustainability

UNOPS services

Project Management implements projects on behalf of our partners, providing management and operational services in peacebuilding, humanitarian and development environments.

Procurement and Supply Chain Management underpins project management as well as providing standalone services to partners, including UN Common Services and services to governments facing capacity constraints.

Human Resources also supports project management as well as providing stand-alone services to partners,including the rapid deployment of personnel and contract management.

Financial Management administers donor grants, loans and multi-donor trust funds when not in competition with other UN agencies.

Example initiatives

Translating climate change mitigation policies into action

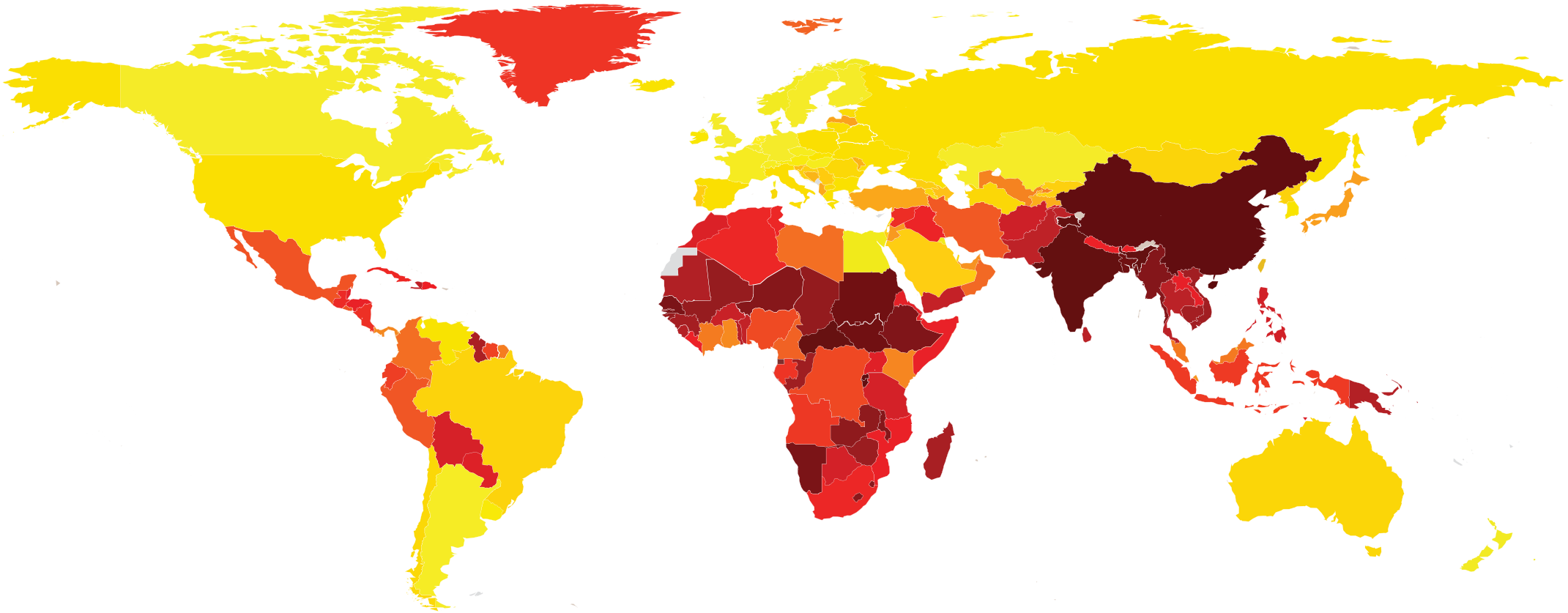
UNOPS can help governments and development partners construct climate-resistant infrastructure and increase the resilience of communities against climate-induced natural disasters. UNOPS will consider human rights, accessibility and gender perspectives during design and implementation, in accordance with international conventions. Partners can select initiatives from the following, non-exhaustive, list:

- Construction and maintenance of climate-resilient and energy efficient **communal facilities** (schools, hospitals, etc.)
- Construction and maintenance of **transport** infrastructure such as roads, bridges, etc. with an emphasis on rural areas, in order to facilitate transportation of goods and ensure the swift evacuation of people due to extreme climatic events.
- Construction and maintenance of **low-cost, disaster-proven community housing** to address impacts of climate change related to increased temperatures, flooding, energy-needs, etc.
- Construction and maintenance of **solid waste management facilities**.
- Construction and maintenance of **irrigation systems** especially in areas where droughts are amplified by climate change. These areas are likely to become more widespread geographically and more frequent in occurrence.
- Construction and maintenance of **flood control infrastructure** in areas where floods are amplified by climate change. This would also benefit agricultural production and reduce health issues caused by water pollution and water-borne diseases.
- Construction and maintenance of **renewable energy facilities**, such as hydropower, solar, wind, thermal, etc. Procurement of renewable energy components.
- Construction and maintenance of **water supply and sewage systems** adapted to extreme climatic events.
- **Coastal zone protection** infrastructure, such as breakwaters, tsunami-resistant harbours, etc.
- Construction and maintenance of **food storage facilities** to combat food insecurity.
- Construction and maintenance of **evacuation facilities and provision of equipment** to reduce the significant loss of human lives and capital in countries and areas most affected by extreme climatic events.

Locals clear rubble from a Sri Lankan beach as part of an environmental remediation project, designed to prepare for future disasters by managing solid waste, reducing flooding and establishing cyclone barriers along the coast by restoring natural shields such as mangrove forests. The programme is funded by the EU and implemented by UNOPS.

Mapping the impacts of climate change

This map displays rankings for countries facing the largest direct risks from climate change, due to extreme weather, sea level rise and agricultural productivity loss. The map displays colour-coded rankings for 169 of the 233 countries and other political jurisdictions in descending order of impact, from dark red to yellow. Small islands, which are highly vulnerable to sea level rise, and other small jurisdictions cannot be displayed on a map of this size.



Rank 1 169

Credit: The Center for Global Development

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Case studies

Men from the village of Jabraeel, western Afghanistan build a retaining wall to limit flooding. This community-based flood mitigation project is part of a programme to enhance disaster preparedness and emergency response funded by the Government of Italy.

Case Study 1: Afghanistan

Improving livelihoods through natural disaster mitigation

The village of Jabraeel on the banks of the Harirod River in Herat province has repeatedly suffered from flooding as the water overflows the river's natural banks. The flooding has been exacerbated by unpredictable weather, the mismanagement of natural resources and the construction of infrastructure that has encroached on the natural river bed.

In the long term the most sustainable solution would be to move such affected communities to higher ground, but work needs to be done to protect them in the meantime. UNOPS is implementing an Italian-funded programme on Enhancing Disaster Preparedness and Emergency Response (EDPER), which agreed to help the Jabraeel village construct a retaining wall to limit flooding.

Experts evaluated the needs in the village and developed an action plan with the community. Women in the community were trained to build gabion baskets (cages weaved from wire) and men filled them with stones, ensuring full community participation in the process. The gabions were then used to build a wall that would reduce the damage caused by flooding.

Khadija, a woman who received training in gabion weaving said: "A neighbouring village has now asked our women's group if we can weave gabions for them in return for payment. With the training I got I was able to contribute to the wall project in my own village and to the family income."

The priority for the EDPER programme is to create disaster management and contingency plans at the provincial level in order to enable vulnerable communities to mobilize resources in times of crisis.

Case Study 2: Maldives

Integrating climate resilience infrastructure for development

The Maldives are greatly at risk from rising sea levels. In order to improve conditions for communities, UNOPS and UNDP are supporting the Government of the Maldives on the implementation of a Low Emission Climate Resilient Development (LECRD) initiative. The pilot project will be

The Maldives in the Indian Ocean is comprised of 26 atolls which are greatly at risk from rising sea levels. The island nation is adopting a number of climate-change resilience measures in consultation with local communities to improve environmental conditions.

executed in the ring-shaped coral reef Atoll of Laamu. Climate-change resilience measures include the rehabilitation of shore protection infrastructure and the development of robust water supply, sanitation and solid waste management systems. This process is supported by the UN agencies in Maldives, in particular UNDP, and complemented by UNOPS expertise in infrastructure, programme management and procurement.

This project addresses community concerns by balancing the supply and demand of services in these atolls. It alleviates migration and overpopulation of the Male' atoll. It will empower local communities through their direct participation by identifying the problems they have and asking them to be proactive in solving them. The initiative will target various community concerns such as access to safe drinking water, adequate sanitation and school enhancements. Improving the services in the atolls would reduce the driving force for people to migrate to Male', resulting in a stabilized population distribution and reduced emissions from expensive privately-rented boat services.

In addition to the LECRD Programme, UNOPS and UNDP are to deliver an Adaptation Fund (AF) project to build sustainable integrated water resources management on three islands. These islands have an unreliable source of potable water due to changing patterns in rainfall and incursion of sea water to fresh water aquifers. UNOPS and UNDP are integrating the existing water harvesting technologies with desalination technologies to provide safe clean water to all inhabitants.

Additionally, UNDP and UNOPS are collaborating on a project to improve coastal infrastructure to mitigate flooding from sea-level rise and sea surges on a southern island, due to unplanned land reclamation practices.

Case Study 3: Haiti

Supporting the Ministry of Public Works to develop disaster-resistant building guidelines

UNOPS has been mandated by the Haitian government to provide construction guidelines to help the country build back better after the 2010 earthquake, with funding from the World Bank. The project's primary objective was to gather structural information to plan the country's reconstruction and to enable displaced people

Haitian engineers and UNOPS personnel work side-by-side within the Ministry of Public Works, Transportation and Communication to develop national building codes. The new codes will strengthen the Ministry's capacity to rebuild in accordance with international standards.

to return to their homes. UNOPS is working within the Haitian Ministry of Public Works, Transportation and Communication and has assessed the structural damage to more than 400,000 buildings. UNOPS is also providing technical and administrative support for the preparation of guidelines on increased seismic and cyclone resistance for new buildings.

Case Study 4: El Salvador

Reducing the effects of violent storms

El Salvador is one of the most vulnerable countries to climate-related disasters in Latin America. The country is exposed to a growing number of hurricanes and tropical storms from the Pacific and Atlantic oceans.

UNOPS is working with the Government and UNDP to reduce the vulnerability of urban areas to flooding, erosion and landslides created by extreme precipitation associated with climate change. This will be achieved by developing resilient infrastructure that can resist and mitigate the impacts of large storms. The current infrastructure system is not capable of handling the extreme rainfall expected under even the most conservative climate change scenarios. Current interventions to address flow are focused on downstream measures designed to prevent major erosion or flooding. Increasingly, however, such measures are becoming highly expensive and mostly ineffective, as they can barely cope with one or two major events.

A broader approach to water management that also addresses upstream measures is necessary to reduce peak flows and the stress on current drainage infrastructure. The approach focuses on managing flooding and erosion risks in the lower basin through infrastructure interventions in the upper basin. Such investments can be smaller and more cost effective, since they will protect houses, roads, bridges, and existing drainage.

The project will also improve water management and diminish pressure on water resources. It will catalyse new growth in San Salvador and other urban communities in the country, reducing their vulnerability and enhancing their resilience to the negative impacts of climate change. The project has three complementary components:

- infrastructure climate resilience in San Salvador metropolitan area
- institutional strengthening
- knowledge management and communication

A road in El Salvador shown before and after UNOPS worked to increase its resistance to storms, on behalf of the Government of El Salvador and UNDP.

Drought-affected communities in Mali are learning about and implementing climate change mitigation measures as part of a UNEP project, supported by UNOPS.

Case Study 5: Mali

Helping communities battle drought

Communities living around Lake Faguibine in northern Mali are learning about conservation and helping to reverse the effects of drought, after decreased rainfall brought the lake to drastically low levels.

Lake Faguibine was once a thriving wetland system around which agricultural and pastoral communities flourished. The decline in rainfall in the areas that feed the lake has led to cyclical droughts throughout the Sahel region.

This UNEP project will also restore balance to the endangered ecosystem by clearing 1.7 million cubic metres of silt in partnership with local communities to improve the flow of water into the lake. UNOPS is providing human resources and procurement services to the project.

In 2010, 4,000 trees were planted to stabilize river banks, more than 1,500 advocacy products such as posters, leaflets and t-shirts were distributed, and 12 workshops were held to raise awareness of the threats to the wetland environment caused by human activities.

Case Study 6: Pakistan

Building energy-efficient houses in post-flood Pakistan

Rural communities are using small grants to build hundreds of low-cost, energy-efficient houses in Pakistan. In 2010, the GEF Small Grants Programme (SGP) Pakistan team designed a sustainable house for people in the province of Sindh who were left homeless

Energy efficient, environmentally sustainable houses being constructed in Pakistan's Sindh Province. The project was executed by UNOPS on behalf of the UNDP-GEF Small Grants Programme.

by the floods. This award-winning technique is called the Benazir Model, and both tackles and adapts to the effects of climate change and natural disasters.

The simple, low-carbon construction is based on hollow or compressed earth blocks and produces naturally insulated houses with very low electricity needs, while reducing deforestation. Wire-reinforced walls and pyramid-shaped roofs provide strength to better withstand future natural disasters. The building costs are as low as $6 per square feet.

The initial construction took two weeks and labour was hired locally, providing significant income for poor rural communities and giving more than 1,000 local masons the skills to replicate the model. More than half of the houses are owned by women, who also contributed to the construction and were included in all training programmes.

The primary project was executed by UNOPS on behalf of the UNDP-implemented GEF Small Grants Programme in Pakistan. UNDP Pakistan and the Sindh Local Government have now adopted and integrated the Benazir Model in similar projects, resulting in over 500 new houses being built.

Case Study 7: Bangladesh

Running disaster management programmes

Bangladesh is likely to face some of the most severe impacts from climate change in the world. It is low-lying, densely populated and with annual floods affecting on average fifteen percent of its land, it is susceptible to water-borne diseases, mass internal displacement and disruption to food supply.

The Comprehensive Disaster Management Programme (CDMP) was designed to improve Bangladesh's ability to reduce risks from natural disasters and improve response and recovery activities.

On behalf of the Ministry of Food and Disaster Management, the UK Department for International Development, UNDP and the European Commission,

Risk assessment meeting conducted with members of the local community as part of a programme designed to improve Bangladesh's ability to reduce risks from natural disasters and improve response and recovery activities.

UNOPS was one of three organizations implementing the programme during 2004 to 2009.

Over that time UNOPS supported hundreds of community risk assessments and helped develop risk reduction plans, advocacy programmes and disaster management training schemes.

To empower local communities UNOPS helped create a mechanism to coordinate interventions, oversaw a programme gap analysis to assess what was needed, and helped establish a local grants programme to provide small-scale risk reduction interventions and livelihood security strategies.

The programme also focused on ways to address agricultural risks through adaptation research and contracted and trained more than 70 government and stakeholder agencies to help implement field activities.

UNOPS also provided early recovery technical support to the Government and the United Nations in 2007 to address damage caused by two severe floods and Tropical Cyclone Sidr, which affected 8.9 million people.

UNOPS can support national plans to reduce climate change impacts by constructing:

- Roads and bridges in rural areas, providing swift evacuation routes
- Housing adapted to temperature rise, floods and energy needs
- Irrigation systems in areas vulnerable to drought
- Flood control infrastructure to reduce negative health impacts
- Renewable energy facilities - solar, wind, hydro power
- Water supply and sewage systems adapted to extreme weather events
- Coastal zone protection – retrofitting harbours, sea walls and moorings
- Food storage facilities to avoid food insecurity
- Evacuation facilities to reduce loss of life in exposed areas
- Waste management facilities
- Communal facilities – climate-resilient schools and hospitals

If you are interested in the above or wish to learn more about how UNOPS can help infrastructure and communities become more climate-resilient, please contact:

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