

UNESCO snapshots



unesco

At MONDIACULT 2022, the largest global conference devoted to culture in the past 40 years, organized in Mexico by UNESCO, its Director-General, Audrey Azoulay, welcomes the adoption by 150 States of a historic Joint Declaration for culture.
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PREFACE

by Audrey Azoulay,
Director-General of UNESCO

In the pages that follow, you will find an overview of UNESCO's actions throughout 2022. These local successes reflect, once again, the necessity but also the coherence of our Organization's mandate when it comes to rising to the immense challenges of our century.

The first of these challenges is education. COVID-19 school closures have had alarming consequences, as documented by UNESCO: in low- and medium-income countries, nearly three-quarters of 10-year-old children are unable to read and understand a simple text. Faced with this urgent situation, more than 150 Member States gathered at the Transforming Education Summit and made strong commitments. UNESCO will support and monitor their progress.

As the climate crisis is deepening at a concerning rate, our Organization is staying true to its pioneering role in protecting the environment. This means countering the effects of climate disruption, first of all, by helping Member States improve water management and respond to natural hazards. It also means preserving the health and biodiversity of our planet. UNESCO is leading the United Nations Ocean Science Decade, and already protects 6% of the world's landmass in its biosphere reserves, geoparks and natural World Heritage sites – where we are reinventing the relationship between people and nature.

Lastly, UNESCO is continuing its ethical and normative work to accompany technological progress: by implementing our Recommendation on the Ethics of Artificial Intelligence, and by exploring the ethical ramifications of neurotechnology.

In the current international context, we need to reaffirm the "moral and intellectual solidarity of humanity"; to fight disinformation, prejudice and the root causes of hatred everywhere, especially online – this was the message of UNESCO's second Global Forum against Racism and Discrimination. In this respect, 2022 was marked by several moments of union: the 50th anniversary of the World Heritage Convention, which underlined the potential of major unifying programmes; and the MONDIACULT Conference in Mexico, where 150 States called for culture to be considered a global public good.

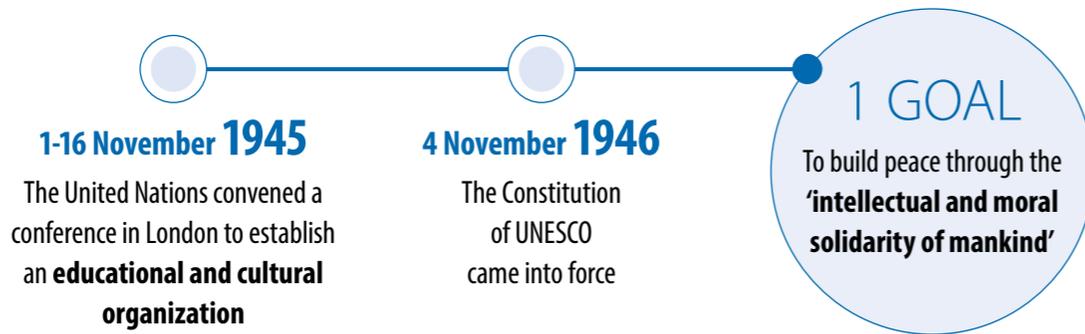
You will also discover the latest progress made on some of our local flagship initiatives. In Mosul, where we are supporting the recovery of the city's cultural and educational life, works to rehabilitate symbolic heritage have entered the final phase. In Beirut, 280 educational institutions have been fully rehabilitated.

In Ukraine, at the request of its Member States, UNESCO has also stepped up – by supporting artists; by protecting museums and cultural sites; by delivering, with Google, over 50,000 computers to Ukrainian teachers and training them on digital learning; and by protecting journalists as they play their essential role of providing information.

In this way, in 2022, true to its history, UNESCO continued to build the defences of peace in the minds of women and men.

Audrey Azoulay

The creation of UNESCO



Its mission and objectives



UNESCO, the United Nations Educational, Scientific and Cultural Organization, seeks to

BUILD PEACE through international cooperation by working across:

4 DOMAINS OF EXPERTISE

Education

Culture

the Sciences

Communication & Information

2 Global PRIORITIES



Its governance

The General Conference,

with representatives from all Member States, determines UNESCO's main lines of work

The Secretariat

executes the Organization's programme under the authority of the Director-General

The Executive Board

monitors the implementation of the Organization's programme



The General Conference is held **every 2 years**



Each country has **1 vote**

Its human and financial resources in 2022



193 Member States

12 Associate Members



2,319 UNESCO staff of **168** nationalities working across **54** countries

56 % women among UNESCO personnel

39% women among UNESCO directors



Annual budget **US\$ 750.3** million



283 donors

support **1,185** projects in **165** countries

8 Category 1 institutes and more than

135 Category 2 institutes and centres under the auspices of UNESCO around the world

850 UNESCO networks and university chairs in **117** countries



LANDMARK ACHIEVEMENTS



Over 75 years, UNESCO's pioneering work has changed the way people everywhere understand each other and the planet we live on



The Universal Copyright Convention

1952

The **Universal Copyright Convention** was adopted in 1952, and revised in 1971, under the aegis of UNESCO with a view to extend international copyright protection universally.



The creation of CERN (the European Organization for Nuclear Research)

1954

At an intergovernmental meeting of UNESCO in Paris, the first resolution concerning the establishment of a **European Council for Nuclear Research** (in French, Conseil Européen pour la recherche nucléaire) was adopted. Today, it is one of the world's largest and most respected centres for scientific research.



Saving the Nubian Monuments from Abu Simbel to Philae

1960

UNESCO launched its first major international **campaign to save monuments** in Nubia from being flooded by the rising waters of the Nile.



The General History of Africa

1964

UNESCO brought together African scholars to write their continent's **history from their own perspective**. A total of nine volumes have been produced and three more are in preparation.



The Pacific Tsunami Warning and Mitigation System

UNESCO's **Intergovernmental Oceanographic Commission (IOC-UNESCO)** designed a system to **save communities at risk from tsunami** on the coastlines of the Pacific and Indian oceans, later extended to the Caribbean, the North-East Atlantic and the Mediterranean.

1965



Recommendation on the Ethics of Artificial Intelligence

2021

This is the very first global standard-setting instrument on the ethical use of artificial intelligence. Adopted unanimously by UNESCO's 193 Member States, it aims to guide countries in building legal frameworks to **ensure that AI is deployed as a force for the common good**.



The Global Education Coalition

2020

The unparalleled COVID-19 pandemic threatened the right to education of **more than 1.5 billion students**. UNESCO launched this ambitious coalition of over 175 institutional, private sector and media partners, to unlock solutions to support learners and teachers, and build a recovery process.



The Convention for the Safeguarding of the Intangible Cultural Heritage

2003

This Convention **safeguards ancestral knowledge and traditions from local communities across the globe**. It also facilitates their transmission to the new generations.



The Declaration on the Human Genome and Human rights

1997

This Declaration is the **first global ethical instrument on the research of the human genome** and is best known for its statement against human cloning.



The Convention concerning the Protection of the World Cultural and Natural Heritage

1972

This Convention seeks to encourage **the identification, protection and preservation of cultural and natural heritage** around the world considered to be of outstanding universal value to humanity.

1971



The Man and the Biosphere (MAB) Programme

The UNESCO MAB programme established a global collaboration to find a balance between human beings and their environment. It combines **improving the livelihoods of local populations and safeguarding biodiversity**.

FACTS AND FIGURES

Li Beirut

280 educational institutions completely rehabilitated in Lebanon's capital thanks to UNESCO



150 countries unanimously recognized culture as a 'global public good' at the UNESCO World Conference **MONDIACULT 2022**



#FaireRevivreLEspritDeMossoul

Over US\$ **105.5** million mobilized by UNESCO through **15** international partners for the Revive the Spirit of Mosul initiative



For **50** years the **UNESCO World Heritage Convention** has encouraged the identification, protection and preservation of **cultural and natural heritage** around the world



Over US\$ **9.4** million from the **International Fund for Cultural Diversity** have funded **129** cultural projects in **65** Member States since 2010



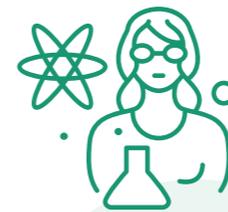
10 million km² of land protected by UNESCO designated sites:
738 Biosphere Reserves
177 Global Geoparks
1,157 World Heritage sites



100% of at-risk communities worldwide will be trained by UNESCO through its **Tsunami Ready Programme** by **2030**



Over **2,000** young African filmmakers applied to a **UNESCO-Netflix competition** to promote and support the next generation of movie makers in the continent



Only **30%** of the world's researchers are women according to a new UNESCO Institute for Statistics (UIS) interactive tool



Between **2** and **3** billion people worldwide experience **water shortages** according to the 2022 edition of the UN World Water Development Report published by UNESCO and UN-Water



Glaciers in **1/3** of World Heritage sites are set to disappear by 2050 according to a 2022 UNESCO-IUCN report



86% is the **global impunity rate** for **journalist killings** according to UNESCO data from 2022



50,000 computers distributed by UNESCO and Google to **Ukrainian teachers** to help them deliver classes remotely

Over **24,000** judges trained by UNESCO in the last decade to **protect journalists**



244 million children and youth are out of school
771 million adults are illiterate according to UNESCO 2022 global estimates



© UNESCO / Dmitri Karzakov

Invest in education to transform lives

Education is a human right for all throughout life. It is UNESCO's mission to build peace, eradicate poverty and drive sustainable development by ensuring equitable and inclusive access to quality education. UNESCO fosters cooperation to build inclusive knowledge societies underpinned by universal access to information and the innovative use of digital technologies.



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Reconcile humanity with nature

UNESCO protects the diversity of life on land and ocean. UNESCO promotes science and local knowledge to help to find solutions to today's acute economic, social and environmental challenges, and to achieving sustainable development and greener societies.



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Foster science and technology at the service of humanity

UNESCO encourages knowledge production, Open Science and the free flow of ideas while developing global ethical standards for the creation and use of artificial intelligence (AI) and the role of the neurosciences to address the challenges of our time.



© UNESCO / Yona Puga

Promote inclusion and mutual understanding

UNESCO continues to accomplish every day its fundamental humanist mission to support people in understanding each other and working together to build lasting peace. UNESCO fights against racism, discrimination and hate speech for just, inclusive, resilient and democratic societies. It defends and promotes freedom of expression, media independence and pluralism. UNESCO enhances the protection and promotion of cultural heritage, and supports creativity and dynamic cultural sectors.

HIGHLIGHTS

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STORIES from the field

- Five years after its liberation, Mosul comes back to life
- UNESCO and its partners complete rehabilitation of 280 schools in Beirut
- UNESCO takes action for the people of Ukraine
- UNESCO campaign keeps girls in the picture in Nigeria
- Von Vorn's journey to literacy in Cambodia
- Restoring mangroves in Latin America and the Caribbean
- Students collect eDNA at UNESCO marine World Heritage sites
- UNESCO and Southern African countries work towards a shared AI agenda
- 'Venezuela Siembra Cultura': Fostering integration of Venezuelan migrants and refugees in Peru
- Youth Fah Peace: Live Skills Training for Students held in Jamaica
- UNESCO supports recovery of culture and heritage in Pakistan following flood disaster
- Underwater exploration of ancient Mayan site in Guatemala
- UNESCO countering hate speech and disinformation with media and information literacy in Kenya

HIGHLIGHTS

A selection of major initiatives bringing people together through education, the sciences, culture, communication and information

The UNESCO World Heritage site Chiribiquete National Park – “The Maloca of the Jaguar” is the largest protected area in Colombia and the confluence point of the Amazon, Andes, Orinoco and Guyana biogeographical provinces. The discussion about the future of World Heritage in challenging times was at the heart of the 50th anniversary of the UNESCO World Heritage Convention in 2022.

© Steve Winter



Franz Josef glacier, New Zealand.
UNESCO-IUCN data released in 2022
highlight the accelerated melting
of glaciers in World Heritage sites,
with glaciers in a third of sites
set to disappear by 2050.

© Jan Mika / Shutterstock.com



UNESCO provides data and solutions for the protection of the environment

1

Throughout 2022, UNESCO continued gathering data and issuing alerts on our planet's biggest environmental threats: climate change, water crises, the declining health of the ocean and the resulting loss of biodiversity. These complex issues demand a holistic approach. UNESCO develops legal standards to promote biodiversity and its sustainable use. It works to protect natural areas and resources through its World Heritage, Man and the Biosphere, UNESCO Global Geoparks and Intergovernmental Hydrological programmes. UNESCO also supports numerous scientific projects and networks to find solutions and share knowledge.

A new UNESCO study released in November highlights the accelerated melting of glaciers in World Heritage sites, noting that glaciers in one third of the sites are expected to disappear by 2050. The other two-thirds can still be saved if global temperature rise does not exceed 1.5°C above pre-industrial levels, the limit set by international climate accords.

UNESCO also established a global research and action agenda on culture, heritage and climate change, in collaboration with the International Council on Monuments and Sites (ICOMOS) and co-sponsored by the Intergovernmental Panel on Climate Change (IPCC). Another report from Canada and the United Kingdom found that the 41 UNESCO-designated biosphere reserves, World Heritage sites and UNESCO Global Geoparks surveyed in the two countries are all vulnerable to climate change and cited scarce funds and flooding as their top concerns.

At the latest climate talks at the COP 27 summit last November in Egypt, where countries agreed to create a climate damage fund to help developing nations, over 40 events were hosted at the UNESCO Pavilion ranging from scientific presentations on mitigation and adaptation to discussions about introducing climate change and a new water culture into education, and including indigenous knowledge in science and policy.

UNESCO launched its survey report *Youth demands for quality climate change education* at COP 27. Based on consultations with more than 17,000 young people from 166 countries, it revealed that 70 per cent of them question the quality of their climate change education (CCE). UNESCO hosted the first meeting on the 'Greening Education Partnership: Getting every learner climate-ready', a global initiative to boost CCE.

At COP 15 on biological diversity in December, 196 countries agreed to back the ambitious Kunming-Montreal Global Biodiversity Framework. It calls for states to protect 30 per cent of the Earth's land and water by 2030 – the current proportion is between 10 and 17 per cent – and to restore 30 per cent of degraded ecosystems. UNESCO launched an integrated database at COP 15 which will enable Member States and partners to monitor socio-ecological indicators such as changes in land use, including within UNESCO's own network of designated areas – 257 natural World Heritage sites, 738 biosphere reserves and 177 UNESCO Global Geoparks, amounting to an area the size of the United States – and at UNESCO's 37 Ecohydrology Demonstration Sites.



UNESCO and the 1 OCEAN Foundation launched in 2022 a scientific exploration programme on the marine animal forests and Red Gorgonians of the Mediterranean. Scientists are seeking to understand how gorgonians and their ecosystems can survive in the deep sea, whether the ocean could act as a thermal shield and its depths provide a refuge.

© Alexis Rosenfeld / 1 OCEAN Foundation

UNESCO leads the Ocean Decade

2

UNESCO made a key promise in 2022: to deploy its Tsunami Ready Programme around the world, training all at-risk communities by 2030. UNESCO's global tsunami warning system detects threats rapidly. But to save lives, a community must respond appropriately. To become 'tsunami ready', it must develop a risk reduction plan, identify hazard zones, create evacuation maps and develop public education materials, all adapted to local needs.

Already piloted successfully in 40 communities in 21 countries across the Caribbean, Pacific and Indian Ocean regions – and set to train thousands more vulnerable coastal communities – UNESCO's Tsunami Ready Programme is among the myriad of activities launched for the UN Decade of Ocean Science for Sustainable Development (2021–2030), led by UNESCO's Intergovernmental Oceanographic Commission (IOC-UNESCO).

The Programme was announced last June in Lisbon, Portugal, at the 2022 UN Ocean Conference, one of several held in 2022 to amplify international support for ocean action. While in Lisbon, Audrey Azoulay, Director-General of UNESCO, Marcelo Rebelo de Sousa, President of Portugal, and Uhuru Kenyatta, President of Kenya, convened the Ocean Decade Alliance, a network of heads of state, CEOs and philanthropists formed to boost international cooperation in ocean research, education and protection. During the conference, Brazilian giant wave surfer Maya Gabeira was appointed UNESCO's first-ever Champion for the Ocean and Youth.

'Thanks to the Ocean Decade, partners have already raised US\$920 million to support

transformative ocean science through around 100 initiatives,' said Ms Azoulay. 'But most of the work remains to be done. The ocean is still too often in the blind spot of public and private investment. We do not understand it and we do not protect it sufficiently. It is urgent that we reverse this trend.' An international project coordinated by IOC-UNESCO to chart the world's entire ocean floor by 2030 is making significant progress.

UNESCO also brought ocean issues to the forefront of the UN Climate COP27 and Biodiversity COP15 Conferences. During COP27 in Sharm el-Sheikh, Egypt, UNESCO organized a series of events around ocean acidification, deoxygenation, blue carbon, ocean observations and ocean literacy, bringing together diverse ocean actors to work collectively toward climate action. At the Biodiversity COP15 in Montreal, Canada, UNESCO's flagship event 'An Ocean of Life' convened a high-level dialogue and launched a new UNESCO policy brief, *Ocean science for biodiversity conservation and sustainable use*, on how the Ocean Decade enables actors to work with ocean science to support the post-2020 Global Biodiversity Framework (GBF).

UNESCO also announced a new commitment at the One Ocean Summit last February in Brest, France: to include ocean literacy in the school curricula of its 193 Member States by 2025. UNESCO is providing a toolkit to enable policy-makers and curriculum developers to integrate ocean literacy at every level, from national curricula to teachers' lessons. Education must be a pillar of science-based ocean action. 'Because if we want to protect it better, we must teach it better,' said Ms Azoulay.

UNESCO urges a global mobilization to counter the education crisis

UNESCO Director-General called for action to surmount the crisis in education during a Pre-Summit held at UNESCO in June that convened 1,800 participants including 154 ministers. The gathering provided a forum for countries to present preliminary outcomes of national consultations and to have multilateral discussions on new commitments that were announced at the Transforming Education Summit (TES) which took place in September at the UN General Assembly in New York.

'The pandemic has exacerbated the global education crisis. School closures have resulted in significant learning losses. In low- and middle-income countries, 70 per cent of 10-year-olds are unable to understand simple written text – up from 57 per cent in 2019,' said Ms Azoulay, quoting UNESCO's latest figures. **'Without new measures to support them, these young people will face significant difficulties in continuing their education and entering the workforce. We will then face a major social crisis.'**

The learning crisis is aggravated by a funding crisis. A study by UNESCO and the World Bank revealed that 40 per cent of low- and middle-income countries reduced their education spending during the pandemic, by an average of 13.5 per cent. By summer 2022, budgets had still not returned to their 2019 levels.

'Today I am calling for mobilization: education must return to the top of the international community's agenda if we are to meet the Sustainable Development Goals,' concluded Ms Azoulay.

The call was heard. More than 130 countries at the UN Summit last September pledged to revitalize their education systems and

accelerate action to end the crisis. Having served as the TES Secretariat, UNESCO will continue to monitor progress and ensure that global commitments are translated into concrete plans.

UNESCO organized three world conferences in 2022 on early childhood care and education, higher education and adult learning, setting out a common vision and commitments for the next decade in these areas that are key to transforming education and ensuring a lifelong education journey:

At UNESCO's Conference on Early Childhood Care and Education held in Tashkent, Uzbekistan last November, countries agreed to invest at least 10 per cent of education spending into early childhood education and pledged to guarantee at least one year of free pre-primary education.

The UNESCO World Higher Education Conference in Barcelona, Spain, in May focused on 'Reinventing Higher Education for a Sustainable Future', considering that 235 million students are currently enrolled in higher education worldwide and their number will likely double in the next ten years. A roadmap sets out key transitions to make higher education more inclusive, open and democratic.

UNESCO also convened the International Conference on Adult Education in Marrakech, Morocco in June. Globally, 771 million adults are illiterate and many more do not have the adequate skills and knowledge needed to navigate through today's digital demands. With the adoption of the Marrakech Framework for Action, over 140 countries committed to translating the vision of a right to lifelong learning into reality.

On Rarotonga, the largest of the Cook Islands, the education of children 1–5 is linked to their environmental surroundings. This case was featured at UNESCO's World Conference on Early Childhood Care and Education in 2022, in Tashkent, Uzbekistan, which reaffirmed the right of every child to quality care and education from birth.

© Melanie Cooper

UNESCO celebrates the 50th anniversary of the World Heritage Convention

4

On 16 November 1972, UNESCO's General Conference adopted the Convention concerning the Protection of the World Cultural and Natural Heritage. For the past 50 years, the World Heritage Convention has protected and promoted humanity's treasures and transformed the way we value and safeguard heritage.

The Convention is UNESCO's most ratified text. Today, the World Heritage List counts 1,157 exceptional sites in 167 countries.

To mark the 50th anniversary, UNESCO launched '50 Minds for the Next 50', bringing together 50 leading thinkers from diverse disciplines – including biophysicists, architects, chefs, archeologists and artists – to imagine the future of World Heritage, focusing on topics from the impact of climate change on World Heritage sites to sustainable tourism and digitization. On 17 and 18 November 2022, an international conference in Delphi, Greece, organized by Greece and UNESCO, brought together States Parties to the Convention and experts from around the world to review its achievements and discuss strategies for the safeguarding of World Heritage in the coming decades.

In his opening speech, Greek Prime Minister Kyriakos Mitsotakis called the Convention 'the bedrock upon which international cooperation regarding all kinds of heritage conservation has been built.' He stressed that the Convention has 'shaped a common understanding of what protection means and has been the foundation for new institutions, new procedures, new action (...) and has provided a banner to which all conservation expertise could rally.'

Looking to the future, UNESCO announced an action plan to make World Heritage more representative, accessible and sustainable. This plan is set to address the uneven global distribution of sites, where some countries boast over 50 sites while others, notably 12 African States Parties, none at all. It will seek to improve protection for all sites, especially the 55 World Heritage sites on the List of World Heritage in Danger.

During last September's European Heritage Days, in addition to tours of its emblematic Paris Headquarters, UNESCO offered visitors numerous activities spotlighting World Heritage. More than 100 extraordinary photographs of World Heritage sites by photographer Yan Bighetti de Flogny were on display outside UNESCO's gates.



The Okavango Delta in the Kalahari Desert, Namibia, is one of the very few major interior delta systems that do not flow into a sea or ocean, with wetlands that are almost intact. It hosts herds of African elephants and other large animals. This is one of only 98 World Heritage sites in sub-Saharan Africa, a figure UNESCO Director-General Audrey Azoulay seeks to increase to address the uneven global distribution of sites.

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UNESCO Member States declare culture a 'global public good'

Culture is a vital economic driver and a catalyst for sustainable development. According to the 2022 UNESCO Global Report, *ReShaping Policies for Creativity*, the cultural and creative sector represents 6.2 per cent of all existing jobs and 3.1 per cent of global GDP. The sector employs the largest number of young people under the age of 30, as well as a high percentage of women. It is also one of the sectors that was most seriously impacted globally by the COVID-19 pandemic, with more than 10 million jobs lost in 2020 alone and with a 20–40 per cent drop in revenues, as revealed by the 2022 UNESCO and the Department of Culture and Tourism of Abu Dhabi co-published report *Culture in Times of COVID-19: Resilience, Recovery and Revival*.

Against this background, the 15th session of the UNESCO Intergovernmental Committee for the Protection and Promotion of the Diversity of Cultural Expressions held in 2022 approved over US\$730,000 in funding for cultural projects from the International Fund for Cultural Diversity (IFCD). This will benefit nine projects from Bolivia, Chile, Colombia, Guinea, Indonesia, Nigeria, Palestine, Seychelles and Timor-Leste.

This brings total support from the IFCD to more than US\$ 9.4 million to fund 129 projects in 65 Member States since 2010.

In September 2022, UNESCO held the World Conference on Cultural Policies and Sustainable Development – MONDIACULT 2022, which resulted in a historic Declaration adopted unanimously by 150 countries that recognizes culture as a 'global public good' and calls for culture to be included 'as a specific objective in its own right' in the post-2030 global development framework.

Held in Mexico City, MONDIACULT 2022 represented the largest ministerial meeting on culture in the last 40 years, bringing together nearly 2,600 participants, including 135 ministers.

The Declaration calls for the creation of an enabling environment conducive to the respect and exercise of cultural rights, including the social and economic rights of artists, the right of indigenous communities to their cultural expressions, and the protection and promotion of cultural and natural heritage. Strong regulation of the digital sector is called for, to benefit online cultural diversity, artists' intellectual property rights and equitable access to content for all.

Other issues such as the promotion of freedom of expression, the role of culture for climate action and quality education and the creative economy were placed high on the agenda by Ministers of Culture. Governments pledge to intensify the fight against illicit trafficking in cultural property and call for an open and inclusive dialogue for the return and restitution of cultural property. At MONDIACULT 2022, it was announced that UNESCO and INTERPOL will establish a virtual museum of stolen cultural property by 2025, to serve as an educational and research tool.

The Declaration also highlighted the need to develop data on culture's impact on sustainable development. In this regard, UNESCO will be producing a Global Report on Cultural Policies on a quadrennial basis, which will inform the World Forum on Cultural Policies, to be held by UNESCO every four years starting in 2025.



At UNESCO MONDIACULT 2022, hosted by the Government of Mexico, 2,600 participants including 135 ministers adopted a historic declaration that recognizes culture as a global public good and an objective in its own right, ahead of the post-2030 global development framework.

UNESCO promotes better use of groundwater

In 2022, UNESCO focused on groundwater, which accounts for 99 per cent of all liquid freshwater on Earth and its untapped resources could solve many of the world's crises tied to water shortages.

According to the latest UN World Water Development Report, published in 2022 by UNESCO's World Water Assessment Programme (WWAP) on behalf of UN-Water, the world must pay greater attention to the vast potential of groundwater and the need to manage it sustainably.

This report, *Groundwater: Making the Invisible Visible*, was launched at the 9th World Water Forum in Dakar, Senegal, in March 2022.

Aiming to provide decision-makers with the tools to develop sustainable groundwater policies, the report recommends action in three areas: collecting data, strengthening environmental regulations and reinforcing human, material and financial resources.

Groundwater provides almost half of all drinking water worldwide, some 40 per cent of the water used in irrigation and about one-third of the supply required for industry. Water use is projected to grow around the world by roughly 1 per cent per year over the next 30 years, while dependence on groundwater is expected to rise as climate change increasingly limits surface water availability.

In Sub-Saharan Africa, vast aquifers remain underexploited. Only 3 per cent of farmland is equipped for irrigation and only 5 per cent of this farmland uses groundwater, compared to nearly 60 per cent in North America and South Asia. As the report points out, this low usage is due mainly to lack of investment in infrastructure and expertise.

Policies that enhance women's access to water have a greater chance of contributing to sustainable development. That is why WWAP has been coordinating a Call for Action initiative since 2021 to accelerate progress towards gender equality in the water domain; by December 2022, more than 20 countries and 150 institutions had endorsed this Call for Action.

At the very first UN-Water Groundwater Summit hosted by UNESCO's Intergovernmental Hydrological Programme in Paris in December 2022, some 30 governments and organizations announced the creation of the multistakeholder Transboundary Water Cooperation Coalition. This initiative, which involves financial and academic institutions and civil society, will promote collaboration between countries that share aquifers, lakes and river basins to ensure that usage furthers peace and sustainable development. More than 3 billion people depend on water that crosses national borders. At the summit, UNESCO also released its new report, *Transboundary Aquifers: Challenges and the Way Forward*.

UNESCO and the UN Economic Commission for Europe are responsible for monitoring countries' cooperation on transboundary basins. The latest report in 2021 showed that progress was not on track to meet the relevant Sustainable Development Goal target (SDG 6.5.2).



Groundwater can alleviate the growing water scarcity in many parts of the world, yet it can easily become polluted by inadequate sanitary facilities, agriculture or industry. Traditional well-diggers, Indonesia.

UNESCO acts against racism and discrimination

The current context of multiple crises – food, energy, climate, war – along with the legacies of the COVID-19 pandemic and the increase of hate speech have multiplied the instances of racism and discrimination.

Since 2019, UNESCO has been leading a vigorous campaign to promote inclusion, non-discrimination and human solidarity. In 2021, UNESCO Member States called for a yearly global forum to address the adverse impact that racism and discrimination is having in our societies, particularly for the most vulnerable communities. Fighting racism is part of UNESCO's DNA.

The second edition, UNESCO's Global Forum against Racism and Discrimination, was held in Mexico City on 28 and 29 November 2022. High-level participants including decision-makers, experts, civil society leaders, practitioners, artists and UNESCO goodwill ambassadors shared insights and strategies to uproot the systemic, structural and institutional racism that affects societies worldwide.

Many topics were covered enriching UNESCO's Roadmap against Racism and Discrimination and its impact such as setting up effective institutional and legal frameworks; ensuring the rights of women, adolescents and girls; fighting discrimination against people of African descent and of Asian origin; inclusion of migrants and refugees; strengthening the roles of cities, civic space and artistic and academic communities; discrimination in the digital space and artificial intelligence; resource mobilization, and more.

A Ministerial Roundtable brought a policy perspective and showcased efforts undertaken to increase impact at home. Ministers expressed support for UNESCO's coordination of international efforts.

UNESCO also launched 'Writers against Racism' and the Global Coalition against systemic Racism and Reparation. Artist Krytzia Dabdoud donated a canvas in honor of diversity. Canada, Mexico and the United States presented the 'North American Partnership for Equity and Racial Justice', which will include UNESCO among the key partner institutions. UNESCO presented its Gender-based Resilience Framework, a useful tool to foster gender equality, and its antiracism toolkit. This will support Members States in their antiracism strategies by reviewing and upgrading their legislative frameworks, institutional capacities and financial resources to fight racism and help achieve change on the ground.

The Forum concluded that while racial discrimination persists in our societies, strong and independent national institutions can provide solid legal and regulatory protection. International cooperation is key to advance effective strategies. Countering discrimination online also requires clear rules, and UNESCO's Recommendation on the Ethics of Artificial Intelligence provides an effective framework to advance this.

UNESCO's actions also include the International Coalition of Inclusive and Sustainable Cities (ICCAR), the Master Class Series against Racism and Discriminations, the Routes of Enslaved Peoples Project, the Global Citizenship Education Programme and the fight against disinformation and hate speech.



Imagine we all had the same filter.
NONE.

#IAmAntiRacist



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Imagine we all had the same filter.
NONE.

#IAmAntiRacist



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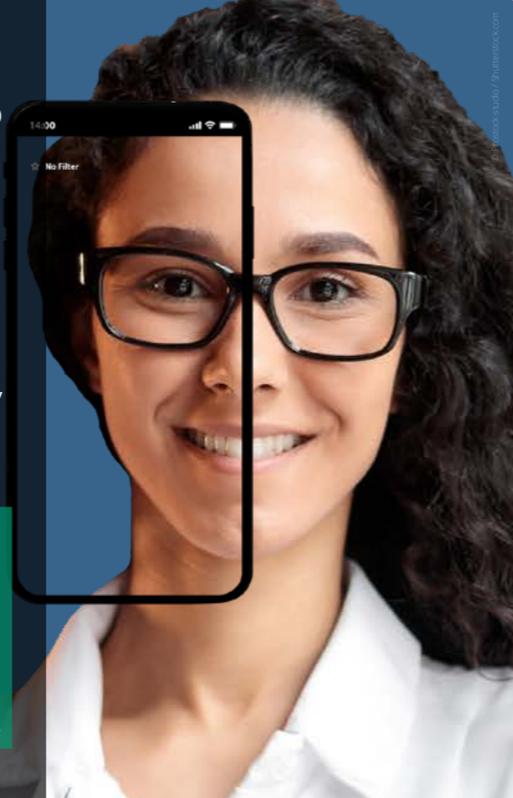


Imagine we all had the same filter.
NONE.

#IAmAntiRacist



© UNESCO/Alamy.com



Imagine we all had the same filter.
NONE.

#IAmAntiRacist



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Imagine we all had the same filter.
NONE.

#IAmAntiRacist



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UNESCO calls for ending impunity of crimes against journalists

The 2022 *UNESCO Report on the Safety of Journalists and the Danger of Impunity* shows that the global impunity rate for journalist killings remains shockingly high at 86 per cent. Since 1993, over 1,570 journalists were killed around the world, with nearly nine out of ten cases still unresolved.

'Freedom of expression cannot be protected when there is such a staggering number of unresolved cases. It has a chilling effect on investigative reporting, a field of journalism which is vital to the health of any democracy,' said Audrey Azoulay, Director-General of UNESCO.

On International Day to End Impunity for Crimes Against Journalists 2022, UNESCO renewed its call for all necessary measures to ensure that attacks on journalists are prosecuted. On the same day, 2 November, the UN Plan of Action on the Safety of Journalists and the Issue of Impunity, which UNESCO coordinates, marked its 10th anniversary.

Under the Plan, UNESCO trains judges, prosecutors and security forces to defend journalists' rights, in addition to working with its 193 Member States to develop and implement national media laws and policies.

UNESCO has already trained over 24,000 judges in the last decade, including 15,000 in Latin America in partnership with the Inter-American Court of Human Rights.

UNESCO's local partnerships have trained over 11,500 police officers in 17 countries across Latin America, Africa and the Arab region. An online course launched in 2022 in collaboration with the International Police Association (IPA), which has 372,000 members from nearly 100 countries, broadened and accelerated UNESCO's work to protect journalists.

The theme of the World Press Freedom Day Global Conference held in May 2022 in Punta Del Este, Uruguay was 'Journalism under Digital Siege'. Online violence has increased, particularly against female journalists, while social media now poses a real threat to the survival of professional news media. According to the 2021/2022 UNESCO report *World Trends in Freedom of Expression and Media Development*, news audiences and advertising revenues have migrated to internet platforms. Two companies, Google and Meta/Facebook, now absorb roughly half of all global digital advertising spending, while newspaper advertising revenue has dropped by half.

At the 2022 World Press Freedom Day conference, the Belarusian Association of Journalists (BAJ) was awarded the 2022 UNESCO/Guillermo Cano World Press Freedom Prize as a reminder of the importance of ensuring the right of journalists worldwide to report freely and safely.

UNESCO supports the National Union of Somali Journalists (NUSOJ) through training workshops on the safety of journalists and the creation of the first-ever national network of media lawyers capacitated to defend journalists and news media organizations.

© NUSOJ



UNESCO pursues its combat against Holocaust distortion

In July 2022, UNESCO and the UN, in partnership with the World Jewish Congress (WJC), published the first report on distortion and denial of the Holocaust on social media platforms. To measure the extent of the problem, researchers from the Oxford Internet Institute were commissioned to analyze 4,000 posts related to the Holocaust on Facebook, Instagram, Telegram, TikTok and Twitter.

Results show that Holocaust denial and distortion are rampant on Telegram, a platform known to lack moderation. Nearly half (49 per cent) of its Holocaust-related content denies or distorts the facts. Many of these easily-findable posts are explicitly antisemitic.

Denial and distortion are also present on moderated platforms. They concern 19 per cent of Holocaust-related content on Twitter, 17 per cent on TikTok, 8 per cent on Facebook and 3 per cent on Instagram. But falsification of Holocaust facts and antisemitic ideas can take on new forms, for instance as humorous memes, which evade moderation.

The joint UNESCO-UN report recommends moderation and education. Online platforms should monitor, and take action when necessary, on content that denies or distorts the Holocaust to promote human rights values while upholding freedom of expression. They should redirect and give visibility to verified information, as Facebook and TikTok do now in their partnerships with UNESCO and the WJC.

'The report reveals that there are still social networks where Holocaust denial and distortion spread without moderation, and that this content is used to fuel hatred,' says UNESCO Director-General. 'We can fight against these phenomena by taking action on content and educating users. We need common principles and guidelines. UNESCO will lead this discussion with all stakeholders, and in 2023, we will hold the first global conference dedicated to the responsibility of platforms.'

'Since January 2021 for Facebook and January 2022 for TikTok, users searching for Holocaust-related terms are sent to the website www.aboutholocaust.org. It sets out in 19 languages the facts on the Holocaust and the genocide's roots, processes and results. In the first year on Facebook, aboutholocaust.org was accessed some 400,000 times from more than 100 countries.'

Platforms should work actively with education systems to develop resources, and support digital citizenship education at all levels, says the report. UNESCO can provide technical guidance. As for governments, they must invest in developing media and information literacy and critical thinking, as suggested by UNESCO's 2021 report *Reimagining our Futures Together: A New Social Contract for Education*. The fight against online Holocaust denial must be integrated into national action plans against antisemitism and hate speech.

Despite decades of historical research, millions of hours of recorded witness testimony, and the preservation of documents and photographs worldwide, 16.2 per cent of Holocaust-related content on major social media platforms denies or distorts the fundamental facts, according to a 2022 UNESCO and the United Nations report launched in partnership with the World Jewish Congress.

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STORIES FROM THE FIELD

A selection of tangible results and innovative solutions on the ground for peace and a sustainable future

Historic Cairo, a UNESCO World Heritage site, is one of the world's oldest Islamic cities and the place of origin for many expressions of craftsmanship. Thanks to financial assistance from UNESCO's Intangible Heritage Fund, the Egyptian Society for Folk Traditions is implementing an 18-month project to inventory twenty types of crafts produced in this historic area.

© Egyptian Folk and Tradition Society and Ministry of Culture

Five years after its liberation, Mosul come back to life

On 21 July 2022, Mosul celebrated the fifth anniversary of its liberation from ISIS extremists, whose cruel occupation had reduced the ancient Iraqi city's iconic monuments to rubble and destroyed its diverse social and cultural life.

The anniversary was the occasion to mark major progress of 'Revive the Spirit of Mosul', UNESCO's flagship initiative to restore the city's vibrant multicultural soul. Launched in 2018 by Director-General Audrey Azoulay, it is the Organization's most ambitious reconstruction campaign in decades, based on heritage, culture and education as essential levers for Mosul's recovery. Thanks to the United Arab Emirates, the European Union and other thirteen international partners, UNESCO raised more than US\$105.5 million for this project.

Following complex preparatory work – documentation, demining, site clearing, public consultations and archeological excavations – UNESCO proceeded in 2022 with the active phase of reconstruction of the Great Al-Nouri Mosque and its hunchback Al-Hadba Minaret, Al-Saa'a Convent and Al-Tahera Church.

During the preparatory work at Al-Nouri Mosque, an exceptional discovery was made: underground rooms dating back to the mosque's construction in the 12th century. Extensive uncovering was conducted by archaeologists from the Iraqi Ministry of Culture in coordination with UNESCO.

These remains will be preserved and enhanced: the public will be able to visit them as a museum once the work is completed.

At Al Saa'a Convent, the surrounding wall has been completely restored. UNESCO has commissioned the manufacturing of the new bells and clock for its bell tower, major symbols of Mosul's multicultural identity which once served as sound and visual landmarks for its citizens. This mission was entrusted to the traditional Cornille-Havard foundry, based in Normandy, France, the manufacturers of the bells of Notre-Dame Cathedral, in Paris. To this end, the Director-General visited the foundry with the Permanent Delegate of Iraq to UNESCO in November 2022.

In 2022, the Organization also completed the reconstruction of 43 heritage houses in the historic center. The houses were given back to their Moslawi residents. Work on the remaining 80 houses is rapidly progressing, as well as on Al-Ekhlash School, located in the same district. UNESCO additionally inaugurated a community center in a palace standing by the banks of the Tigris. It will serve as information point on the progress of the Initiative as well as to host cultural and associative events, and as a place to help raise awareness about heritage protection among the city's students.

The active phase of reconstruction of the traditionally leaning Al-Hadba Minaret, part of the religious complex that includes Al-Nuri Mosque in Mosul, Iraq, began in March 2022. It involved in-depth structural, geological and archeological studies, and securing, cleaning and stabilizing the remaining base of the minaret. View of the minaret in March 2023.

© UNESCO/Luay Mohamed Al Zrare



UNESCO and its partners complete rehabilitation of 280 schools in Beirut

On 4 August 2020, two huge explosions hit the port of Beirut. In addition to its devastating impact on the Lebanese people, the disaster damaged or destroyed 8,000 buildings, including more than 650 of historic value, 280 educational institutions and 80 per cent of the city centre's infrastructure.

To respond to the crisis, UNESCO Director-General Audrey Azoulay launched the LiBeirut (For Beirut) initiative on 27 August 2020. The campaign has rallied the international community to support Beirut's reconstruction, putting education, culture and heritage at the heart of the city's recovery.

Since its launch, UNESCO's LiBeirut initiative has continued raising funds and mustering technical aid from multiple partners to rebuild schools, heritage buildings, museums, galleries and the creative industry. In 2021, the initiative helped Lebanon's Ministry of Education start up its first nationally-led Five-Year General Education plan. It also led efforts to document Beirut's heritage, helping create a geo-referenced 3D model of three historic areas that was presented to the Directorate General of Antiquities to guide restoration plans.

Momentum has been maintained in 2022. In March, LiBeirut reached one of its most important goals: completing the rehabilitation of the 280 damaged educational institutions – 228 schools, 32 universities and 20 training centres. With donors providing the needed US\$35 million and support from the Education Above All Foundation, Qatar Fund for Development (QFFD) and the UN Fund for Education in Emergencies, Education Cannot Wait

(ECW), work progressed rapidly despite the pandemic. As well as restoration, universities and public schools received equipment and furniture. Eleven school libraries in the capital also benefited from the initiative, which collected books and provided training for librarians and teachers.

Last October, UNESCO achieved a new milestone with the restoration of the Sursock Palace. Thanks to Switzerland and the Sursock Palace Association, this architectural treasure of the Ottoman era will enter the first phase of rehabilitation. Eventually the palace will reopen as a museum and cultural centre.

In January 2022, UNESCO's LiBeirut initiative also supported an exhibition of 17 fully restored art works that were damaged in the blasts. The works, by some of Lebanon's best-known artists, were restored by The Beirut Museum of Art – BeMA, a new museum scheduled to open in 2026, which aims to promote 'reconciliation and unification through art and culture'.

At the Al-Bustan International Festival, revived last March by UNESCO through LiBeirut, one performance, *That Breath We Held*, epitomized how Beirut's artists are helping the city surmount collective trauma. It combined narrative, music and images to recount how certain audience members, who had agreed earlier to share their experience, lived through the blasts. 'The words burst out everywhere,' said a reviewer. UNESCO continues to stand with the people of Lebanon to help restore not only the culture and education sectors, but the city's spirit as well.

Ashrafieh's Third Public School, Beirut, Lebanon, is one of the 280 educational institutions completely rehabilitated by UNESCO, with support from its partners.

In July, UNESCO visited the damaged building of a cultural institution in Borodianka, as part of the Organization's mission to assess the impact of war on Ukraine's culture sector.

© UNESCO / Dmytro Kuzniatsov



UNESCO takes action for the people of Ukraine

UKRAINE

As part of its mandate to protect education, culture, heritage and freedom of expression, UNESCO mobilized from the beginning of the war to recall international law and respond to the needs conveyed by the Ukrainian population. Thanks to the support of its Member States and partners, more than 20 million dollars were committed in 2022 to finance UNESCO's emergency response.

Culture

UNESCO contributed to protect cultural heritage, both tangible and intangible, and to support artists and cultural professionals, in coordination with the Ukrainian authorities and international partners.

The Organization advised museum directors and site managers to improve measures to protect cultural buildings and collections, and to identify safe havens for artworks. Dozens of historic buildings across the country were marked with the Blue Shield, the emblem of the 1954 Convention for the Protection of Cultural Property. UNESCO experts also worked with local professionals to improve inventories and digitize documents most at risk.

In order to keep the international community informed, but also to prepare for reconstruction, the Organization has assessed damage to cultural sites, in particular through satellite imagery. The Organization also financed emergency works such as the restoration of the Odesa Fine Arts Museum's historic glass roof and the consolidation of the Khanenko Museum's façade in Kyiv.

On 1 July, UNESCO inscribed the Culture of Ukrainian borscht cooking on the List of Intangible Cultural Heritage in Need of Urgent Safeguarding. The Organization also launched a school programme to raise children's awareness of the importance of living heritage.

Supporting artists has been a major priority. UNESCO has awarded scholarships to allow them to pursue their artistic creation in Ukraine. The Organization has also set up a European residencies and solidarity system for women artists forced to flee their country.

Education

According to Ukraine's Ministry of Education and Science, more than 2,500 educational institutions were damaged and over 400 were destroyed throughout the year. By the end of 2022, more than a third of Ukrainian schools still could only provide distance education.

In 2022, UNESCO and Google distributed over 50,000 computers to Ukrainian teachers to help them deliver distance learning. With support from Google.org Grant, the Organization also trained them in the use of digital tools. UNESCO has additionally co-financed the creation of a digital platform for the higher education admission test to be held. As a result, 200,000 students were able to take this exam.

Some 25 partners of UNESCO's Global Education Coalition were mobilized and provided assistance in the form of scholarships, free access to certified courses and the translation of teaching materials. UNESCO also helped to support refugee students in countries bordering Ukraine, through the dissemination of integration policies and good practices.

On 12 December, UNESCO Director-General Audrey Azoulay welcomed Ukraine's First Lady Olena Zelenska to UNESCO Headquarters. In particular, they agreed to strengthen psychosocial support in schools. Thanks to Japan's financial contribution, the Organization will roll out a national training programme in this regard for teachers, educators and parents in 2023.

Journalists and press freedom

UNESCO helped Ukrainian journalists to pursue their work in safety, by providing them with protective equipment (helmets, bulletproof vests) and training them in war zone reporting. The Organization set up a 24/7 assistance hotline to respond to their requests, including to facilitate their evacuation from risk areas. More than 1,000 calls came in in the first few months.

The Organization also allowed the National Union of Journalists of Ukraine and the Independent Media Trade Union of Ukraine to relocate to safer areas, and supported the creation of a network of six solidarity centers for journalists across the country. These centers provide journalists with work space, psychological and legal assistance, and communication equipment. In addition, UNESCO delivered electric generators to newsrooms affected by power cuts.

In November 2022, the Organization completed its action plan with the creation of a grants programme for journalists who have lost their income. 160 media professionals received approximately US\$600 each so that they can continue to work and meet their most basic needs.

UNESCO experts meet with journalists at the Press Freedom Centre in Lviv, Ukraine, where UNESCO handed over a batch of bulletproof vests and helmets to the National Union of Journalists of Ukraine (NUJU) in April 2022.

© NUJU

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A student at the University of Ibadan, Gloria Ayodeji is an active advocate for girls' education in Nigeria through UNESCO's 'Keeping Girls in the Picture' campaign. She has reached many girls in her community who would have otherwise dropped out of school after the COVID-19 pandemic.

© UNESCO / Aderonke Alade

UNESCO campaign keeps girls in the picture in Nigeria

A student in her fourth year at the University of Ibadan in Nigeria, Gloria Ayodeji, age 21, grew up in a supportive home with her parents encouraging her to go to school, though non-literate themselves. She in turn became an active advocate for girls' education through UNESCO's 'Keeping girls in the picture' campaign. The campaign is part of broader advocacy efforts under a project funded by Wallonia-Brussels International. 'Education connects girls with people and activities that build their skills and empower them to lead change,' says Gloria. 'With an education, girls know their rights and stand up for what's right.' UNESCO launched the 'Keeping girls in the picture' global campaign during the pandemic, when projections showed that some 24 million young learners risked never going back to school. Eleven million were girls and young women, thus increasing their risk of early pregnancies, forced marriage and violence, and widening the gender gap. For many girls, school is more than a pathway to a better future, it is a lifeline.

Nigeria is one of four sub-Saharan African countries where 'Keeping girls in the picture' was rolled out at the national level. It spread to remote areas via community radios, youth networks and local leaders,

reaching 820 communities and 24 local government areas. Materials were adapted and translated into four languages, Hausa, Igbo, Yoruba and Pidgin. A Girls' Back to School Advocacy Group and a Woman-to-Woman Talk Initiative were created to rally the support of parents and guardians in favour of girls' education.

As a volunteer, Gloria shared the campaign's materials and reached many girls in her community who would not have returned to school otherwise. She started an initiative to connect girls interested in acquiring skills to mentors who could guide them. During the lockdown, Gloria organized online training for girls with internet access to learn design skills. Post-pandemic, Gloria and her peers continue to support girls who dropped out. 'Keeping girls in the picture' is hitting the mark in Nigeria. In the poorer North Central and North West regions, estimates show a 2.5 to 3 per cent increase in girls' enrolment rates, rising to 30 per cent in the South West region. UNESCO's project has reached some 8.7 million people, including nearly 6 million girls and young women.

Von Vorn's journey to literacy in Cambodia

When Von Vorn, a young garment worker, first joined the Factory Literacy Programme at her workplace in Phnom Penh, she couldn't write 'sous-dey', the casual Khmer word for 'hello' everyone uses in Cambodia. Now, as one of the first FLP-SkillsFuture graduates at her factory, she writes it all the time in her text messages. Literacy has changed her life. 'I used to feel inferior to others because I couldn't read,' she says. 'Now I'm really proud of myself that I'm able to read and write. I can also keep up with the news on internet.'

UNESCO and the Cambodian Ministry of Education, Youth and Sport (MoEYS), with the Garment Manufacturers Association, are partnering with factories in eight provinces to offer literacy classes to their employees. FLP-SkillsFuture classes, designed to impart functional skills, are held on site to provide easy access. Learners who complete both levels earn a certificate equivalent to Grade 6. Importantly, the factory continues to pay workers their usual wages while they take the weekly one-hour classes, and arranges their work schedules around them. More than 2,500 workers (95 per cent of them women) have benefited from the programme since it began.

Von, like so many of her colleagues, comes from a poor rural family. She dropped out of school in Grade 2 to help care for her younger siblings. At age 10, she was cutting sugarcane to supplement the family income.

In Cambodia, the garment industry is the main job opportunity for women like Von, who make up nearly four-fifths of the workforce. Von got her first factory job in her own province in 2014, before moving to Phnom Penh in 2016. In 2020, when she heard about FLP-SkillsFuture, she was happy for the chance to complete her primary education.

Since graduation, Von has become more self-assured in everything from grocery shopping and making friends to dealing with her boss. Her job performance and future prospects have also improved, she says. Von is responsible for making sure huge rolls of material are cut in precise shapes: 'Now I can read the labels and really understand how the machines work and different types of fabric and measurements.'

Von Vorn is encouraging other colleagues to join the programme.



The Cambodian Ministry of Education, Youth and Sport, the UNESCO Office in Phnom Penh and the Garment Manufacturers Association in Cambodia have partnered with factories to offer literacy classes to their employees. Von Vorn was among the first who joined this Factory Literacy Programme at her workplace.

© UNESCO



La Encrucijada Biosphere Reserve is home to the tallest mangroves in Mexico, reaching a height of 20–35 m. The reserve was a fitting host for the launch in 2022 of a three-year project that will be assessing and restoring mangroves in seven biosphere reserves of Latin America and the Caribbean.

© Jorge Silva

Restoring mangroves in Latin America and the Caribbean

La Encrucijada Biosphere Reserve in Mexico's Pacific Coastal Lowlands is home to jaguars, river crocodiles, spider monkeys, turtles, more than 300 bird species and some 30,000 people, who make their living mainly from river shrimp fishing and agriculture. Much of the biosphere reserve is covered by mangroves. In September 2022, La Encrucijada fittingly hosted the launch event for a three-year UNESCO project that is assessing and restoring mangroves in seven biosphere reserves of Latin America and the Caribbean. The region holds about 26 per cent of the world's mangrove forests but their extent is rapidly declining, mainly due to land-use changes from agriculture, siltation, fires and illegal logging. The potential for restoration is high, but funds are scarce, which is why UNESCO has stepped in.

Among the most productive ecosystems on Earth, mangroves are vital to the planet's health. They support biodiversity and contribute to food security and the protection of coastal communities. Notably, mangroves provide a natural buffer against the ravages of climate change. They can protect coastal communities from erosion and

storm surges by breaking the waves. A 500-metre strip of mangroves can reduce waves' height by 50 to 90 per cent. Mangroves are also efficient carbon sinks: one hectare can store 3,754 tons of carbon – the equivalent of taking 2,651 cars off the road for a year.

'UNESCO has found community-based ecological mangrove restoration to be a successful strategy for halting and reversing mangrove loss,' says María Rosa Cárdenas, an Associate Programme Specialist at UNESCO. UNESCO is working closely with the inhabitants of the biosphere reserves. Local knowledge and scientific expertise are being combined at technical workshops to review specific threats. One major enemy at La Encrucijada is the African palm, an invasive species.

The other six biosphere reserves are in Colombia, Cuba, Ecuador, Panama, Peru and El Salvador. The project is led by UNESCO's Man and the Biosphere Programme (MAB) and financially supported by the Flemish Funds-in-Trust and the Spanish National Park Agency. An international workshop is planned in Colombia in June 2023 where biosphere reserve managers and international scientists will map out future restoration plans.

Students collect eDNA at UNESCO marine World Heritage sites

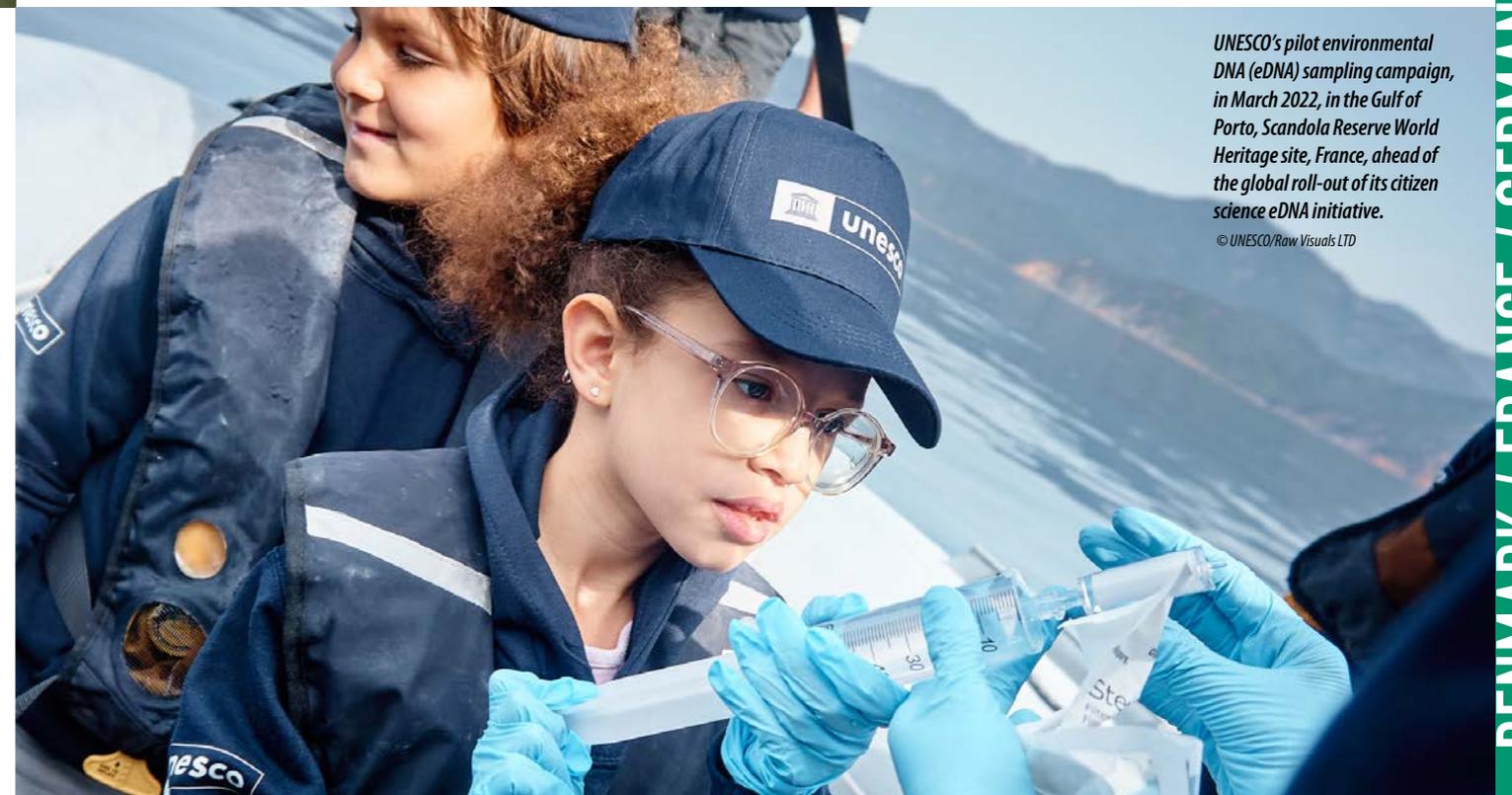
In September 2022, some 100 young people from schools around the Wadden Sea World Heritage site left their classrooms to spend the day with seals and porpoises in what is the largest tidal flats system in the world. They were taking part in a cutting-edge UNESCO citizen-science project to gather data about the local marine biodiversity. The students' task was to collect samples of seawater, which contains environmental DNA (eDNA), the genetic material from waste, mucus or cells that ocean species shed into the water around them. Just one liter of water can contain DNA from hundreds of species and can reveal the biodiversity richness in a given area.

The first of UNESCO's global Environmental DNA Expeditions, the Wadden Sea sampling was done in five locations: Esbjerg, in Denmark; Nordstrand, Neuwerk and Wilhelmshaven, in Germany; and Texel, in the Netherlands. Expeditions will be organized across 25 UNESCO marine World Heritage sites until April 2023. The results should provide a one-off biodiversity snapshot focusing on fish and large marine fauna, several of which are already listed as vulnerable

and endangered species on the IUCN Red List. Combined with ocean warming projected scenarios, analysis of the data will help measure the impact of climate change on the world's most exceptional marine biodiversity.

Last November, samples were taken at the Brazilian World Heritage site Atlantic Islands: Fernando de Noronha and Atol das Rocas Reserves by local youth aged six to twelve. 'Involving children in the eDNA campaign is a great way to connect our communities to the science we need to conserve this special site,' says Carla Cristina de Castro Guaitanele, a site manager. 'In the future, environmental DNA might help us to better detect invasive lionfish and prevent devastation.'

The eDNA Expeditions are run jointly by UNESCO's Intergovernmental Oceanographic Commission (IOC-UNESCO) and the UNESCO World Heritage Centre, in the framework of the UN Ocean Decade (2021–2030). Results, expected in early 2024, will be publicly available for researchers and the public at large on the open source Ocean Biodiversity Information System (OBIS).



UNESCO's pilot environmental DNA (eDNA) sampling campaign, in March 2022, in the Gulf of Porto, Scandola Reserve World Heritage site, France, ahead of the global roll-out of its citizen science eDNA initiative.

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High school and university students took part in side events to the Southern Africa sub-Regional Forum on Artificial Intelligence, in Windhoek, Namibia in September 2022. The objective was to inspire them to take up STEM careers and enhance their confidence in the use of AI technologies.

© UNESCO Windhoek Office

UNESCO and Southern African countries work towards a shared AI agenda

UNESCO's first Southern Africa sub-Regional Forum on AI, 'Towards a sustainable development-oriented and ethical use of Artificial Intelligence', was held last September in Windhoek, Namibia. The 540 participants on site, including ministers in charge of higher education, ICTs, digital technologies, communication, science and innovation, and 700 online, explored policy and capacity-building priorities to harness AI's vast potential. The Forum enabled Southern African countries to discuss the latest trends in AI in their own contexts. UNESCO's *Landscape Study of AI Policies and Use in Southern Africa (2022)* provided evidence-based recommendations for investment in AI education, research and training. UNESCO also launched the recently developed diagnostic and capacity-building tools – Ethical Impact and Readiness Assessment Tools – which will be deployed extensively across the continent in order to support countries to fully benefit from ethical design and use of AI. The Forum's final statement, the Windhoek Statement on Artificial Intelligence in Southern Africa, hailed the promising

regional networks of AI experts in Southern Africa and expansion of AI technologies. It called for the strengthening of multistakeholder cooperation in AI notably through the establishment of a Southern African coordination mechanism to help shape a shared AI agenda.

The Forum was another big step in UNESCO's effort to ensure that all countries can implement the Recommendation on the Ethics of Artificial Intelligence, first standard-setting instrument on the subject, adopted unanimously by UNESCO's 193 Member States in 2021. Recognizing AI's key role for African development, UNESCO held its first Forum on AI in Africa in Morocco back in 2018. It called for integrating AI in national strategies in line with African cultures, values and knowledge systems.

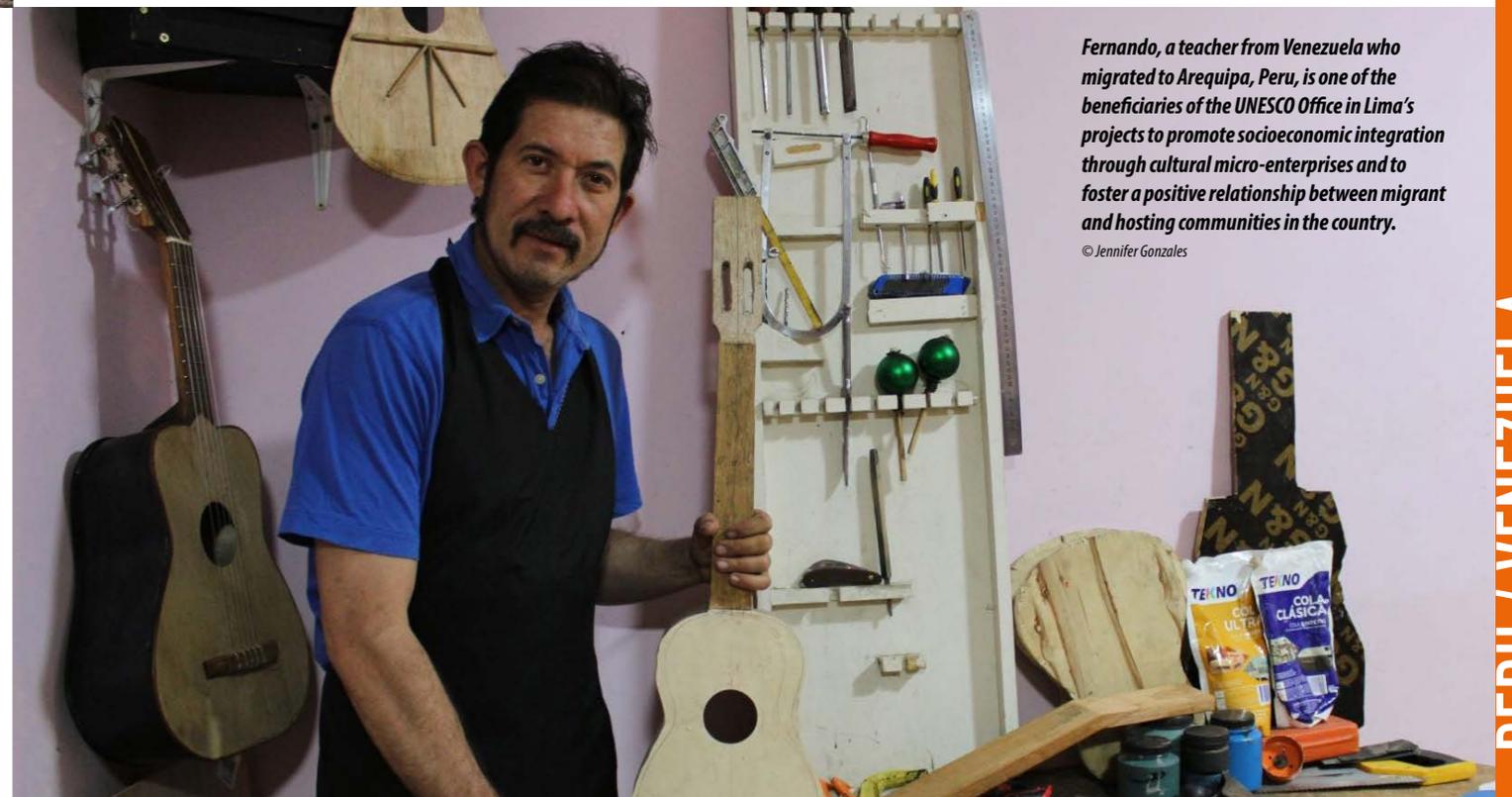
For Nompilo Simanje of the Media Institute of Southern Africa, this means AI technologies for specific local issues should be designed by Africans: 'This will create an inclusive environment where, for example, the illiterate farmer in a rural area can get information using voice-based AI applications, while a teacher can find new curricula.'

'Venezuela Siembra Cultura': Fostering integration of Venezuelan migrants and refugees in Peru

The UNESCO Office in Lima is exploring new intercultural integration methods to improve migrants' and refugees' inclusion in Peru. With 1.5 million as of December 2022, Peru is the second largest recipient of Venezuelan migrants after Colombia. UNESCO's '+ Diversidad' (More diversity) project is supporting schools to develop institutional practices to actively welcome the migrant population. Since 2021, over 2,500 principals and teachers have been trained to promote peaceful coexistence based on the recognition of cultural diversity. This is making a big difference in teacher training methods. The UNESCO-International Organization for Migration (IOM) projects '¡Venezuela Presente!' (Venezuela present!) and 'Venezuela Siembra Cultura' (Venezuela sows culture) are promoting socioeconomic integration through cultural micro-enterprises in secondary cities like Arequipa, which hosts a large number of migrants. These two projects are proving that culture plays a pivotal role in fostering a positive relationship between migrant and hosting communities. An art teacher and musician from Venezuela, Fernando arrived in Peru in 2013 and settled with his wife in Arequipa. Their children were born there.

Like many other migrants, Fernando worked as a street vendor and deliveryman to support his family. During lockdown, he made a harp from recycled wood. He started playing music again and promoting Venezuelan traditions. Today, with the support of UNESCO and IOM, he has a second career as a *Jlanera* music performer and a *luthier* of traditional musical instruments. As a '¡Venezuela Presente!' beneficiary, Fernando was taught management and technical skills. He also participated in 'Venezuela Siembra Cultura' to learn about marketing and e-commerce. He has now opened a music shop and consolidated his own cultural project. He has become an inspiration for other refugees and migrants, and is ultimately increasing Arequipa's cultural diversity.

With the European Union's support and in partnership with Peruvian, Ecuadorian and international organizations, the UNESCO Office in Lima launched in 2021 another education and culture-based project, 'Del desplazamiento a la integración' (From displacement to integration). This project fosters sustainable livelihoods for refugees and migrants in northern Peru (Trujillo, Chiclayo and Piura) and southern Ecuador (Cuenca and Guayaquil) through capacity building and access to seed capital for cultural initiatives.



Fernando, a teacher from Venezuela who migrated to Arequipa, Peru, is one of the beneficiaries of the UNESCO Office in Lima's projects to promote socioeconomic integration through cultural micro-enterprises and to foster a positive relationship between migrant and hosting communities in the country.

© Jennifer Gonzales

Violence is pervasive in many Small Island Developing States in the Caribbean sub-region. The UNESCO Office in Kingston is working with young people to foster a culture of peace and help them become agents of change by integrating their experiences in policy design and institutional decision-making.

© UNESCO/Rebekah Hayoung Woo



Youth Fah Peace: Live Skills Training for Students held in Jamaica

Violence in schools is a constant risk for students in Jamaica, threatening their safety and hindering their chances to receive quality education. Under the SALIENT (Saving Lives Entity) initiative, UNESCO, working with Jamaica's Ministry of Education, Youth and Information, designed training to give young people the skills to manage conflicts peacefully. In September 2022, the first session of 'Youth Fah Peace: Life Skills Training for Students' was conducted for students from Denham Town High School. The students discussed the main causes of conflict and took part in activities to cultivate their ability to think critically, manage conflicts and devise peace strategies.

The interactive methodology used sports and the creative arts, with students encouraged to act out their ideas and express them in songs and poems. Team-building exercises put compassion, mutual understanding and empathy into practice. The training is also designed to increase understanding of gender norms and their potential impact within the community. The students learned to spot harmful stereotypes that can lead not only to unequal treatment but also violence.

Twenty-four students received certificates for completing the course. 'I learned that no matter how hard the situation is, there is always a solution. I want to change others and I want to help reduce conflict. Let's start over,' said one young participant. A second session was held at St James High School in October with equal success. Many participants shared their distrust of existing channels for resolving conflict and were eager to find new approaches. 'We want our communities to be safe, we are scared of walking on the street. We need to understand the consequences of violence on our lives. Solving conflict is a skill you can learn – you have to calm down, listen and try to effectively compromise,' said Zann, a facilitator.

'Youth Fah Peace' incorporates recommendations from young people involved in the Youth, Peace and Security Case Study for Jamaica. Within the SALIENT Initiative in 2022, UNESCO also trained 79 educators to use peace-building strategies and techniques in classroom management.

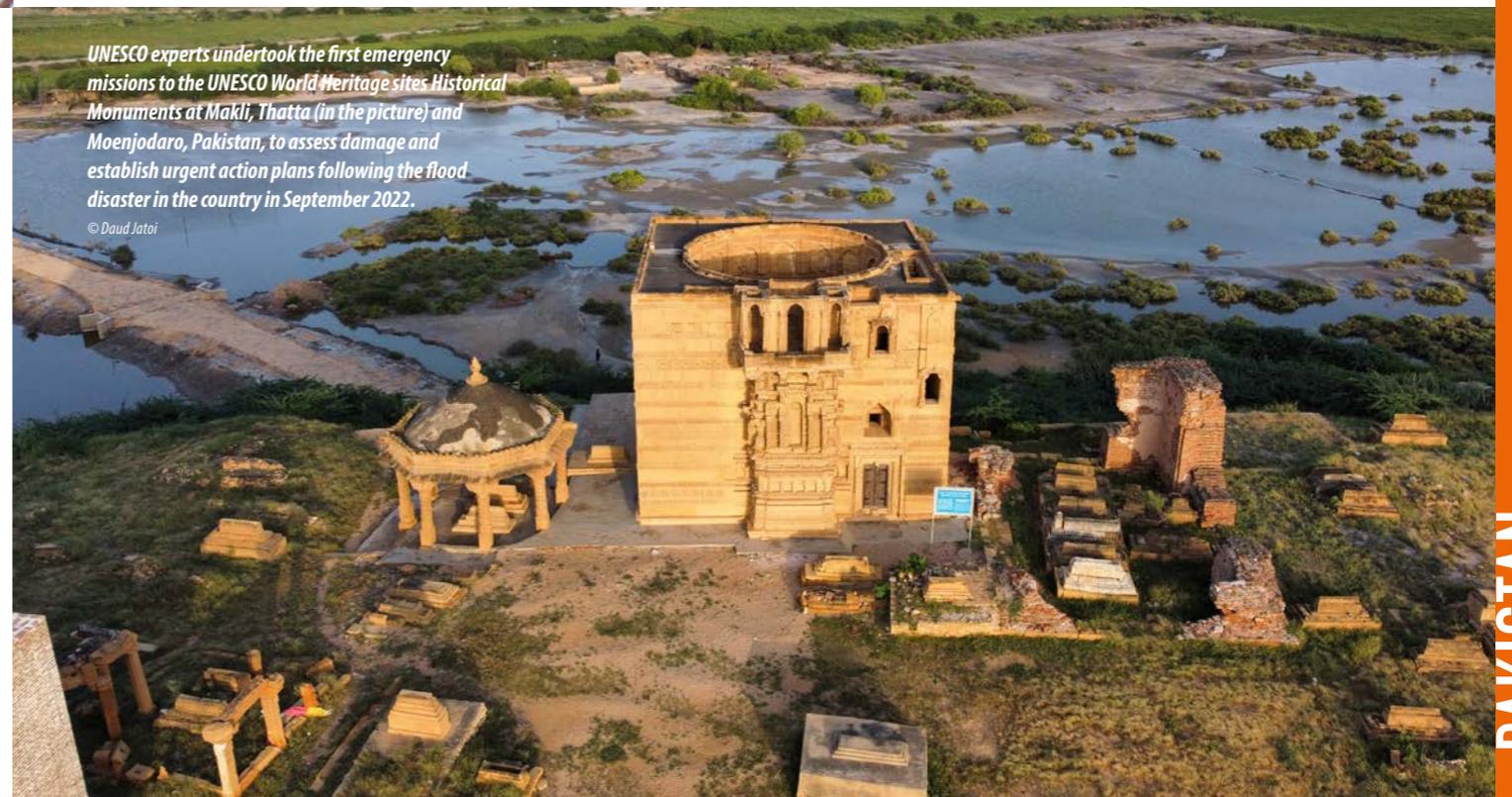
UNESCO supports recovery of culture and heritage in Pakistan following flood disaster

In September 2022, a third of Pakistan's landmass was submerged following severe and unprecedented monsoon rainfall. More than 33 million people in 72 districts were affected by the floods, which left 1,600 dead and 4.5 million displaced. In January 2023, an estimated 5 million people were still exposed to or living near flooded areas, according to UN data. The disaster also hit Pakistan's cultural treasures, including two of the country's six UNESCO World Heritage properties: the 'Archaeological Ruins at Moenjodaro', one of the best-preserved urban settlements in South Asia dating back to the 3rd millennium BCE; and the 'Historical Monuments at Makli, Thatta', which dates from the 14th to the 18th century and is one of the world's largest necropolises. The Karez System Cultural Landscape in Balochistan, a traditional irrigation system on Pakistan's World Heritage Tentative List, and the Amri site and Sehwan folk and craft museums in the Jamshoro District also suffered damage. 'UNESCO will provide assistance to restore this heritage,' said UNESCO Director-General Audrey Azoulay. 'Based on needs analysis conducted by our office in Islamabad, we decided to mobilize US\$350,000 from our heritage and emergency funds.'

Specifically, US\$150,000 from the World Heritage Fund was allocated to support recovery and long-term disaster risk mitigation at Moenjodaro and Makli, Thatta sites, while US\$200,000 from the Heritage Emergency Fund (HEF) were disbursed to contribute to the integration of cultural heritage in the Post-Disaster Needs Assessment (PDNA) and support the recovery of the cultural sector in the Balochistan, Swat and Larkana districts. The HEF activities include replacement of materials, rebuilding workshops, and providing assistance to artists and culture professionals to re-establish their businesses, for the long-term recovery of the creative economy. In October and November 2022, UNESCO's experts undertook their first emergency missions to Moenjodaro and Makli, Thatta to evaluate the damage and to establish an urgent action plan with the national authorities. The recommendations of these missions will contribute to a comprehensive long-term plan, established with national experts, which will include capacity-building for disaster risk mitigation.

UNESCO experts undertook the first emergency missions to the UNESCO World Heritage sites Historical Monuments at Makli, Thatta (in the picture) and Moenjodaro, Pakistan, to assess damage and establish urgent action plans following the flood disaster in the country in September 2022.

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In Lake Atitlán, Guatemala, the waters that have risen over the centuries have submerged several historic sites, which now face uncontrolled diving and pillage. UNESCO experts are working with the Tz'utujil Maya of Santiago de Atitlán indigenous population to research and better protect this heritage.

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Underwater exploration of ancient Mayan site in Guatemala

Fifteen meters below the surface of Guatemala's Lake Atitlán, deepest volcanic lake in Central America, lie the ruins of an ancient Mayan city with steles, temples and houses. The city was a place of pilgrimage where people came to worship, according to researchers. Built on a small island, it came to a dramatic end around 250 CE, engulfed by the lake's rising waters.

The sunken city, originally named 'Samabaj' by the diver who discovered it in 1996, and other archeological vestiges around it are sacred to the Tz'utujil Maya, an indigenous population living in the lakeside town of Santiago de Atitlán. Concerned about uncontrolled diving and pillage of their precious heritage, they have called for the sites to be documented and protected. As a State Party to UNESCO's 2001 Convention for the Protection of the Underwater Cultural Heritage, Guatemala was able to appeal to its Scientific and Technical Advisory Body (STAB) for support. A mission was organized, in consultation with the Tz'utujil ancestral authority, to assist the Guatemalan authorities and the local community of Santiago de Atitlán to explore and evaluate the sites to ensure their appropriate conservation.

The UNESCO experts made a second visit to Lake Atitlán in 2022. 'There is not just one site hidden under the surface of the Lake, but several. It's our duty as scientists to research with accuracy and best ethical practices what these sites can tell us about the history of the human population at the lake. That's what the UNESCO mission is there for,' says Helena Barba Meinecke, lead archaeologist of the mission.

The experts, from Argentina, Belgium, France, Guatemala, Mexico and Spain, brought their diverse specialties to the project, including underwater archaeology, conservation and documentation. Besides conducting dives, they trained locals researchers in inventory and using virtual and non-invasive technologies to make the sites visible. 'The mission uncovered, on the bed of the lake, extremely interesting pre-Hispanic steles and structures. The research results will now be made available to Guatemalan cultural authorities and to the indigenous population,' says Ms Barba Meinecke.

A planned cultural centre will let visitors tour the ruins via the digital reconstruction to be elaborated by the UNESCO team.

UNESCO countering hate speech and disinformation with media and information literacy in Kenya

On 9 August 2022, some 22 million registered voters in Kenya went to the polls to elect their president, members of the parliament and county governors. UNESCO led a communication campaign and training sessions ahead of the elections to combat disinformation and hate speech, and to promote a peaceful and democratic process. Previous elections in Kenya were marred by the misuse of internet platforms. According to UNESCO's research, defamation of opponents, threats and incitement to violence, fake news and other harmful content had impaired voters' ability to choose wisely, and the problem remained in 2022.

UNESCO developed a campaign 'Guaranteeing free, plural and fair elections in times of disinformation' in collaboration with the Independent Electoral and Boundaries Commission (IEBC) and media partners. A series of short, animated films were made available in English, Kiswahili and Sheng, a local Kiswahili dialect spoken by young Kenyans.

Furthermore, UNESCO organized media and information literacy training for over 1,200 young Kenyans. The UNESCO resource *Media and Information Literate Citizens: Think Critically, Click Wisely!* and other UNESCO toolkits were used by the trainers to teach students how to verify online information.

In May 2022, UNESCO collaborated with Kenya's Media Council to train 200 journalists from 47 counties in political reporting. 'The training provided us with the skills we need to do better journalism and write more balanced stories. We also learned about our responsibilities to our sources and the public,' said Philemon Okongo, a Nairobi participant.

UNESCO's project 'Social Media 4 Peace' has a long-term commitment to finding new ways to combat online hate speech and disinformation in Kenya. UNESCO has been working with Kenyan youth leaders, the media, parliamentarians and religious leaders for the past three years to encourage the government to adopt a media and information literacy policy and a strategy document.

As part of the Social Media 4 Peace project funded by the European Union, UNESCO worked with local partners to counter the proliferation of hate speech and disinformation on digital platforms ahead of the 2022 Kenyan general elections.

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Cover photo:

In the northeast of Cambodia, nestled amid rubber and cashew plantations in the mountains of Ratanakiri, Kok Ampel's pre-school offers better opportunities of a brighter future to Kreung indigenous children aged 3 to 6 years old. This inspiring story was showcased at UNESCO's World Conference on Early Childhood Care and Education held in Tashkent, Uzbekistan, in 2022.

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it is in the minds of women
and men that the defences
of peace must be constructed.

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