Online Information Meeting on the response of the Natural Sciences Sector to tackle the COVID-19 crisis

16 April 2020
NATURAL SCIENCE SECTOR

Response to tackle the COVID-19 crisis

- Impact of COVID on SC normative work
- Challenges in implementation of the 40 C/5
- SC sector response to COVID-19
Impact on SC’s Sector Normative work

**IHP Council** initially foreseen 18-22 May 2020

**IHP Bureau** initially foreseen 18-20 March 2020

- Rules of procedures can be suspended by 2/3 majority (25/36 MS) if the Ordinary sessions of the Council are unable to meet every 2 years

- Technical limitations (language, online meeting, time differences) to be considered

⇒ UNESCO is exploring new dates for the 24th session of the IGC
⇒ Similar challenges for the Bureau

However, the Task Force responsible for the drafting of IHP-IX has been facilitated with means of video / teleconferencing
Impact on SC’s Sector Normative work

MAB Programme

- The MAB Bureau met twice and the reports are online in English and French.
- The MAB ICC, originally foreseen for June 2020, has been postponed to a later date this year.
- The MAB Bureau Members will continue their assignment until the election of a new Bureau.
- The venue of the ICC is maintained to Abuja, Nigeria.

IGGP

- The International Geoscience Council met through video conference.
- IGCP Council session scheduled for 17 April 2020.
Postponement of the 209th session of the Executive Board

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Responding to the challenges of the implementation of the 40 C/5

**Transformation of UNESCO activities through e-learning, open science and distance learning - A few Examples:**

- World Engineering Day for SD (4 March 2020) and International Day of Mathematics (14 March 2020) were launched online and celebrated globally.

- Launching of WWDR entitled 'Water and Climate Change' on 22 March 2020 (World Water Day).

- Field offices are backstopped in capacity building in STI Policy and governance and online curricula on STEM.

- UNESCO is supporting the Avicenna Virtual Campus Network (AVCN), courses are designed according to the science national curricula and taught by local teachers to be compatible for eLearning and made available on a platform via video. Tailored made Courses for Cameroon and Gabon are already available on the platform [https://unesco-yao.avcn.fr/](https://unesco-yao.avcn.fr/). Chad to follow suit.

In cooperation with Category II centres, chairs and unions, developing strategies and tools/products to ensure technological gap is reduced and that access to virtual learning in the context of confinement by COVID-19 continues. The objective is to develop e-learning capacities for online course development and dissemination.
Responding to the challenges of the implementation of the 40 C/5

Increased Virtual courses on groundwater resource management and indicator 6.5.2 and reporting (for example Increased quality of data - verified source for aquifer delineation; Increased coordination between riparian countries for coordinated response; Increased country coverage, especially in regions with low reporting rated e.g. in Asia.)

IHP and MAB programme: assessing impacts on water ecosystems and consequent conservation, rehabilitation and improvement of their potential and services provide

Open Education for hydrologists and Water Professionals, and communities of practice

Ecohydrology web platform ecohydrology-ihp.org updated with the new established demosites for dissemination and knowledge

The 3 Regional Trainings for the African River Basin Organizations will be organized via Webinars

Mitigating measures under the BIOPALT Project: Mobilization of local relays for the implementation of activities organization of regular virtual meetings for the follow-up of activities
SC’s response to COVID-19

Key pillars of Natural Sciences Sector’s intervention

1. International scientific cooperation for COVID-19
2. Water for COVID-19
3. Covid-19: Epidemiology and ecology-reconstruction
By making science more connected to societal needs and by promoting equal opportunities for all (scientists, policy-makers and citizens), Open Science can be a true game changer in bridging the science, technology and innovation gaps between and within countries and fulfilling the human right to science.
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CORONAVIRUS
1. International scientific cooperation for COVID-19

- Access to scientific knowledge
- Bolstering international scientific cooperation as a key element of UNESCO’s response to COVID-19,
- Development of a ministerial network for sharing best practices vis-à-vis the fight against COVID-19 and preparing for future threats
- UNESCO’s role for coordination of an international scientific platform/coalition for Open science to respond to pandemics, environmental crises and other global threats and also to reduce the knowledge gap, especially in Africa.
- Open access to scientific knowledge and know-how, data sharing and evidence-based policy and decision making.
Key take-home messages

- Unanimous support was given to UNESCO to coordinate an international Open Science coalition to respond to pandemics, environmental crises and other global threats, and to reduce the knowledge gap.

- UNESCO was called on to establish a forum/platform/network to support cooperation between science ministers by sharing experiences on the current crisis and ways in which to address future crises through scientific knowledge.

- Additional investment in science and innovation and international scientific collaboration should be an imperative for a multidisciplinary approach to the COVID-19 and beyond.
Follow-up to the Online Ministerial Dialogue

- In Africa: Opening science and bolstering international scientific cooperation: development of a ministerial and scientific networks and for sharing best practices vis-à-vis the fight against COVID-19. UNESCO and the AU Commission and for Science and Technology aiming at reducing the knowledge gap and accelerating the generation of critical scientific information to control the COVID-19 emergency on the African continent.

- A Regional Africa Ministers of Science online dialogue in collaboration with AUC-HRST will be organized in coming weeks. This is to provide a platform for a continental dialogue on International scientific cooperation.

- In Arab states: Regional ministerial meeting as a follow up to the global meeting for science and technology ministers; regional scientific networks.

- In Latin America and the Caribbean: Initiative in social media highlighting what scientists and their institutions are doing to come up with responses to the many challenges faced by Governments and health systems (#nuestracienciaresponde).

- In Asia: survey on how Open Science has responded to the COVID-19 pandemic and is a game changer for international scientific cooperation.

- Statement from TWAS Council for global collaboration inclusive of developing countries in combating the pandemic in line with the Science Ministerial meeting outcomes (https://twas.org/node/15027/).
Response to COVID-19

- **Regional online consultations:** UNESCO Open Science Talks will be organized with different partners addressing the key issues of Open Science, including their links to COVID-19.

- **Online Symposium on Fighting COVID-19 with science centres and museums:** Collaboration with the regional networks of the science centres and science museums including competition for a short video of 90-120 seconds on “Stopping the COVID-19 Spreading”.

- **Webinar on COVID-19**
  with the L'Oréal-UNESCO Women In Science Laureates
  in collaboration with the L’Oréal Foundation

As part of its monitoring function on trends in science governance, the **UNESCO Science report** will incorporate some information on national responses to the Covid-19 pandemic.
The Bureau of Ministers (Specialized Technical Committee on Education Science and Technology) of the African Union convened a virtual bureau meeting on 9th April 2020 to discuss the Education, Science and Technology responses to the COVID-19 pandemic.

The Bureau expressed appreciation to UNESCO for the commitment to support the African Union in:

- water purification,
- provision in collaboration with ICTP and the field offices in Africa (Brazzaville, Accra, Addis, Harare) to deliver the courses on AI, robotics and facial protective shields obtained from 3D printing;
- and mobilizing UNESCO’s Networks- Category I and II Centers and Chairs in Microbiology and Life Sciences to exchange scientific knowledge and research.

IsDB-TWAS Joint Research & Technology Transfer Grant - 2020: Quick-Response Research on COVID-19. The Joint Research & Technology Transfer Grant will support collaborative research to advance knowledge and help address the challenges created by the Coronavirus pandemic as well as in a broader context of viral infections and zoonotic diseases, especially for African scientists.
UNESCO Chairs and Centres on Microbiology and Life Sciences

Science for COVID-19

- UNESCO has over **35 Category 2 Centers and Chairs** in its global network in Microbiology and Life Sciences which are at the forefront of research in various aspects of COVID-19.

- UNESCO Centres and Chairs in Microbiology and Life Sciences offer a unique possibility to promote collaboration in training and capacity building and building international scientific collaboration on COVID-19.

- These Centres are independent research institutions and form a unique network to share information on the COVID-19.

With the International Knowledge Centre of Engineering, Science and Technology (IKCEST) based in China, a video was created that explains the information that the Centre (concentrating on big data) has collected on the Prevention and Control of COVID-19 from around the world.
ICTP Scientific Activities & Governance

ICTP is:

- Organizing a series of Colloquia by world experts on Epidemiology and Ecology related to the research conducted in the section of Quantitative Life Sciences.

- The aim is to inform the community about the mathematical modelling for predicting the growth of virus and about the current understanding of statistical features common to similar phenomena such as tumor growth or spread of mobile usage.

- Sharing the colloquia, seminars, classes we are already sharing with our partner institutes, in particular in Rwanda EAIIFR category 2 center. The zoom links can be shared with selected universities at no cost.
The Natural Sciences Sector worked with CAB to prepare an op-ed which was published in the Financial Times on Monday 13 April 2020 under the heading "Science funding must remain after the crisis".

The op-ed makes the case for sustained funding of science and underscores the importance of listening to scientific advice to deal with a pandemic like Covid-19.

“We must learn our lessons and commit to investing in research and development. Confronted with the pandemic, governments are turning to the scientific community. Suddenly, they’re pledging money to research teams racing to develop a vaccine. These pledges must not be forgotten once the crisis is over. Scientific communities are not born overnight; they must be developed over time, and funding must be secure.”

Audrey Azoulay, Director-General of UNESCO
SC’s response to COVID-19

Key pillars of Natural Sciences Sector’s intervention

1. International scientific cooperation for COVID-19
2. Water for COVID-19
3. Covid-19: Epidemiology and ecology-reconstruction
2. Water for COVID-19

- Access to clean and safe water and sanitation is critical.

- The current pandemic is yet another proof that scarcity of water supply and sanitation brings high risks to sustainable development and jeopardizes the well-being of all.

- Providing **scientific and technical advice and build capacity** for the Member States for evidence based and inclusive water policies and for sustainable management of water resources towards ensuring access to clean and safe water and sanitation for all.

- **Water education**, awareness raising on the **right to water** and improved **water security** with a focus on water quality and water scarcity will be the main axes of intervention.
Response to COVID-19

Priority Africa: Rapid assessment of the situation

• Close to two million deaths globally every year are related to poor water supply, sanitation and hygiene.

• Recommendations of the WWDR series for better management of water resources and prioritizing investments in water sector for wellbeing of the society are applicable to COVID-19 crisis (and any other crisis linked to water supply, sanitation and hygiene).

• Particularly developing countries need to prioritize investing in water infrastructures to secure water for all and the different needs and manage their water resources in a sustainable manner.

• Decision/policy making and investments in water domain should be based on factual and up-to-date data on:
  + How much water in quantity, quality, where, when?
  + What are the different uses, how much, when, where?

• Countries will need critical mass of skilled water professionals and awareness must be raised at all levels as addressing water challenges is everybody business.
Response to COVID-19

- **Train the Trainers Webinars and on Solar Water disinfection** by the UNESCO Equatorial Guineee Awardee Prof Kevin McGuigan - African Union

- With WHO, UNESCO organized with WHO Americas the webinar “Management Tools for the Water Sector of LAC to respond to COVID-19”, with the participation of the UN Special Rapporteur on the Human Rights to Safe Drinking Water and Sanitation, and other partners.

- Establish, in corporation with the UN regional working group on water a platform to exchange experience of water utilities in in the Arab region maintaining critical operations and workers’ safety during the COVID 19 pandemic

WINS is a free, open-access, and participative tool
- Repository of scientific data, information and knowledge for sound decision-making
Water quality: lessons learnt from the COVID-19

Specific issues related to the COVID crisis on which scientific information is lacking and that would need research:

• Potential risks via untreated/treated wastewater and insufficiently treated drinking water in relation to Covid-19
  
  Unknown: The importance of water purification and wastewater treatment in relation to COVID risks?

• Potential risks to ecosystems and food security via the application of biosolids (sludge from wastewater treatment plants) as nutrient enrichment in agriculture
  
  Unknown: Re-introduction of COVID-19 into the environment via the biosolids application in agricultural fields?

What UNESCO can offer?

• Promote open science & research on these issues and facilitate the sharing and accessibility of research findings to the world community and all stakeholders, including decision-makers
As the COVID-19 outbreak may negatively impact the provision of WASH services, economically challenged women, young girls, and dependents, who were already disproportionately affected by lacking WASH, will be hit even harder. There will be a further increase in women’s domestic burden: from collecting water to taking care of sick family members.

Moreover, women and girls are more at risk of infection, as their tasks are at odds with the need to adhere with personal protective measures such as social distancing and quarantine to protect their own health.

To address the challenges due to the COVID-19 crises, gender-responsive water and WASH policies and programmes should be formulated and implemented, thereby ensuring equality and justice in access to water and sanitation, which are even more critical than ever in this period.

**WWAP has strengthened its long-standing collaboration with AMCOW to reinforce gender-mainstreaming into the water policies and regional strategies.**
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CORONAVIRUS
How can we help countries in this economic, social and environmental reconstruction?

1) Science and research will drive change. Let us think of the research to be carried out now to prepare for the post-crisis, to have the answers to the questions, if not to anticipate them.

2) It is with this in mind that the MAB Program and the Biosphere Reserves are essential. From now on, UNESCO should put in place the elements to further strengthen people's resilience by identifying and sharing local income-generating solutions that will mitigate the economic impact of the pandemic, such as new trades related to the green economy, ecological restoration or local ecotourism.
**SC’s response to COVID-19**

The impact of the Covid-19 pandemic will be profound

_A multi-faceted forward looking approach using conflicts prevention tools in the short term_

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**SC’s response to COVID-19**

**Long-term actions**

**Support to improve MS’s Resilience**
The key word for C/4 and C/5 is building resilience of MS at all level: global, regional, national and local including biological hazards

**Increase Scientific support to economic paradigm shift**
Towards more sustainable production means to avoid biodiversity loss and habitat destruction

**Increase specific strategic partnerships**
With regional financial institutions (AfDB, BID…) and AU and RECs to provide enough financial support for in-country impactful activities

**Build capacities on the use of UNESCO sites as laboratories and learning platforms**
For sustainable development and improve use of relevant science and technology tools to minimize recurrent costs
Key messages

- Humans are completely dependent on biodiversity for their well-being;
- Need to address the roots of the crisis: human activities are disturbing ecosystems (IPBES 2019).
- Crisis is an opportunity to reflect, to share experiences on harmonious interactions between humans and biodiversity and to learn how to reconnect with nature and biodiversity everywhere in the planet.
- MAB Secretariat is organising a series of webinars to connect and support the WNBR, to co-create a narrative on the role and solutions of the WNBR in the implementation of the Agenda 2030 in connection with the on-going crisis (links between healthy ecosystems and our health; link between biodiversity, food, social and economic activities, importance of values);
- Provide case studies, #ProudToShare videos, online tools to support the WNBR (e-books)

Example of activity

Use of drones to limit contact between humans and wild animals, including great apes in biosphere reserves in Africa region.
Key messages

- Research is essential and has established clear connections between the pandemic and the destruction of ecosystems and habitats for wildlife by human activities.
- Living in an interconnected world and interdependencies are global;
- UNESCO needs to support Member States to address both indirect and direct drivers of biodiversity loss (recommendations of IPBES global report released in 2019 at UNESCO);
- Tipping point: Future depends on which values are shared, how to address inequalities and the quality of our connections with biodiversity and other living species;
- Need to build a global consensus on what is not possible nor acceptable anymore;
- Need to work together with our partners on next steps to accelerate the transformation process and implementation of Agenda 2030 and its SDG’s.
- The experience of the WNBR and the MAB programme can inspire positive actions, along with the mobilization of MAB Youth networks and expertise of UNESCO Chairs and Centers.
- The MAB programme and its WNBR to enhance its contribution to the UNESCO strategy on biodiversity
What can UNESCO offer?

- Unique partnerships including with private sector to build a coalition for transformation and demonstrating possible changes aligned with positive economic development in harmony with conserving and sustainably use of biodiversity.
- Mobilize scientific, economic, political, local, youth and spiritual leaders as ambassadors.

Raising awareness & Capacity building

- Online Webinars for and with experts from the WNBR and UNESCO Chairs network.
- Use of the manual on Green Economies in Biosphere Reserves as a tool for capacity building of different stakeholders.

On-going activity

Series of webinars including a webinar with the 19 managers of African biosphere reserves which are home to great apes.
Covid-19 & Climate Crisis

Covid-19 -> Economic disruption -> reduction in transport, travel and industrial production -> temporary reductions in CO₂ emissions and air pollution

• Unless the underlying production and consumption patterns are changed, we will not solve the climate crises;
• The response to the Covid-19 crisis diverts money and attention away from the climate crisis;
• The pandemic delays important climate policies, as for example UNFCCC meetings, such as COP26 are postponed;
• However, present responses to Covid-19 show that policy makers can take bold decisions and allocate substantive funding for public health and welfare;
• Policies and investments to build more climate friendly and greener economies should be prioritized in the recovery phase after Covid-19.
Covid-19 has increased local, regional, national and international appreciation of the importance of disaster risk reduction, awareness and preparedness.

Based on our existing strength and mandate, this is an area where UNESCO will have an increasingly important role to play in the years to come.
UNESCO is working with AYAB DRR, established in May 2019 to institutionalize meaningful youth engagement with the African Union and other relevant stakeholders towards DRR on the continent.

The general roles of AYAB DRR are:

1. To collaborate with AU member states, public and private development partners through strategic partnerships to advise stakeholders on meaningful engagement of young people in DRR at all levels.
2. To facilitate capacity building through different platforms of young Africans to contribute meaningfully to DRR within Africa at all levels.

We will be working together on how to promote an Ecological viable Africa:

- awareness raising on fragility of our planet, living in harmony with nature and promoting the coalition between Humans and nature
- Societal awareness and knowledge
- Awareness raising on water safety and security in Africa, livelihood, Biodiversity preservation
The work after covid-19

UNESCO connecting the scales:
- Diagnosis is clear: ‘as we destroy nature, we risk our personal safety’, the loss of biodiversity is resulting in an increase in zoonotic diseases as we see in the coronavirus; nature is under stress;
- Super year of biodiversity 2020 linked with decade of action;
- UNESCO initiative on “alliance between people and nature” and especially via advocacy and education;

SG and UN support UNESCO’s initiative for the establishment for a “Coalition for Nature” with a focus on how to reconnect to nature and live in harmony with each other, enabling transmission of the value of nature and living things to future generation (25 March 2020)
Recommendation: 7. Support the establishment for a “Coalition for Nature” with a focus on how to reconnect to nature and live in harmony with each other, enabling transmission of the value of nature and living things to future generation [UNESCO and UNEP]

⇒ UNESCO’s role in biodiversity is recognized for the first time within the UN family, and accepted to lead a Recommendation.
⇒ Recognition of UNESCO as the only Organization which can speak more to our connection for nature and to valorize all knowledge systems.
⇒ The recommendation gives UNESCO a lead in a unique niche

The conservation, restoration and transmission of biodiversity values, scientific data monitoring, sustainable uses, interdisciplinary approaches through UNESCO designated sites is being valorized as best practices an methodologies.
Way forward - UNESCO connecting the scales

- How the combined knowledge streams, learning and capacity building, reconciliation with nature in the UNESCO sites can be extended across the world.
- Engaging with new stakeholders, devise an approach for greater community and youth participation;
- Promoting good governance structures incorporating diverse values, indigenous peoples and women
- Raising awareness and appreciation of the diverse values of biodiversity and water, and need to be further amplified and mainstreamed.
- Exploring innovative funding via fiscal ecological transfers to strengthen institutional capacities.
- Mainstreaming biodiversity into development policies, plans and strategies, coupling SDGs and nature’s values.
Thank you