United Nations
Educational, Scientific and
Cultural Organization

Education Sector Technical Notes

Climate Change Education

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MESSAGE BY ADG/ED

Dear colleagues,

The Education Sector is called to implement a significant and broad mandate, covering many challenging issues in education in a diverse and fast-changing world. More than ever, we need to better focus and ensure greater cohesion in implementing this mandate. This document is part of a series of Technical Notes that have been developed by colleagues in the Education Sector in order to facilitate programme delivery in thematic areas related to the work of the Sector. The Technical Notes are meant to serve as a quick reference tool for UNESCO staff, providing a brief overview including basic knowledge, key priorities for UNESCO and future directions as well as practical information on each topic. They will be available both in print and electronic versions, and they will be updated regularly.

I hope that the Technical Notes will be useful in your daily work.

Qian Tang,
Assistant Director-General for Education

At a glance

- Climate change is a major challenge to sustainable development. The ten hottest years on record have occurred since 1998. Sea-levels are rising. Rainfall patterns are changing, causing droughts and floods. Extreme weather events such as storms, cyclones and heat waves are becoming more frequent and intense. Climate change poses a number of interconnected challenges, including water security, rising pressures on food production and health and disaster risks.
- Climate change disproportionately affects developing countries and vulnerable people within those countries, thereby seriously threatening progress towards the Millennium Development Goals (MDGs) and Education for All (EFA). It is already having a reverse impact on enrolment rates, the delivery of quality education and safe learning environments.
- Education has a key role to play in concerted local and global climate change mitigation and adaptation efforts.
- UNESCO promotes climate change education within the overall context of Education for Sustainable Development (ESD).
- UNESCO supports Member States in building the capacity of policy makers and educators to enhance the education sector response to climate change.
- Closer alignment of Climate Change Education with Disaster Risk Reduction (DRR) education contributes to safeguarding development gains and building resilience in countries vulnerable to the negative impacts of climate change.

Defining the issue

Education is an essential strategic element of the global response to climate change. Climate change education addresses the challenges of climate change and of sustainable development facing both developed and developing countries. It helps learners to understand the causes and consequences of climate change, and fosters the acquisition of skills and dispositions that individuals and communities need to achieve low-carbon and climate-resilient development. It also enhances the education system's preparedness for and responses to climate change, both in terms of mitigation and adaptation (see Figure 1).

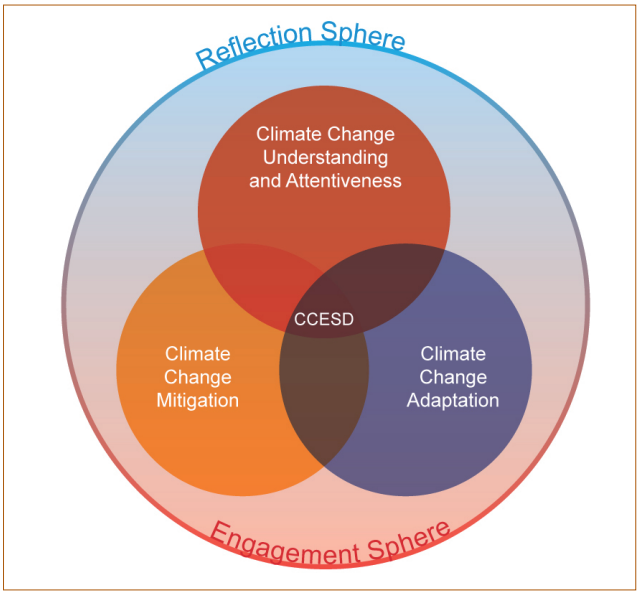

Figure 1: The Dynamics of Transformation and Related Course Materials[1]

Context and trends

In 1992, international concern about global warming was translated into the United Nations Framework Convention on Climate Change (UNFCCC) – a global treaty that encourages action to stabilize greenhouse gas emissions, followed by a 'commitment for action' via the Kyoto Protocol. The 2007 Intergovernmental Panel for Climate Change (IPCC) report provided scientific evidence of the seriousness of the climate change threat. Climate change is predominantly human induced, and a key causative factor in the increased frequency and intensity of extreme weather events (such as heat waves, heavy rain, droughts, storms, floods and tropical cyclones), sea level rise and biodiversity loss.

Through Article 6 (education, training and public awareness), the UNFCCC fosters action to develop and implement educational and training programmes on climate change. Two five-year work programmes (New Delhi work programmes 1 and 2) were adopted, placing particular emphasis on the need to formulate national plans and strategies with respect to Article 6, as well as to develop appropriate education and awareness-raising materials adapted to the needs and contexts of the Parties to the Convention. In 2012, the eight year Doha work programme was adopted.

In recent years, the concept and practice of 'climate change education' have gained importance and been broadened to go beyond a traditional focus on climate science. Education for Sustainable Development (ESD) is increasingly understood as a holistic framework supporting the promotion of climate change education. In the overall context of ESD, climate change education for adaptation and mitigation should be approached not as two distinct activities but as an integral process that equips learners with the knowledge, skills and confidence they need to cope with climate change.

1. UNESCO. 2012. *Climate Change in the Classroom: UNESCO Course for Secondary Teachers on Climate Change Education for Sustainable Development.* Paris, UNESCO, p. 4.

UNESCO key priorities and future directions

Addressing global climate change requires the concerted action of everyone and all parts of society. UNESCO therefore works in all its domains – education, culture, the sciences and communication – to address climate change holistically. The Climate Change Education for Sustainable Development (CCESD) Programme is part of the UNESCO Climate Change Initiative, which seeks to reinforce the scientific, mitigation and adaptation capacities of countries and communities that are most vulnerable to the effects of climate change. Special attention is given to UNESCO's two global priorities, Africa and gender equality, as well as to the increased vulnerability of Small Island Developing States (SIDS).

Climate change is not solely an environmental matter; it also has repercussions on the economic and social dimensions of sustainable development. UNESCO thus promotes ESD as the best framework for addressing climate change through education.

The priorities of the CCESD Programme are to:

1. Strengthen the capacity of countries to provide quality climate change education for sustainable development;
2. Encourage and enhance innovative teaching approaches to integrate quality climate change education for sustainable development into school programmes and curricula; and
3. Raise awareness about climate change and enhance non-formal education programmes through media, networking and partnerships.

Priority 1. Strengthening capacities for CCESD

- **Policy guidelines on climate change education in the context of education for sustainable development.** As Lead Agency of the UN Decade of Education for Sustainable Development and Task Manager of Chapter 36 of Agenda 21 (education, training and public awareness), UNESCO is leading an effort to integrate the various educational responses to climate change — including both educational strategies for mitigation and adaptation — into one coherent whole in the context of Education for Sustainable Development (ESD). The policy guidelines on CCESD are intended to provide a key reference for policymakers and other stakeholders in enhancing climate responses through education.
- **CCESD country programme.** In order to strengthen the capacity of its Member States to address climate change through education, UNESCO runs pilot country programmes in the priority region Africa and Small Island Developing States (SIDS). The country projects support Member States through capacity development in the areas of education policy and planning, curriculum development, teacher-training, reforming and greening Technical, Vocational Education and Training (TVET) programmes and developing education plans and programmes for disaster preparedness.

Priority 2. Developing innovative approaches and pedagogical materials, tools and resources

New and long-standing initiatives are being scaled up, often with voluntary initiatives of local partners. For example:

- **Sandwatch**, started in the Caribbean in 1999, has become an international activity involving more than 45 countries. It is an educational programme through which students in school and community members learn and work together to evaluate and solve problems in their beach environments.

- The UNEP/UNESCO YouthXchange Initiative, launched in 2001, aims to promote sustainable lifestyles among youth around the world. Its network of national partners reaches young people in 45 countries. In 2011, a guidebook with a specific focus on climate change and lifestyles was published.

- The Climate change in the classroom: UNESCO course for secondary teachers on climate change education for sustainable development supports the integration of CCESD into teacher education. The 6-day course shows teachers how to guide a class through a process for dealing with the threat of climate change and accepting its seriousness and likely negative consequences.

These UNESCO resource materials, initiatives and programmes support capacity building activities at the national and regional levels, creating synergies among UNESCO's key priorities for climate change education.

Priority 3. Awareness raising, networking and partnerships

One of the aims of UNESCO's CCESD programme is to share good practices and information on climate change education globally. UNESCO's 'Clearinghouse on Climate Change Education' website makes easily accessible hundreds of teaching and learning materials on climate change through a new database, complementing UN clearinghouse platforms in support of UNFCCC Article 6, such as CC:iNet and CC:Learn.

In order to facilitate regional and inter-regional dialogue on climate change education, UNESCO organises expert meetings on CCESD in its focus regions Africa and SIDS. The aim is to develop guidelines and recommendations for further national CCESD programmes in these regions.

Future directions

UNESCO will continue to guide the global process to reorient education in support of a sustainable future. A major challenge in implementing ESD has been its holistic and all-encompassing nature. Climate change education is a tangible entry point for ESD, which can demonstrate the importance of education in supporting sustainable development, and help make educational planning and practice, and learning more relevant for the 21st century.

UNESCO will keep on supporting national capacity building activities, develop resource materials, and facilitate regional and inter-regional dialogue on CCESD. It will also continue to encourage and offer technical support to countries to include CCESD in their education programmes and inform the global education and development agenda beyond 2015, a target year for EFA and the MDGs.

Along with the annual Conferences of the Parties (COPs) of UNFCCC, the 2014 World Conference on ESD will present a major opportunity to showcase the achievements of UNESCO's work in climate change education.

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Target groups and key partners

Priority target groups of UNESCO´s CCESD country programme are policy-makers and teacher educators, but its ultimate beneficiaries are young people, especially at secondary school level. The country programmes are implemented in cooperation with national authorities, local teacher education institutions, NGOs, community-based organizations and research institutes. Strengthening the resilience of disadvantaged groups vulnerable to the negative impacts of climate change – including out-of-school young people, girls and women, and coastal and rural communities – is an important consideration in designing climate change education programmes.

UNESCO is working with UNFCCC, UNEP, UNICEF and other partners to support Member States in their efforts to comply with UNFCCC Article 6. UNESCO is part of the 'United Nations Alliance on Climate Change Education, Training and Public Awareness' and the 'UN Joint Framework Initiative on Children, Youth and Climate Change' coordinated by UNFCCC. In addition, in the UN High Level Committee on Programmes (HLCP) Working Group on Climate Change, UNESCO co-leads one of the cross-cutting areas, 'public awareness and education', with the UN Communications Group and UNEP. UNESCO is also a steering group member of the CC:Learn partnership which supports Member States, UN agencies and other development partners in designing and implementing learning to address climate change programmes.

Key resources

UNESCO. 2012. *Climate Change in the Classroom: UNESCO Course for Secondary Teachers on Climate Change Education for Sustainable Development.*
http://www.unesco.org/new/ccesd

UNESCO. *Learning to address climate change. Video*
http://www.unesco.org/archives/multimedia/index.php?s=films_details&id_page=33&id_film=2569

UNESCO. 2010. *Sandwatch: adapting to climate change and educating for sustainable development.*
http://unesdoc.unesco.org/images/0018/001894/189418e.pdf

UNESCO/UNEP. 2011. *Climate Change Starter's Guidebook: an Issues Guide for Education Planners and Practitioners.*
http://unesdoc.unesco.org/images/0021/002111/211136e.pdf

UNESCO/UNEP. 2011. *YouthXchange Guidebook Series: Climate Change and Lifestyles.*
http://unesdoc.unesco.org/images/0021/002128/212876e.pdf

WEBSITES

CC:iNet.
http://unfccc.int/cc_inet/cc_inet/items/3514.php

UN CC:Learn.
http://www.uncclearn.org/

UNESCO Climate Change Education Clearinghouse.
http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/climate-change-education/cce-clearinghouse/

Advocacy messages

- ***Climate change education helps move the green agenda forward.*** Scientific and technological solutions alone will not be sufficient to avoid the worst effects of climate change on a global scale. Global society needs responsible citizens and consumers who can move the green agenda forward. Education on climate change and sustainable lifestyles is a critical lever for making the transition to greener economies and greener societies – societies that are environmentally sustainable, economically viable and socially inclusive.

- ***Climate change education enhances the resilience of communities.*** The world's poorest and most vulnerable will be the hardest hit by climate change. In vulnerable countries, climate change education should be urgently promoted as an adaptation measure, in close partnership with efforts to mainstream disaster risk reduction (DRR) in education. Climate change education can foster adaptive capacities of the most vulnerable groups and communities (e.g. rural populations, coastal communities, girls and women) and help address humanitarian and development challenges.

- ***Climate change education builds relevant knowledge, skills and attitudes to address mitigation and adaptation.*** Efforts to enable learners to actively contribute to climate change mitigation and adaptation also help to make the content, methods and policies of education more relevant and responsive to contemporary and emerging challenges. Climate change education is about preparing learners for an uncertain future with daunting challenges. Lives and livelihoods in such a future require a broad range of cross-cutting skills, such as assessing and managing risks, thinking critically, and collaborating across disciplinary, sectoral and cultural boundaries. Climate change education thus contributes to increasing the quality of education through its exploration and promotion of relevant knowledge, skills and attitudes required for our common future.

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