



International Hydrological Programme

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STATUS OF WATER EDUCATION IN THE CONTEXT OF THE UN DECADE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (DESD, 2005-2014)

Item 8.3 of the provisional agenda

SUMMARY

This document reports on the thematic programme “Education for Sustainable Water Management” of the UN Decade of Education for Sustainable Development (DESD), which is to be implemented under the leadership of UNESCO-IHP. As a follow-up to 166 EX/Decision 3.6.1 of the Executive Board of UNESCO and Resolution XVII-12 of the Intergovernmental Council of IHP, an intersectoral Working Group on Water Education was constituted and is operational.

The Working Group developed a draft Work Plan, which is presented in Annex V for the endorsement of the Bureau.

1. This document reports on the Thematic Programme “Education for Sustainable Water Management” of the UN Decade of Education for Sustainable Development (UN-DESD), which is to be implemented by UNESCO, other UN bodies and partners with the technical assistance and guidance of UNESCO-IHP. As a follow-up to 166 EX/Decision 3.6.1, calling for an intersectoral strategy on water education, and IHP-IC resolution XVII-12, focusing *inter alia* on the establishment of a working group of experts on water education, a UNESCO Working Group on Water Education was constituted and is operational. The Working Group proposed a draft Work Plan for the Thematic Programme of the UN-DESD (Annex V), which is presented to the Bureau for endorsement. The draft Work Plan was previously presented to the Task Force for IHP-VII for their consideration.

The Thematic Programme “Education for Sustainable Water Management” of the UN-DESD Action Plan

2. To guide its lead role of the UN-DESD, UNESCO developed an Action Plan based upon nine Thematic Programmes. These are defined as long term intersectoral programmes that comprise a suite of interconnected projects and activities. Such projects and activities seek to develop the enabling environment and capacity building necessary for Member States in relation to a specific objective, thrust and/or theme of the UN-DESD. Thematic Programme 8 focuses on “Education for Sustainable Water Management” and IHP was designated as the Lead Partner for its development.

3. A draft set of goals, activities and milestones was developed for Thematic Programme 8 of the UN-DESD. The key tasks in each biennium include:

Biennia	Key Tasks
2006 – 2007 (33 C/5)	Preparation of a detailed work plan for Thematic Programme 8.
2008 – 2009 (34 C/5)	<p>“Research-Policy Dialogue” on water education:</p> <ul style="list-style-type: none"> ▪ Document and analyze case studies of good practice and develop guidelines from them ▪ Advocacy and institutional capacity development with senior decision makers in all countries ▪ Mid-Decade review
2010 – 2011 (35C/5)	<ul style="list-style-type: none"> ▪ Assist policy reviews and reorientation - development of guidelines and capacity building materials for water education. ▪ Capacity building and demonstration projects in several countries in each region.
2012 – 2013 (36C/5)	Scaling up to additional countries in each region.
2014 (37C/5)	End of Decade review.

The UNESCO Working Group on Water Education for Sustainable Development

4. A UNESCO Working Group on Water Education for Sustainable Development was constituted as a follow-up to 166 EX/Decision 3.6.1 and IHP-IC Resolution XVII-12 (see Annexes I and II), which called for the establishment of a working group on water education and for the development and implementation of an intersectoral strategy on education for the

management of water as an integral component of UN-DESD. IHP-IC Resolution XVII-12 also authorized the IHP Bureau to constitute the working group and to determine its Terms of Reference. The Terms of Reference, determined out-of-session by the IHP Bureau, are presented in Annex III. Members of the intersectoral Working Group were proposed by the Natural Sciences Sector (based on a consultation with the IHP Bureau) and the Education Sector and are listed in Annex IV. The Working Group is assisted by the UNESCO Secretariat.

5. The Working Group met for the first time in Paris from 11-13 April 2007 to discuss an Issues Paper on Water Education, to consider developments in water education from various regions, and to recommend a range of suggested focal areas and activities for both IHP-VII and Thematic Programme 8 of the UN-DESD. While there is a high degree of integration across these two sets of activities, they have been developed to reflect the specific concerns of the IHP and the UN-DESD. During their activities, the Working Group has considered the statements presented in IHP-IC Resolution XVII-12, in particular the consideration that “the accomplishment of the Millennium Development Goals related to Sustainable Development and Water will draw heavily on education and public awareness” and the expression of concern “for the widely acknowledged absence or incomplete inclusion of water-related topics in primary and secondary level educational programmes”. The recommendations of the Working Group with respect to IHP-VII, especially on Theme 5, were presented to the IHP-VII Task Force and integrated in the draft Strategic Plan (see document IHP/Bur-XL/11). Such recommendations include a focus on education for water professionals, vocational education and training of water technicians, education for schools and capacity building of teachers, education for sustainable communities and mass media professionals. IHP-VII will not take direct responsibility for each of these, but will stimulate responsive actions through its partners across UNESCO and the UN System, as well as through its National Committees within Member States, in order to disseminate scientific research results, to raise awareness, and to attract a new generation of water professionals.

6. The focal areas around which activities for the UN-DESD Thematic Programme 8 are organized are:

- 1) Tertiary education and professional development of water scientists, managers and decision makers
- 2) Training water technicians
- 3) Water education in schools
- 4) Community and stakeholder education
- 5) Water education for mass-media professionals

7. Each focal area is comprised of a suite of related activities, presented in detail in Annex V. IHP will provide technical assistance and collaborate with different partners for the implementation of these activities. The Education Sector of UNESCO will be a central partner over all focal areas. Other partners include:

- For focal area 1 – UNESCO-IHE and the water-related UNESCO Category II institutes and centres;
- For focal area 2 – UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training;
- For focal area 3 – UNESCO International Bureau of Education (IBE) and the Associated Schools Project Network (ASPnet);
- For focal area 4 – The Culture Sector of UNESCO and the water-related UNESCO Category II institutes and centres;

- For focal area 5 – The Communication and Information Sector of UNESCO.

8. The proposed Work Plan is innovative in a number of issues, including:

- The establishment of a comprehensive and coherent strategy for water education for water professionals, policy-makers, educators, mass-media professionals and the general public, promoting communication between these groups;
- The development of innovative pedagogy in water education and the consistent inclusion of up-to-date hydrological and other water-related issues on primary and secondary education;
- The development of the capacities of mass-media professionals to report on water issues on regular basis and on a scientifically accurate and relevant manner;
- The preparation of briefing papers to disseminate the work of IHP across different audiences, in order to reduce the time-gap between scientific research, educational materials, and public awareness of water issues;
- The reinforcement of technical and vocational courses focusing on water issues;
- The strengthening of the capacity of water-related stakeholders to understand and deal with water issues.

9. The Working Group has produced a draft Issues Paper on Water Education for Sustainable Development. This paper provides an overview of significant issues related to the world water situation, and identifies the water issues that are of potential significance in general education settings. The paper also reviews the world-wide pattern of educational responses to the world water situation in the areas of school education, the training of water technicians, community and stakeholder education and the role of the mass-media in water education. A final version of the Issues Paper will be published by IHP later this year.

10. The next meeting of the Working Group will be held in Paris from 18-20 July 2007. The main business of the meeting will be to review the Work Plan taking into consideration the comments of the IHP Bureau and to provide advice to UNESCO on the development of project briefs to support the implementation of the Work Plan.

11. The Bureau is requested to review progress in the development of a UNESCO water education Work Plan and to provide feedback to the Working Group as it moves into its next stage of activities. In particular, the Bureau is requested to endorse the draft Work Plan presented in Annex V.

ANNEX I

Decision of the Executive Board at its 166th Session concerning the elaboration of an education programme for the sustainable management of freshwater resources

3.6.1 Proposal for the elaboration of an education programme for the sustainable management of freshwater resources (166 EX/12, 166 EX/INF.9 and 166 EX/47 Part II)

The Executive Board,

1. Recalling the alarming situation with regard to the availability of drinking water resources, as documented in the United Nations World Water Development Report (March 2003),
2. Recognizing that the appropriate development and management of water resources are crucial for sustainable development,
3. Noting that the solution of problems relating to drinking water urgently requires an interdisciplinary approach,
4. Also noting that, because of its importance to the very existence of life, water cannot be treated as a mere commodity,
5. Recognizing that appropriate comprehensive education for water management, at all levels, is essential for dealing with water issues,
6. Further recognizing the importance of an ethical approach to the question of sustainable management of water resources that emphasizes disciplined and sustainable water consumption,
7. Taking note of the analyses and studies carried out by UNESCO on the matter, in particular those of the International Hydrological Programme (IHP) and of the World Water Development Report presented to the Third World Water Forum (Kyoto, 16-23 March 2003),
8. Having examined documents 166 EX/12 and 166 EX/INF.9,
9. Invites the Director-General to enhance cooperation with a view to implementing an intersectoral policy for formal and non-formal water education:
 - (a) by calling upon contributions from the UNESCO Chairs in water issues and the UNESCO-IHE Institute for Water Education;
 - (b) by joining forces within the framework of the International Year of Freshwater and the United Nations Decade of Education for Sustainable Development;
10. Also invites the Director-General to deploy all the human and financial resources required for the realization of such intersectoral cooperation, including mobilizing the expanded participation of the international community and civil society and of the public and private sectors in Member States in order to obtain the human and financial resources required to achieve the desired impact at the global level;
11. Further invites the Director-General to report to it at its 169th session on the development and implementation of an intersectoral strategy on education for the management of water for all as an integral component of the Decade.

ANNEX II

IHP-IC Resolution XVII-12

Water Education

The Intergovernmental Council of the International Hydrological Programme of UNESCO:

Recognizing	the lead role of UNESCO in the United Nations Decade on Education for Sustainable Development 2005-2014;
Considering	the decision of the UN General Assembly to proclaim the International Decade for Action “Water for Life” 2005-2015;
Also considering	that the accomplishment of the Millennium Development Goals related to Sustainable Development and Water will draw heavily on education and public awareness;
Expressing concern	for the widely acknowledged absence or incomplete inclusion of water-related topics in primary and secondary level educational programmes;
Recalling	that the UNESCO Executive Board, at its 166 th session, adopted a decision emphasizing the importance of water education within UNESCO’s overall action related to water, for the elaboration of an education programme for sustainable development of freshwater resources;
Calls upon	the General Conference of UNESCO to approve the issuance of a strong recommendation to Member States’ ministries of education, in order to strengthen water education programmes at the primary and secondary levels;
Decides	to establish a working group of experts to advise and guide UNESCO’s work on water education and capacity building, to review the draft thematic programmes of the UN-DESD to ensure that they are scientifically sound, and to help engage all the relevant actors engaged in UNESCO’s water programme, including IHP National Committees and water-related centres;
Authorizes	the Bureau to constitute the working group and to determine its Terms of Reference.

ANNEX III

TERMS OF REFERENCE OF THE UNESCO WORKING GROUP ON WATER EDUCATION AND CAPACITY BUILDING FOR SUSTAINABLE DEVELOPMENT

1. SCOPE AND ROLE

The UNESCO Working Group on Water Education and Capacity Building for Sustainable Development (GWESD) is an intersectoral body established by the Science and Education Sectors of UNESCO, in response to 166 EX/Decision 3.6.1 and IHP-IC resolution XVII-12 that called for the establishment of a working group on water education and for the development and implementation of an intersectoral strategy on education for the management of water as an integral component of DESD. The Working Group will directly contribute to the United Nations Decade of Education for Sustainable Development and function within the context of the Millennium Development Goals, and the International Decade for Action 'Water for Life'. The Working Group will operate under the leadership of UNESCO-IHP and will lead activities towards and contribute to the implementation strategy of the Thematic Programme 8 on Education for Sustainable Water Management of the UNESCO Action Plan for DESD.

The role of the Working Group is to advise UNESCO, the International Hydrological Programme and their partners on key issues, initiatives and strategies for raising awareness and advancing water education for the community, via the mass media and other communication channels, and for the school and vocational education and training (VET) education sectors.

2. OBJECTIVES

The objectives of the Working Group are:

- 2.1 Provide expert guidance on conceptualising the nature, scope and purposes of Water Education for Sustainable Development.
- 2.2 Provide expert guidance on identifying needs, leading practice, key trends and issues, audiences and strategies for Water Education for Sustainable Development.
- 2.3 Provide expert guidance on the setting of priorities vis-à-vis actions and initiatives.
- 2.4 Provide expert guidance on such critical issues as establishing partnerships, building on networks and raising resources to promote Water Education for Sustainable Development.
- 2.5 Provide expert guidance on strategies for documenting, monitoring and evaluating progress in Water Education for Sustainable Development.
- 2.6 To review the draft thematic programmes of the UN-DESD to ensure that they are scientifically sound with regards to water sciences.
- 2.7 To engage all the relevant actors involved in UNESCO's water programme, including IHP National Committees and water-related centres.

3. MEMBERSHIP

- 3.1 The UNESCO Working Group on Water Education will be composed of 6 to 8 experts in one or more technical areas related to Water Education for Sustainable Development. Individual members appointed on the basis of their own merit but also with a view of representing different geographic parts of the world as well as wide and diverse networks of stakeholders.
- 3.2 Members will be selected by the International Hydrological Programme (Natural Sciences Sector) and the Section on Education for Sustainable Development, Division of UN Priorities (Education Sector), in compliance with IHP-IC resolution XVII-12 and 166 EX/Decision 3.6.1. UNESCO-IHP will appoint the Chair of the Working Group. The membership will be reviewed periodically by the International Hydrological Programme and the Section on Education for Sustainable Development, to guarantee that the Working Group is able to respond to the variety of tasks that it should address.
- 3.3 Participation in the group is honorary; only travel fees and per diem will be covered by UNESCO when the group convenes and when and if individual members are invited by UNESCO to participate in particular events.

4. ACTIVITIES

- 4.1 The Working Group will meet at times and places to be agreed. It will also communicate by e-mail and other agreed channels as necessary and feasible.
- 4.2 Guide UNESCO in the preparation and review of an issues paper on water education for the community, mass media, school and VET education sectors.
- 4.3 Guide UNESCO in the preparation and review of a Water Education Work Plan.
- 4.4 Guide UNESCO in the preparation and review of the project briefs required to operationalise the Work Plan.
- 4.5 Guide UNESCO in the preparation of a recommendation to Member States' ministries of education to strengthen water education programmes at the primary and secondary levels.
- 4.6 Set a strategy to engage all the relevant actors involved in UNESCO's water programme, including IHP National Committees and water-related centres.
- 4.7 Provide on-going support and guidance to UNECO in promoting Water Education and Capacity Building for Sustainable Development within the context of the United Nations Decade of Education for Sustainable Development, the Millennium Development Goals, and the International Decade for Action, 'Water for Life'.

5. TERMINATION

The Working Group will be terminated on the completion of the activities described above or by decision of the International Hydrological Programme.

ANNEX IV

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ANNEX V

WORK PLAN FOR THEMATIC PROGRAMME 8 WATER EDUCATION FOR SUSTAINABLE DEVELOPMENT

Focal area 1: Tertiary education and professional development of water scientists, engineers, managers and decision makers

Objectives

This focal area aims to enhance education and training programmes for water scientists, engineers, managers and policy makers through an extended suite of activities designed to educate a new generation of water managers and decision makers who are able to apply a holistic, integrated multidisciplinary approach to water resources. It also seeks to catalyse the wide dissemination of scientific research results and for communication and adoption strategies to be made an integral part of all IHP projects.

Activities

- Survey and prepare case studies of examples of leading practice in undergraduate and postgraduate education and short course training in Integrated Water Resources Management (IWRM).
- Analyze case studies and prepare guidelines and Briefing Papers on professional education and training in IWRM.
- Conduct regional workshops to promote the understanding of the guidelines and Briefing Papers and to build capacities for their adoption in regionally/nationally appropriate ways.
- Develop strategies for fostering dialogue across disciplines, especially to ensure that cultural values, local traditions, historical experience and other factors influencing attitudes and behaviors towards freshwater are taken into account in water resources development.
- Set up a strategy to strengthen collaboration between UNESCO-IHE, UNESCO Category II water-related Centres and UNESCO Chairs, other UN system agencies and programmes, and existing international water-related education programmes.
- Establish master courses and short-courses in water education at IHE, focusing on water education at the school and community level.
- Assess regional needs and priorities in water education and strengthen water education capacities in developing countries.
- Develop guidelines and strategies for facilitating communication among policy makers, practitioners and research scientists, and develop the capacity of those in charge of planning, development and making decisions on water issues to understand the results of research on water science and technology and related policy implications.
- Develop an interdisciplinary approach and exemplar educational materials and case studies, on topics such as conflict resolution and the management of shared water resources, including training material on legal, socio-cultural and historical aspects.
- Prepare guidelines for the integration of sustainable water uses and management into the operations of governments and of key institutions.

Outputs

- Guidelines to solve problems of communicating interdisciplinary information on water.
- Recommendations for broader curricula and exemplar educational materials and case studies.
- Creation of data bases - clearing house for the sharing and dissemination of interdisciplinary curriculum and teaching materials.
- Assessment and pilot studies of regional needs in water education.

Benchmarks

- Promote the interdisciplinarity among university and professional development courses.
- A communication process made integral to all IHP projects.
- Increased synergies of UNESCO-IHE Water Education Institute, the water-related UNESCO category II Centres and Chairs, other UN agencies, and existing international water-related education programmes in relation to university and professional development courses.

Focal area 2: Education and training of water technicians

Objectives

This focal area aims to expand the integration of principles and technologies for sustainable water management, assessment, supply, treatment, community-based water and sanitation services, and water conservation into Technical and Vocational Education and Training (TVET) of water technicians.

Activities

- Survey and prepare case studies of examples of leading practice in various areas of sustainable water management in water technician training.
- Analyse case studies and prepare guidelines and Briefing Papers on sustainable development and sustainable water management for TVET decision makers.
- Conduct regional workshops to build understanding of these and capacity for adopting them in regionally/nationally appropriate ways.
- Support national demonstration projects in selected Member States on TVET for sustainable water supply and treatment, community-based water and sanitation services, and water management and conservation, and establish a process to learn the lessons from them and share the lessons widely.
- Build a partnership between IHP, IHE and other water-related centres with UNESCO-UNEVOC for promoting innovation in the training and accreditation of water technicians.
- Develop prototype/model competency frameworks for training water technicians and a range of instructional support materials.
- Develop institutional frameworks and guidelines for the accreditation of water technicians by independent institutions.
- Contribute to a UNESCO-IHP international conference on water education.
- Contribute case studies to a UNESCO-IHP book on water education.

Outputs

- Guidelines for integrating sustainable water management in water technician training.
- Prototype/model competency framework for training water technicians and associated support materials.
- Guidelines for the accreditation of water technician training.
- Case studies, best practices and publications on water education within TVET.

Benchmarks

- Significant increase in the number of countries and courses focusing on sustainable water management in technical training.

Focal area 3: Water education in schools

Objectives

This focal area aims to build the capacities of education systems to make water a significant part of the K-12 curriculum, so that young people have an opportunity to develop (i) an understanding of the complexity of water issues related to the quality of life, in both local and global contexts, (ii) a commitment to water ethics, and (iii) skills for contributing to sustainable water management in the local community.

Activities

- Survey and prepare case studies of examples of good practices in K-12 water education around the world connected to sustainable development.
- Analyze case studies and prepare guidelines and Briefing Papers for education decision makers on the significance of water education related to sustainable development, its role and place in the learning process, and implications for curriculum and professional development.
- Develop guidelines for interdisciplinary curriculum planning and innovative ESD pedagogy in water education to model effective teaching and learning in schools.
- Conduct regional workshops to build understanding of these among education decision makers, as well as educators and students, and their capacity to adopt them in regionally/nationally appropriate ways.

- Support national demonstration projects in selected Member States on K-12 water education, focusing on curriculum and professional development fitting to ESD.
- Recommend and promote the recognition of water education activities for career progression of teachers.
- Develop professional development programmes so that teachers and curriculum officers develop an understanding of world water issues, including their relationships with sustainability, and the curriculum and pedagogical skills for integrating water issues into activities for their classes.
- Using the experience of UNESCO Associated Schools (ASPnet), facilitate twinning between schools in different countries around water-related projects to encourage innovation in pedagogical material and approaches and professional development
- Establish processes for sharing experiences in, and developing guidelines for, writing and/or adapting water education materials.
- Establish inter-regional dialogue across leading centres of water education for sustainable development in different parts of the world as a strategy for sharing innovative practices and resources.
- Establish courses in innovative water education for teachers at IHE and other water-related centres.
- Ensure that pedagogical materials for World Water Day are prepared annually.
- Actively support the Children's World Water Forum.
- Contribute to a UNESCO-IHP international conference on water education.
- Contribute to a UNESCO-IHP book on water education.

Outputs

- Guidelines for integrating water education related to sustainable development into the K-12 curriculum, with emphasis on "learning by doing" or "experiential learning" approaches.
- Prototype education support materials at the regional level.
- Regional prototype teacher education programmes.
- Case studies and publications on water education within the K-12 curriculum.

Benchmarks

- Significant improvement in the teaching quantity and quality of water issues in the K-12 curriculum.

Focal area 4: Community and stakeholder education

Objectives

The aim of this focal area is to build the capacities of water scientists and managers, community educators and NGOs to utilise a wide range of community education strategies in order to promote community-wide water conservation and sanitation and health practices as well as skills in local co-management of water resources.

Activities

- Survey existing methods of public participation, action learning, conflict resolution and arts-based education in development and environmental decision-making and analyse their applicability in water management
- Survey and prepare case studies of examples of leading practice in community and stakeholder water education around the world.
- Analyse case studies and prepare guidelines and Briefing Papers on community- and stakeholder-based approaches to sustainable water management.
- Conduct regional workshops to build understanding of these and capacity for adopting them in regionally/nationally appropriate ways.
- Support national demonstration projects in selected Member States on community- and stakeholder-based water education.
- Develop training courses and a UNESCO-IHP website on community education resources and strategies to assist Member States in promoting community-wide water conservation and sanitation and health practices as well as skills in action learning, conflict resolution and the arts and cultural practices in the local co-management of water resources.
- Contribute presentations to a UNESCO-IHP international conference on water education.
- Contribute case studies to a UNESCO-IHP book on water education.

- Support the active involvement of NGOs at large international water events

Outputs

- Production of guidelines, supported by practical examples, for public participation in water management decision-making.
- A community education website managed by UNESCO-IHP.
- Demonstration projects on community-based water education strategies in several Member States focused on action learning approaches and the diffusion of their evaluations.
- Case studies and publications on community-based water education.

Benchmarks

- Significant increase in the use of community-based water education strategies.

Focal area 5: Water education for mass-media professionals

Objectives

The aim of this focal area is to build the understanding of the importance of world water issues among journalists, editors and the producers of radio, television, film, multimedia and other media resources as well as their capacities to communicate water issues effectively.

Activities

- Prepare guidelines, training materials and exemplar materials to support mass media reporting of water issues and the use of the media by community organisations as a strategy for water education.
- Develop training for journalists connected to the World Water Forum for dissemination of complex water issues, good regional and country cases.
- Build partnerships to facilitate training workshops on water reporting.
- Contribute to a UNESCO-IHP international conference on water education.
- Contribute to a UNESCO-IHP book on water education.

Outputs

- Production of guidelines, supported by practical examples, for water-focused journalism by media professionals.
- Case studies and publications on community-based water education.

Benchmarks

- Significant increase in the amount and quality of media reporting of water issues.