

Workshop 1: Education for Water Sustainability: Where Decades Meet

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Conference Objective 1: To Highlight the Essential Contribution of Education for Sustainable Development (ESD) to All of Education and to Achieving Quality Education

Why is ESD relevant?

Water is an essential and cross-cutting theme for Education for Sustainable Development, being a foundation of economy, society and the environment. Because of the global challenges, including demographic growth, climate change, hydro-hazards, urbanisation, sanitation, hygiene and food security, this theme is highly important. Moreover, there is an urgent need for highly qualified professionals in water and education.

Conference Objective 2: To Promote International Exchange on ESD

What can we learn from each other?

Presently, there is no consensus on sustainable water management paradigms worldwide. This requires specific action and indicators could be developed in order to learn from each other. Educational institutes should explore and exchange information about innovative teaching and learning methods, such as problem-based and action-oriented learning. Many efforts are made but are not yet connected and well-coordinated.

Conference Objective 3: To Carry out a Stock-taking of DESD Implementation

What have we achieved so far, what are the lessons learnt?

International programmes and networks are actively working on water education, including the International Hydrological Programme (IHP), chairs and centres, the UNESCO Associated Schools Project Network (ASPnet), the UNESCO Institute for Hydrologic Educa-

tion (UNESCO-IHE), the UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training, and the University twinning networking scheme (UNITWIN). Sustainable schools and university programmes in various countries around the world have been set up to work on water education



Matthew Hare explaining group work results

and implement action programmes. Furthermore, first pilot efforts have been made to introduce MSc and PhD courses on water into university curricula. Also, sustainability training programmes for educational institutions, private companies and schools have been developed. A large number of educational materials are already available. Efforts have been made to introduce other water-related issues, such as human rights, into curricula. There is a growing forum of people interested in water education. Good networks and cooperation between NGOs, government, schools etc. in certain regions and countries do already exist. Many regional projects about water are being developed and implemented.

Conference Objective 4: To Develop Strategies for the Way Ahead

Where do we want to go from here?

As main strategies for the way forward, the participants called for urgent action by the following actors:

Governments should undertake action to provide good training of water and education professionals, to change the attitude and behaviour of all stakeholders, including students, communities and teachers, and to provide an environment in which trainers, teachers and students can learn, because learning is a long-term process, and in which teachers can teach.

International organisations should undertake action to create more exchange and knowledge platforms for water and education professionals and to develop needs assessments for capacity development, e.g. to

set priorities, and establish pilot projects and programmes to implement capacity development.

Local actors, including local governments, the private sector and local NGOs, should undertake action to enable and support active participation of local communities in defining the value of water and in teaching common values related to sustainable development.

Main Recommendations for Action

The following main recommendations for action were made for each of the four levels of education.

Community and Stakeholders

Knowledge and information as well as participatory (and other) tools should be provided and made available (free of charge) to assist communities in establishing and articulating (local) views about the value of water before making decisions about (private/public) access and allocation. This should be based on a combination of minimum needs, historical rights, and economic, environmental and cultural values. The trained support of local governments is required to enhance the application of effective participatory tools and techniques, where needed, to 'teach' water values.

School Education

Students should be made aware of the importance and value of water and how to appreciate it. Teachers should promote and demonstrate the social, economic and environmental value of water, through cross-curricular classes in development and ethics, to foster positive attitudes and behaviour of children and communities. Hands-on experimentation is needed as well as cultural understanding. Also, the gap between regional aspects and global problems should be bridged. Governments, together with other stakeholders, should work on developing databases for access to and use of existing materials. Teachers should be trained to use these existing materials. Incentives are needed to motivate teachers to put this into practice, e.g. through cooperation between governments and public enterprises.

Technical Vocational Education and Training (TVET)

Demonstration projects for integration of vocational education and training approaches in the water and sanitation sector should be set up with the support of UNESCO. Occupational competencies regarding water and sanitation should be developed and introduced for workforce qualification (especially in developing countries). Investments in infrastructure should be complemented by training of technical staff and policy-makers to maintain and manage these investments. Training and support for implementation phases of low-cost,

innovative and soft technologies are also needed. Multiple stakeholder partnerships (public-public, public-private, etc.) could be established to support this, especially in the case of pre-service, in-service and on-the-job training. Training should be designed to enable the learners to bridge the gap between theoretical aspects and practice needed in the labour market. Such training should be conducted either formally or informally and must keep pace with the aspect of life-long learning. Guidelines and databases are needed to support this effort.

Higher Education

Universities should open a window to the world and vice versa, e.g. action-research, problem-based learning and experiential learning are needed. Universities should contribute to sustainable education by raising awareness for sustainable behaviour with respect to water among future decision-makers. They should cooperate with society, and engage in teaching and research in the community and in schools. Universities themselves should take the lead in practising sustainable use of water.

Universities should develop mechanisms to ensure that teaching materials on basic knowledge and state-of-the-art water management are available. It is the responsibility of higher education to prepare and provide such state-of-the-art material free of charge. The higher education sector should develop an academically recognised peer-review process for state-of-the-art and innovative teaching materials, which should be communicated more broadly. Commitment by the higher education sector is necessary to ensure that its work influences the implementation process.

Changes in academic structures should reflect the efficacy of successful university interventions in improving best practices in communities. More emphasis should be put on effective action programmes.

There is not one single body of knowledge about the way water should be managed. Universities must take strong measures to ensure that the existing range of paradigmatic approaches is made available to the public.

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