

Greece

(618)

UNITWIN/UNESCO Chairs Programme

Progress Report

Period of activity: June 2003 - December 2004

UNITWIN Cooperation Programme: UNESCO Chair/International Network of Water-Environment Centres for the Balkans on "Sustainable Management of Water and Conflict Resolution"

Report established by: Professor Jacques Ganoulis, UNESCO Chairholder

I. Activities

1. Academic activities

Education (leading to certification)

- Title of the course: Environmental Protection and Sustainable Development
- Duration: 1 Semester
- Target groups: Graduate students, 20 Male, 25 Female (variable)
- Geographical coverage for partners and participants: National (the course is run in cooperation with the Division of Hydraulics and Environmental Protection, Civil Engineering Department, AUTH).

Training (short term) 2003-2004

- Title: Water Management and Flood Protection
- Expected results: Enhanced knowledge of flood protection strategies
- Duration: 4 months
- Target groups Undergraduate Students
- Geographical coverage for partners and participants: Western Europe
- Title: HydroWeb and DCMS (Document Management System)
- Expected results: Enhanced knowledge of long-distance learning opportunities in field of integrated water resources management in the Balkans.
Enhanced knowledge of document management for internet access.
- Duration: One day
- Target groups:
 - Academics (6 male, 1 female)
 - Postgraduate students (2 male, 1 female)
 - Public administrators (1 female)
 - Private administrators (1 female)
- Geographical coverage:
 - Western Europe & N. America: Germany (1);

Eastern and Central Europe: Bulgaria (1); Greece (7); Romania (1); Slovenia (1); Turkey (1):

Research

Title: RIVERTWIN - A regional Model for Integrated Water Management in Twinned River Basins

- Duration: 2004-2006 (3 years)
- Target groups: Public Institutions and Administration, all citizens
- Geographical coverage for partners and participants: Europe, Africa, and Asia

Intended use of results:

- Transfer of knowledge and technology to developing countries
- Results may be used as tools for sustainable water resources management at river catchment scale.
- Implementation of EU Water Framework Directive

Title: CABRI - Cooperation Along a Big River: the case of Volga River (Russia)

- Duration: 2004-2006 (2 years)
- Target groups: Public Institutions and Administration, all citizens
- Geographical coverage for partners and participants: Europe, and Asia
- Intended use of results:

CABRI-Volga is an international coordination action to facilitate cooperation and to coordinate research in environmental risk management in large river basins in the EU, Russia & the New Independent States (NIS).

Results will contribute to enhance existing initiatives on the development of coordination mechanisms along the basin, such as:

- the establishment of the Volga Basin Council
- the establishment of a State Fund for the Protection of Small Rivers in the Volga Basin
- the establishment of a national committee for the International Human Dimension Programme on Global Environmental Change

Title: Mesta/Nestos River HELP Programme

- Duration: 2004-
- Target groups: Public Institutions and Administration, all citizens
- Geographical coverage for partners and participants: Europe, Africa, and Asia

Intended use of results:

- Developing tools for Integrated Water Resources Management
- Application to the transboundary Mesta/Nestos River Catchment (Greece-Bulgaria).
- Implementation of EU Water Framework Directive

2. **Conferences / Meetings**

- 1.) XXX IAHR Congress, Theme E Water Engineering Education
24th-29th August 2003, Thessaloniki, Greece
Participants Total 800
Europe, Asia, Africa, North and Latin America
- 2.) INWEB Board of Management meeting
8th November 2003, Delft, The Netherlands
Participants Total: 7
Bosnia & Herzegovina (1); Bulgaria (1); Croatia (1); Greece (3);
Slovenia (1);
- 3.) INWEB General Assembly
8th January 2004, Thessaloniki, Greece
Participants Total: 10
Greece (10)
- 4.) INWEB Board of Management meeting
19th February 2004, Thessaloniki, Greece
Participants Total: 8
Croatia (1); Greece (6); Slovenia (1);
- 5.) South East Europe Regional Workshop
ETNET21 Environment-Water Dissemination Project
18th-19th June, 2004, Thessaloniki, Greece
Participants Total: 12
Bulgaria (1); Germany (1); Greece (7); Romania (1); Slovenia (1);
Turkey (1):
- 6.) Development of an Inventory of Internationally Shared Surface Waters In
South-Eastern Europe
18th-20th October 2004, Thessaloniki, Greece
Participants Total: 33
Albania (1); Bosnia & Herzegovina (2); Bulgaria (2); Croatia (2); FYR
Macedonia (2); Greece (9); Romania (2); Serbia & Montenegro (2);
Slovenia (1); Turkey (2); from international organisations (8).
- 7.) The Internationally Shared Aquifer Resources Management - Mediterranean
(ISARM-MED) Consultative Meeting: Key Issues for Sustainable Management
of Transboundary Aquifers in the Mediterranean and In South Eastern Europe
21st-23rd October 2004, Thessaloniki, Greece
Participants Total: 45
Albania (1); Bosnia & Herzegovina (2); Bulgaria (2); Croatia (2); FYR
Macedonia (2); Greece (4); Romaina (2) Serbia & Montenegro (2);
Slovenia (1); Turkey (2); from international organisations (25).

3. **Interuniversity Exchanges/ Partnerships**

EU Socrates Programme. 2-5 students exchange per year between France, Germany, Austria and Greece.

4. Publication and multimedia materials (2003-2004)

Book

Ganoulis, J. and Prinos, P. (Eds.) *Linkage between Education, Research and Professional Development in Water Engineering*, 398 pp., Theme E, XXX IAHR (Int. Assoc. of Hydraulic Engineering and Research) Congress, Thessaloniki, Greece, 2003, IAHR Secretariat, Paseo Bajo Virgen del Puerto, 3, 28005 Madrid, Spain

(The book was printed together with the Congress Proceedings and distributed to 800 participants. No revenues).

Papers

2004

- 1 Arfib, B. and Ganoulis J. Physical Modelling of Seawater Intrusion within a Karst Aquifer: the Case Study of the Almyros of Heraklion, Crete. C. R. Geoscience **336**, pp. 999-1006, Elsevier, 2004. (www.sciencedirect.com)
- 2 Ganoulis J. Water Resources Management and Environmental Security in Mediterranean Transboundary River Basins, *NATO ARW on The Role of Risk Assessment in Environmental Security and Emergency Preparedness in the Mediterranean Region, Eilat , Israel, 15-18 April. 2004*
- 3 Ganoulis J. and L. Simpson: Environmental Risk Assessment and Management: Promoting Security in the Middle East and the Mediterranean Region *NATO ARW on The Role of Risk Assessment in Environmental Security and Emergency Preparedness in the Mediterranean Region, Eilat , Israel, 15-18 April. 2004*
- 4 Ganoulis J. et al. (eds.): Inventory of Internationally Shared Aquifers in the Balkans Characteristics and State of Policies, UNESCO-IHP, INWEB, UNESCO_ISARM Consultative Workshop, Thessaloniki, 21-23 Oct. 2004 (draft)
- 5 Ganoulis J. et al. (eds.): Inventory of Internationally Shared Surface Water Bodies in the Balkan Region: Characteristics and State of Policies, UNESCO-Roste, INWEB, Zinke Environmental Consulting, UNESCO Workshop, Thessaloniki, 18-20 Oct. 2004 (draft)
- 6 Ganoulis J. Integrated Risk Analysis for Sustainable Water Resources Management *In: I. Linkov and A.B. Ramadan (eds.) Comparative Risk Assessment and Environmental Decision Making, NATO Science Series pp.275-286, Kluwer Academic, 2004*
- 7 Ganoulis, J. Environmental Risk Assessment from Submarine Outfalls: In *Proc. On CD-ROM of the MWWD 2004 – 3rd International Conference on Marine Waste Water Disposal and Marine Environment*, Catania, Italy, Sept.27-Oct.2, 2004
- 8 Ganoulis J: Engineering Risk Assessment and Management of Water Resources and Environmental Protection. Keynote Lecture, In: *Proc .of papers on CD-ROM of 6th Int. Conf. on Hydro science and Engineering (ICHE-2004) May 30-June 3*, The University of Mississippi, Vol. VI, pp. 8-10, Brisbane, Australia, 2004
- 9 Ganoulis J., E. Kolokytha and Y. Mylopoulos:: Multicriterion Decision Analysis for Conflict Resolution in Transboundary River Basins. In: *Proc. on CD-ROM of*

2003

- 10 Ganoulis J. Risk-Based Floodplain Management: a Case Study from Greece. Int. J. River Basin Management, Vol. 1, No1, pp.1-7, 2003
- 11 Ganoulis J. Evaluating Alternative Strategies for Wastewater Recycling and Reuse in the Mediterranean Area. J. of Wat. Sci. Tech.: Water Supply 3, N⁰4, pp.11-20, 2003
- 12 Mpimpas, H., P. Anagnostopoulos, D. and Ganoulis, J. Simulation of Cohesive and Non-Cohesive \Sediment Distribution in the Thermaikos Gulf. In: Proc. 9th Congress of Greek Hydrotechnical Society, pp. 547-554, Thessaloniki, 2003 (in Greek)
- 13 Vafiadis, M., Garefalakis, D. and Ganoulis, J. Analysis of Rainfall Data from the Experimental Basin of Giofyros, Heraklion, Crete. In: Proc. 9th Congress of Greek Hydrotechnical Society, pp. 69-76, Thessaloniki, 2003 (in Greek).
- 14 Ganoulis J. and K. Quartano: Regional Cooperative e-Networks: the Experience of "INWEB" in Sharing Transboundary Water Resources Information and Data. In: Proc. XXX IAHR Congress, Theme E: Linkage between Educatio, Research and Professional Development in Water Engineering, pp. 147-152, Thessaloniki, Greece, Aug.24-29, 2003
- 15 Ganoulis J., Anagnostopoulos, P. and H. Mpimpas: Fuzzy Numerical Simulation of Water Quality. In: Proc. XXX IAHR Congress, Theme B: Urban and Rural Water Systems for Sustainable Development, pp. 165-174, Thessaloniki, Greece, Aug.24-29, 2003
- 16 Ivaldi J.P. and Ganoulis J.: GIS setting of Satellite Images and Digital Terrain Model for Deep Groundwater Detection in Karst Environment: The Case of Almyros Spring, Heraklion, Crete. In: Proc. XXX IAHR Congress, Theme B: Urban and Rural Water Systems for Sustainable Development, pp. 589-596, Thessaloniki, Greece, Aug.24-29, 2003
- 17 Ganoulis J., E. Kolokytha and Y. Mylopoulos: Multicriterion Decision Analysis for Evaluating Water Use in Agriculture: A Case Study from Greece. In: Proc. XXX IAHR Congress, Theme B: Urban and Rural Water Systems for Sustainable Development, pp. 785-792, Thessaloniki, Greece, Aug.24-29, 2003
- 18 Ganoulis J., B. Arfib and G. De Marsily: The Hydraulics and Seawater Intrusion Mechanisms of Almyros Karst Spring, near Heraklion, Crete: In-situ Measurements and Numerical Simulation. In: Proc. XXX IAHR Congress, Theme B: Urban and Rural Water Systems for Sustainable Development, pp. 597-604, Thessaloniki, Greece, Aug.24-29, 2003

Teaching/learning material

Title: Man and Environment in the 21st Century: Critical Problems

Author: J. Ganoulis (co-author for the section "water")

Publisher: Goulandri Museum for Natural History, Athens, Greece

Year: 2004

Language: Greek

Number of pages: 108 pp.

II. Impact

The principal outcomes of INWEB during the time period 2003-2004 are various research, cooperation and training programmes aiming to promote and ensure a “**Sustainable Management of Water and Conflict Resolution**”, particularly in the South Eastern Europe (the Balkans).

INWEB is an active network, having main partners from all the 10 Balkan countries. The principal outcomes obtained during the period 2003/2004 are as follows:

➤ Linking Education, Research and Professional Development:

- Organisation of a special theme E, Water Engineering Education, XXX International Congress of IAHR (Int. Association of Hydraulic Engineering and Research), Thessaloniki, 2003; publishing a special volume.

Impact on human, cultural and socio-economic development at international level.
Contribution for attaining the Millennium Development Goals.

- TECHWARE Presidency: TECHWARE (Technology for Water Resources) is an international non profit-making organisation within the framework of the programmes of the EU regarding transfer of knowledge and technology on Environment/Water. Prof. Jacques Ganoulis, Coordinator of UNESCO Chair/INWEB, was elected in 2003 President of TECHWARE.

Impact on human and socio-economic development at international level.

➤ Promoting Research, Training and International Cooperation:

- Active participation of INWEB in 2 EU research and cooperation projects (RIVERTWIN – A regional Model for Integrated Water Management in Twinned River Basins and CABRI- Cooperation Along a Big River: the case of Volga River) and in UNESCO / HELP (Hydrology for Environment, Life and Policy) programme.
- Training activities in the Balkans: Albania/UNESCO, PCCP-Balkans and VICAIRE projects.
- Developing inventories of International Waters in the Balkans (UNESCO/ISARM and UNESCO/ROSTE).

All of the above actions have an impact on human and socio-economic development at international level. Contributions for attaining the Millennium Development Goals.

➤ Dissemination of Knowledge, Results and Achievements:

- EU dissemination network ETNET21, Developing and distributing data bases on International Rivers and Aquifers in the Balkans.
- Special publications on Water Engineering Education (in English) and Man and Environment in the 21st Century (in Greek).

The above actions have an impact on human, cultural and socio-economic development at international and national levels.

III. Forthcoming activities

The principal forthcoming activities of INWEB are foreseen as follows:

- promoting an integrated system of research, training, information and documentation activities in the fields of integrated water management, ecology, environmental sciences, economy, conflict resolution and international waters.

- providing advice and expertise to assist developing countries, particularly the Balkan countries, in:
 - establishing inter-sectoral pilot projects;
 - facilitating links between local, regional and global levels, and harmonising top-down and bottom-up approaches whilst taking into account social issues;
 - contributing to public education in the fields of water and environmental protection;
 - promoting training and professional development by providing distance learning;
 - developing inventories of existing transboundary water systems;
 - creating and maintaining databases on water and the environment
 - developing guidelines and protocols for the prevention of potential conflicts and the resolution of existing conflicts over water resources and values.

		ACTION PLAN 2005-2006	
		2005	2006
1	Cabri: an EU funded research project		
2	RiverTwin: an EU funded research project		
3	TwinBasin EU an funded research project		
4	EU Water Help: a UNESCO project		
5	Update inventories on surface waters in the Balkans		
6	Update inventory on groundwaters: ISARM-Balkans		
7	Develop the PCCP –Balkans programme		
8	Organise a NATO ARW (Advanced Research Workshop) in Thessaloniki		
9	Vicaire: a Web based learning system		
10	Hellas Aid programmes: Bosnia & Albania		

IV. Development prospects

Action aimed at obtaining a stable permanent status of the Chair/Network in the structure of the Institution:

Short and medium term: Research, Training and Educational programmes

Long term: Developing a Virtual School for Water/Environment in the Balkans

Expanding activities: Building a new portal on the WEB, Distance Education

Broadening partnerships: Black Sea, Middle East, Mediterranean region