
EUROPEAN
COMMISSION
Community research
Water and Soil
European Research
Catalogue of FP6 Projects
GENERAL INFORMATION
GLOBAL CHANGE AND ECOSYSTEMS

EUROPEAN COMMISSION

Water and Soil European Research

Catalogue of FP6 Projects

Edited by A. Gonzalez

Environment Directorate

Directorate-General for Research

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Title: Observations, analysis and modeling of lightning activity in thunderstorms, for use in short term forecasting of flash floods

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 1.644.060 €

Project status: Selected

EU contribution: 1.207.860 €

Duration: 36 months

Organisation: Tel Aviv University

Tel Aviv - IL

Co-ordinator: Prof. Colin Gregory Price

Abstract

Flash floods are a serious problem in the Mediterranean region in particular, and in Europe in general. These floods result from large weather systems with embedded severe thunderstorms that deposit large amounts of rainfall in short periods of time. Since lightning activity can be detected and monitored continuously from thousands of kilometers away, we propose the use of lightning data to better nowcast (3-hour prediction) and forecast (24-48 hour prediction) the location, intensity and timing of heavy convective precipitation events. For this we plan to develop rainfall-lightning relationships using lightning and precipitation data sets in the Mediterranean region, and to use lightning information in conjunction with infrared / microwave observations from geostationary / low Earth orbiting satellites to improve cloud characterization, convection detection and precipitation retrieval from space. With the help of cloud and meso-scale models we plan to simulate numerous cases studies of past flash flood events in Europe to better understand the connection between intense precipitation and lightning activity. Once we have established a methodology to use lightning to help estimate rainfall location and intensity, we plan to develop algorithms for short-term nowcasting, to allow for the short-term flash flood warnings via the internet for the entire Mediterranean region, and perhaps later Europe. Furthermore, using assimilated lightning data in mesoscale meteorological models we plan to investigate the possibility of improving the 24-48 hour forecasts of severe precipitation events. We will validate the new rainfall retrieval algorithms as well as the nowcasting algorithms and forecasting procedures by means of radar and raingauge measurements at several locations across the Mediterranean. The societal benefits of such advanced warnings will be investigated, especially in relation to risk management.

Partners

Nr	Part Legal Name	Town	Country
1	Tel Aviv University	Tel Aviv	Israel
2	The Open University of Israel	Ra'anana	Israel
3	Consiglio Nazionale delle Ricerche	Roma	Italy
4	National Observatory of Athens	Athens	Greece
5	Universitat de Barcelona	Barcelona	Spain
6	CYPRUS METEOROLOGICAL SERVICE	Nicosia	Cyprus

Title: Hydrometeorological data resources and technologies for effective flash flood forecasting

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.489.434 € Project status: Selected

EU contribution: 2.350.000 € Duration: 36 months

Organisation: Department of Land and Agroforest Environment, University of Padova Legnaro (PD) - IT

Co-ordinator: Prof. Marco Borga

Abstract

The management of flash flood hazards and risks is a critical component of public safety and quality of life. Flash-floods develop at space and time scales that conventional observation systems are not able to monitor for rainfall and river discharge. Consequently, the atmospheric and hydrological generating mechanisms of flash-floods are poorly understood, leading to highly uncertain forecasts of these events. The HYDRATE objective is to improve the scientific basis of flash flood forecasting by extending the understanding of past flash flood events, advancing and harmonising a European-wide innovative flash flood observation strategy and developing a coherent set of technologies and tools for effective early warning systems. To this end, the project includes actions on the organization of the existing flash flood data patrimony across Europe. The observation strategy proposed in HYDRATE has the objective to collect flash flood data by combining hydrometeorological monitoring and the acquisition of complementary information from post-event surveys. This will involve a network of existing Hydrometeorological Observatories; all placed in high flash flood potential regions. HYDRATE will develop a freely-accessible European Flash Flood Database to make available the collected hydrometeorological data to the international research community. The final aim of HYDRATE is to enhance the capability of flash flood forecasting in ungauged basins by exploiting the extended availability of flash flood data and the improved process understanding. The Partners include nine universities, seven government research centres, and one SME. These represent eight Member States, one Associated Candidate State and three third-countries. Thus the results of HYDRATE will benefit from assembling international knowledge and scientific expertise and lead to advancements in observation strategy for implementation not only in Europe but internationally.

Partners

Nr	Part Legal Name	Town	Country
1	Department of Land and Agroforest Environment, University of Padova	Legnaro (PD)	Italy
2	Centre National de la Recherche Scientifique	Paris	France
3	Consiglio Nazionale delle Ricerche	Roma	Italy
4	Vienna University of Technology	Vienna	Austria
5	Ecole Nationale des Ponts et Chaussées - CEREVE	Marne la Vallée	France
6	UNIVERSITAT POLITÈCNICA DE CATALUNYA	Barcelona	Spain
7	Technical University of Crete	CHANIA, Crete	Greece
8	Hellenic Center for Marine Research	Anavissos, Attikis	Greece
9	Slovak University of Technology in Bratislava, Faculty of Civil Engineering	Bratislava	Slovakia
10	NATIONAL METEOROLOGICAL ADMINISTRATION	Bucharest	Romania
11	NATIONAL INSTITUTE OF HYDROLOGY AND WATER MANAGEMENT	Bucharest	Romania
12	HR Wallingford Ltd.	Wallingford	United Kingdom
13	Wageningen University	Wageningen	Netherlands
14	Centre National du Machinisme Agricole, du Génie rural, des Eaux et Forêts	ANTONY Cedex	France
15	Wuhan University	Wuhan	China
16	University of KwaZulu-Natal, DURBAN, South Africa	DURBAN	South Africa
17	University of Wyoming Office of Research and Econ. Devel.	Laramie, Wyoming	United States

Title: Water and global change

Instrument: Integrated Project (IP)

Project total cost: 12.969.729 €

Project status: Selected

EU contribution: 9.980.096 €

Duration: 48 months

Organisation: Natural Environment Research Council - Centre for Ecology and Hydrology

Swindon - UK

Co-ordinator: Dr Richard Harding

Abstract

The Integrated Project (WATCH) which will bring together the hydrological, water resources and climate communities to analyse, quantify and predict the components of the current and future global water cycles and related water resources states, evaluate their uncertainties and clarify the overall vulnerability of global water resources related to the main societal and economic sectors. WATCH project will: • analyse and describe the current global water cycle, especially causal chains leading to observable change in extremes (droughts and floods) • evaluate how the global water cycle and its extremes respond to future drivers of global chan (including greenhouse gas release and land cover change) • evaluate feedbacks in the coupled system as they affect the global water cycle • evaluate the uncertainties in the predictions of coupled climate-hydrological- land-use models using a combination model ensembles and observations • develop an enhanced (modelling) framework to assess the future vulnerability of water as a resource, and in relation to water/climate related vulnerabilities and risks of the major water related sectors, such as agriculture, nature and utilities (energy, industry and drinking water sector) • provide comprehensive quantitative and qualitative assessment and predictions of the vulnerability of the water resources and water-/climate-related vulnerabilities and risks for the 21st century collaborate intensively with the key leading research groups on water cycle and water resources in USA and Japan • collaborate intensively in dissemination of its scientific results with major research programmes worldwide (WCRP, IGBP) • collaborate intensively in dissemination of its practical and applied results with major water resources and water management platforms and professional organisations worldwide (WWC, IWA) and at a scale of 5 selected river basins in Europe

Partners

Nr	Part Legal Name	Town	Country
1	Natural Environment Research Council - Centre for Ecology and Hydrology	Swindon	United Kingdom
2	Wageningen University and Research Centre	Wageningen	Netherlands
3	Vrije Universiteit Amsterdam	Amsterdam	Netherlands
4	Danish Meteorological Institute	Copenhagen	Denmark
5	Cemagref	Antony	France
6	Johann Wolfgang Goethe-Universitat Frankfurt am Main	Frankfurt am Main	Germany
7	The Abdus Salam International Centre for Theoretical Physics	Trieste	Italy
8	Met Office	Exeter	United Kingdom
9	Max Planck Society for the Advancement of Science represented by Max Planck Institute of Meteorolgy	Hamburg	Germany
10	Research Centre for Agricultural and Forest Environment- Polish Academy of Sciences	Poznan	Poland
11	Potsdam Institute For Climate Impact Research	POtsdam	Germany
12	Technical University of Crete	Chania, Crete	Greece
13	University of Oslo	Oslo	Norway
14	Universitat de Valencia. Estudi General	Valencia	Spain
15	Department of Physics Oxford University	Oxford	United Kingdom
16	International Institute for Applied Systems Analysis	Laxenburg	Austria
17	Laboratoire de Meteorolgie Dynamique du CNRS	Paris	France
18	Fundacao da Faculdade Dde Ciencias da Universidade de Lisboa	Lisboa	Portugal
19	Comenius University in Bratislava	Bratislava	Slovakia
20	Universitat Politecnica de Catalunya	Barcelona	Spain
21	University of Kassel	Kassel	Germany
22	Kiwa Water Research	Nieuwegein	Netherlands
23	Observatoire de Paris	Paris	France

24	Vyzkumny ustav vodohospodarsky T.G. Masaryka (T.G. Masaryk Water Research Institute)	Prague 6	Czech Republic
25	Norwegian Water Resources and Energy Directorate	Oslo	Norway

EUROWET

505586

Project URL: http://eurowet.brgm.fr/

Title: Integration of European Wetland research in a sustainable management of water cycle

Instrument:	Specific Support Action (SSA)	
Project total cost:	529.958 €	Contract start date: 1/01/2004
EU contribution:	529.958 €	Duration: 16 months
Organisation:	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS - France
Co-ordinator:	Dr. Philippe NEGREL	

Abstract

The final goal of the EUROWET project is to integrate the substantial multidisciplinary European research in wetlands to help attain the sustainable management of the water cycle. This will be achieved by the translation of state-of-the art science developed at both national and European levels, into practical guidance for end-users. This will be achieved by a comprehensive review, expert assessment and a focussed dissemination strategy. There is considerable scientific knowledge and technical experience gained in diverse aspects of wetland science and management including hydrology, biogeochemistry, ecology restoration, socio-economic and policy analysis. However the results of research and management experience are still too fragmentary and not sufficiently orientated to problem-solving or simply inadequately framed to be effectively transferred to, or used by, stakeholders and policy-makers. Simultaneously the general outcome of the scientific research has been increased awareness of the significance of wetlands in delivering goods and services important for human welfare including quality of life, biodiversity conservation and maintenance or enhancement of environment quality. Despite this wetlands continue to be degraded and lost throughout Europe without adequate consideration of the wider benefits to be achieved from this management. The new Water Framework Directive (WFD) promotes a unique opportunity to redress this problem by means of the holistic, integrated approach to water management. There is currently in preparation horizontal guidance on Wetlands as part of the Common Implementation Strategy (CIS) process. There is however work still to be done on providing more specific scientific and technical guidance on the effective implementation of the Directive with respect to wetlands. This is particularly the case in relation to Integrated River Management, the CIS cluster within which wetlands are being considered in the WFD.

Partners

Nr	Part Legal Name	Town	Country
1	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS	France
2	Royal Holloway and Bedford New College	Egham, Surrey	United Kingdom

Title: Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems

Instrument: Integrated Project (IP)

Project total cost: 19.154.659 €

EU contribution: 12.647.141 €

Organisation: University College London

Co-ordinator: Dr Simon Patrick

Contract start date: 1/02/2004

Duration: 60 months

London - United Kingdom

Abstract

Freshwater ecosystems, under stress from land-use change and pollution, face additional pressures from climate change, directly and through interaction with other drivers of change. Euro-limpacs is concerned with the science required to understand and manage the ecological consequences of these interactions. It is relevant to the Water Framework Directive and other international directives and protocols and supports the EU's Charter on Sustainable Development. The Project comprises a consortium of leading scientists to integrate river, lake and wetland ecosystem science at the catchment scale. It focuses on the key drivers of aquatic ecosystem change (land-use, nutrients, acid deposition and toxic substances) and examines their interactions with global, especially climate, change using time-series analysis, space-for-time substitution, palaeolimnology, experiments and process modelling. It considers these interactions at 3 critical time-scales: (I) hours/days, concerned with changes in the magnitude and frequency of extreme events; (ii) seasons, concerned with changes in ecosystem function and life-cycle strategies of freshwater biota; (iii) years/decades, concerned with ecological response to environmental pressure, including stress reduction and ecosystem recovery. An innovative toolkit for integrated catchment analysis and modelling will be developed to simulate hydrological, hydrochemical and ecological processes at the catchment scale for use in assessing the potential impact of global change under different climate and socio-economic scenarios. A unified system of ecological indicators for monitoring freshwater ecosystem health, and new methods for defining reference conditions and restoration strategies will be developed. These will take into account the probable impacts of future climate change and the need for a holistic approach to restoration based on habitat connectivity.

Partners

Nr	Part Legal Name	Town	Country
1	University College London	London	United Kingdom
2	National Environmental Research Institute	Roskilde	Denmark
3	Royal Holloway and Bedford New College	Egham, Surrey	United Kingdom
4	Universität Duisburg-Essen	Essen	Germany
5	University of Reading	Reading	United Kingdom
6	ALTERRA B.V.	Wageningen	Netherlands
7	Natural Environment Research Council	Swindon	United Kingdom
8	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS	MADRID	Spain
9	IVL Swedish Environmental Research Institute	Stockholm	Sweden
10	Norwegian Institute for Water Research	Oslo	Norway
11	SVERIGES LANTBRUKSUNIVERSITET	UPPSALA	Sweden
12	Finnish Environment Institute	Helsinki	Finland
13	Leopold Franzens Universitaet Innsbruck	Innsbruck	Austria
14	University of Liverpool	LIVERPOOL	United Kingdom
15	Universitaet fuer Bodenkultur	Vienna	Austria
16	CONSIGLIO NAZIONALE DELLE RICERCHE	Rome	Italy
17	Centre National de Recherche Scientifique	Paris	France
18	Eidgenössische Anstalt für Wasserversorgung, Abwasserreinigung und Gewässerschutz	Dübendorf	Switzerland
19	Goulandris Natural History Museum	Kifissia	Greece
20	Entera Ingenieurgesellschaft für Plannung und Informationstechnologie GbR	Hannover	Germany
21	Hydrobiologicky ustav Akademie vid Eeske Republiky	Ceske Budejovice	Czech Republic
22	Univerzita Karlova v Praze	Prague 2	Czech Republic
23	HYDROMOD Dr. K Duwe, K. Pfeiffer, J. Post, G. Dunkel, Dr. Dr. H. Baumert GbR	Wedel	Germany

24	Vrije Universiteit Amsterdam	Amsterdam	Netherlands
25	Katholieke Universiteit Leuven	Leuven	Belgium
26	Masarykova Univerzita v Brne	Brno	Czech Republic
27	Universitat de Barcelona	Barcelona	Spain
28	Umweltforschungszentrum GmbH	Leipzig	Germany
29	Universidad de Granada	Granada	Spain
30	University of Iceland	Reykjavik	Iceland
31	UNIVERSITY OF BUCHAREST	BUCHAREST	Romania
32	Université de Rennes 1	RENNES	France
33	Universiteit Utrecht	Utrecht	Netherlands
34	Water Problems Institute of the Russian Academy of Sciences	Moscow	Russian Federation
35	Trent University	Peterborough, Ontario	Canada
36	Ceska Geologicka Sluzba	Prague	Czech Republic
37	Macaulay Institute	Aberdeen	United Kingdom

Title: Understanding river-sediment-soil-groundwater interactions for support of management of waterbodies (river basin & catchment areas)

Instrument: Integrated Project (IP)

Project total cost: 20.222.364 €

EU contribution: 12.999.992 €

Organisation: Attempto Service GmbH

Co-ordinator: MA Elisabeth Frank

Contract start date: 1/06/2004

Duration: 60 months

Tübingen - Germany

Abstract

Changes in climatic conditions, land use practices and soil and sediment pollution have large scale adverse impacts on water quantity and quality. The current knowledge base in river basin management is not adequate to deal with these impacts. AquaTerra is both integrating and developing knowledge to resolve this and disseminating it to stakeholders. In the water cycle, soil is a key element affecting groundwater recharge and the chemical composition of both subsurface and surface waters (the latter is additionally affected by sediments). The proper functioning of the river-sediment-soil- groundwater system is linked to key biogeochemical processes determining the filter, buffer and transformation capacity of soils and sediments. AquaTerra aims at a better understanding of the system as a whole by identifying relevant processes, quantifying the associated parameters and developing numerical models of the groundwater-soil-sediment-river system to identify adverse trends in soil functioning, water quantity and quality. The modelling addresses all relevant scales starting from micro-scale water/solid interactions, the transport of dissolved species, pollutants as well as suspended matter in soil and groundwater systems at the catchment scale, and finally the regional scale, with case studies located in major river basins in Europe. With this integrated modelling system, AquaTerra provides the basis for improved river basin management, enhanced soil and groundwater monitoring programs and the early identification and forecasting of impacts on water quantity and quality during this century. AquaTerra is committed to the dissemination and exploitation of project results through structured workshops, dedicated short courses, and the active participation of consortium partners in national and international conferences. The quality and direction of the project is supervised by a peer review panel.

Partners

Nr	Part Legal Name	Town	Country
1	Attempto Service GmbH	Tübingen	Germany
2	Eberhard Karls Universitaet Tuebingen	Tuebingen	Germany
3	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS	France
4	Netherlands Organisation for Applied Scientific Research	Delft	Netherlands
5	University of Newcastle upon Tyne	Newcastle upon Tyne	United Kingdom
6	Lancaster University	Lancaster	United Kingdom
7	Czech Technical University in Prague	Prague	Czech Republic
8	Danmarks Tekniske Universitet (Technical University of Denmark)	Kgs. Lyngby	Denmark
9	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	MADRID	Spain
10	Wageningen University	Wageningen	Netherlands
11	Umweltforschungszentrum Halle Leipzig GmbH	Leipzig	Germany
12	Technische Universität Hamburg-Harburg represented by TUHH-Technologie GmbH	Hamburg	Germany
13	Eidgenössische Technische Hochschule Zürich	Zürich	Switzerland
14	Institute for Ecology of Industrial Areas	Katowice	Poland
15	Université de Neuchâtel	Neuchâtel	Switzerland
16	AGENCIA CATALANA DE L'AIGUA'	BARCELONA	Spain
17	Akademia Górniczo-Hutnicza	Cracow	Poland
18	Europa Fachhochschule Fresenius	Idstein	Germany
19	Vlaamse instelling voor technologisch onderzoek	Mol	Belgium
20	BOKU - University of Natural Resources and Applied Life Sciences, Vienna	Vienna	Austria
21	Utrecht University	Utrecht	Netherlands
22	University of Liège	Liège	Belgium
23	UNIVERSITE LIBRE DE BRUXELLES	Brussels	Belgium

24	Université Henri Poincaré NANCY 1	NANCY	France
25	Faculté Universitaire Agronomiques de Gembloux	Gembloux	Belgium
26	Université d'Avignon et des Pays de Vaucluse'	Avignon	France
27	Vrije universiteit Amsterdam	Amsterdam	Netherlands
28	Università degli Studi di Trento - Dipartimento di Ingegneria Civile ed Ambientale	Trento	Italy
29	Università degli Studi Padova	Padova	Italy
30	Vyzkumny ústav vodohospodársky T.G.Masaryka	Praha 6	Czech Republic
31	Institut Scientifique de Service Public	LIEGE	Belgium
32	Institute for Inland Water Management and Waste Water Treatment	Lelystad	Netherlands
33	Provincie Noord-Brabant	's-Hertogenbosch	Netherlands
34	INSTITUL NATIONAL DE CERCETARE - DEZVOLTARE PENTRU PROTECTIA MEDIULUI - ICIM Bucuresti	BUCHAREST	Romania
35	Ministry for Protection of Natural Resources and Environment Republic of Serbia	Belgrade	Serbia and Montenegro
36	Water Research Institute	Bratislava	Slovakia
37	Technical University of Munich	München	Germany
38	ACTeon	ORBEY	France
39	LAOP Consulting & Research - Laboratories for Applied Organic Petrology	Lauta	Germany
40	r3 environmental technology Limited	READING	United Kingdom
41	AGUAS DE BARCELONA	BARCELONA	Spain
42	GOBIO GmbH - Institut für Gewässeroekologie und angewandte Biologie	Hohenstein	Germany
43	AQUATEST a.s.	Prague	Czech Republic
44	Environmental Institute	Kos	Slovakia
45	WASY Gesellschaft für wasserwirtschaftliche Planung und Systemforschung mbH	Berlin	Germany

Project URL: http://www.gbf.de/biotools/

Title: Biological procedures for diagnosing the status and predicting evolution of polluted environments

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.665.000 €

Contract start date: 1/09/2004

EU contribution: 1.800.000 €

Duration: 36 months

Organisation: Gesellschaft für Biotechnologische Forschung mbH

Braunschweig - Germany

Co-ordinator: Dr. Dietmar Helmut Pieper

Abstract

The objective of BIOTOOL is the generation and validation of novel conceptual and material instruments, rooted in biological processes, for diagnosing soil status and predicting evolution of contaminated soil and groundwater. The focus is on the assessment and evaluation of natural attenuation processes. This will require benchmarked monitoring tools and warning criteria to implement natural attenuation as the key groundwater and soil remediation strategy in Europe. It will be materialized through the application of a suite of state-of-the-art genomic, proteomic and analytical technologies to environmental samples and sites themselves. We will exploit the translocation of indicator chemicals from below ground into above-ground vegetation as a cheap and rapid monitoring tool for subsurface contamination. Diagnosis of the biological status and evolution models for polluted environments will be achieved through [i] the design and utilization of DNA and specifically DNA-array technology for examining the catabolic potential of any given particulate sample and [ii] the identification of protein biomarkers as descriptors of soil and groundwater quality and biological attenuation clocks. The progress in microbial community functional genomics and proteomics will be employed to gain a mechanistic understanding of prevailing stresses, global responses to chemical insults, plant/microbe interactions and microbial community adaptations that determine microbial-driven soil and groundwater processes. This will add a considerable predictive power to the genomic and proteomic approaches mentioned above. Determining the links between environmental factors and expression of degradation abilities will be crucial for strategies aiming at an optimal expression of the catalytic power of the indigenous microbial community. The robustness of diagnostic instruments for future normative applications will be validated in microcosms and used for assessment of contaminated sites under study.

Partners

Nr	Part Legal Name	Town	Country
1	Gesellschaft für Biotechnologische Forschung mbH	Braunschweig	Germany
2	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
3	Technical University of Denmak	Kongens Lyngby	Denmark
4	Ecole Polytechnique Federale de Lausanne	Lausanne	Switzerland
5	Institute of Microbiology, AS CR	Prague 4	Czech Republic
6	National Environmental Research Institute	Roskilde	Denmark
7	UFZ - Umweltforschungszentrum Leipzig - Halle GmbH	Leipzig	Germany
8	KAP Ltd	Prague 7	Czech Republic
9	Bionostra, S.L.	Tres Cantos, (Madrid)	Spain

SEDBARCAH

511254

Project URL: http://www.vito.be/SEDBARCAH

Title: SEDiment bioBARriers for Chlorinated Aliphatic Hydrocarbons in groundwater reaching surface water

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 1.679.758 €

Contract start date: 1/01/2005

EU contribution: 1.098.691 €

Duration: 24 months

Organisation: Vlaamse Instelling voor Technologisch Onderzoek

Mol - Belgium

Co-ordinator: Dr. Winnie Dejonghe

Abstract

Polluted groundwater in urban and industrial areas often represents a continuous source of (diffuse) contamination of surface waters. However, the fate of infiltrating groundwater pollutants might be influenced by the sediment in eutrophic water bodies. Such sediments form an interface between groundwater and surface water and possesses characteristic biological and physico-chemical degradation properties. Knowledge on natural attenuation of passing pollutants and the potential to stimulate and sustain occurring degradation processes are however scarce or non-existent. This is especially due to the lack of appropriate monitoring devices and tools to measure in situ mass balances of pollutants and reactants. In the SEDBARCAH project, we want to investigate the boundaries of the sediment zone as a barrier against the infiltration of chlorinated aliphatic hydrocarbons (CAH) into surface water and how we can turn this zone into a sustainable and efficient (stimulated) biobarrier technology for protection of surface waters from groundwater contamination. We will (i) determine the role of the microbial community present in sediments in the biodegradation of groundwater pollutants infiltrating a river bed; (ii) explore the boundary conditions and the possibility to increase and sustain removal activities in the sediment zone and (iii) select tools to follow such removal activities in situ. Therefore, a thorough investigation both in the field and in the laboratory of the physico-chemical and microbial processes occurring in these sediments will be performed and coupled to the CAH-degradation potential present in the sediment interface of two selected contaminated areas. In addition, methodologies to increase this degradation will be examined. The final goal of SEDBARCAH is to investigate the potentials of these (stimulated) sediment biobarriers as a groundwater remediation technology and a surface water pollution and risk prevention technology.

Partners

Nr	Part Legal Name	Town	Country
1	Vlaamse Instelling voor Technologisch Onderzoek	Mol	Belgium
2	Katholieke Universiteit Leuven	Leuven	Belgium
3	Wageningen University	Wageningen	Netherlands
4	AQUATEST a.s.	Praha 5	Czech Republic
5	GSF - Forschungszentrum fuer Umwelt und Gesundheit, GmbH	Neuherberg	Germany
6	C&E · Consulting und Engineering GmbH	Chemnitz	Germany
7	Umwelt- und Ingenieurtechnik GmbH Dresden	Dresden	Germany

STRESOIL

4017

Project URL: http://www.stresoil.com/

Title: In situ stimulation and remediation of contaminated fractured soils

Instrument:	Specific Targeted Research Project (STREP)	
Project total cost:	212.442.942 €	Contract start date: 1/06/2004
EU contribution:	1.100.000 €	Duration: 36 months
Organisation:	Geological Survey of Denmark and Greenland	Copenhagen K - Denmark
Co-ordinator:	Dr. Edmund Gosk	

Abstract

This project proposes pre-normative work aiming to design on site soil stimulation techniques for the cost-effective in situ remediation of NAPL-contaminated fractured soils of low permeability. Field-scale studies will be performed on fractured clay till site that has been heavily contaminated by NAPL. Integrated methods of multi-scale characterisation of fractured media will be employed to establish regional and local hydrological/geological models, and quantify the existing fracture networks. Chemical analyses on soil and groundwater samples and predictions of an existing macroscopic simulator of NAPL transport in fractured media (SIMUSCOPP) will set the initial conditions of contamination. The microbiological acti- vity will be identified to evaluate the soil/water capacity for NAPL biodegradation. Hydraulic fracturing on three sites will be made and three soil stimulation scenarios differing with respect to the remediation methodology, will be carried out on all sites. The most adequate strategy will be recommended. From micro-structural properties/hydrodynamic conditions /fluid properties, and using lab-scale techniques/computational methods of the statistical physics of disordered media, the effective transport coefficients of four soil components will be determined: clay till, sand, natural fractures, artificial hydrau- lic fractures. From the local properties, the up-scaled transport coefficients will be determined and introduced as input data in the SIMUSCOPP simulator. The SIMUSCOPP will be extended to take into account (i) the artificial hydraulic fractures, and (ii) various remediation scenarios. Monitoring of the chemical status of soil and groundwater, and numerical predictions of the updated simulator will form databases which, in combination with cost benefit analysis, will enable us to set the criteria for the selection of the most cost-effective strategy of stimulation/remediation on similar NAPL contaminated sites.

Partners

Nr	Part Legal Name	Town	Country
1	Geological Survey of Denmark and Greenland	Copenhagen K	Denmark
2	Foundation for Research and Technology Hellas	Heraklion	Greece
3	Institut Français du Pétrole	Rueil Malmaison	France
4	Brøndborefirmaet Brøker	Holbæk	Denmark
5	HYDROGEOTECHNIKA Sp. z o. o.	Kielce	Poland

Title: European Platform for Demonstration of Efficient Soil and Groundwater Remediation

Instrument: Co-ordination Action (CA)

Project total cost: 988.899 €

Contract start date: 1/01/2005

EU contribution: 988.899 €

Duration: 36 months

Organisation: Umweltbundesamt GmbH

Wien - Austria

Co-ordinator: Mr. Dietmar Müller

Abstract

EURODEMO aims to be the principal co-ordination activity concerning technology demonstration in the field of soil and groundwater management in the European Union. EURODEMO aims to achieve more efficiency with regard to funding targeted to technology demonstration, to improve the access to results from demonstration projects and to establish harmonised protocols for the documentation of demonstration results and the verification of demonstrated technology. Key activities will include (i) the co-ordination of scattered co-existing European funding programmes, (ii) the optimisation of demonstration funding by avoiding duplications and overlaps, (iii) the establishment of harmonised protocols for the documentation of demonstration results and for verification of technology efficiency and performance. Key clients benefiting from EURODEMO will be " funding organisations who can target their funds more efficiently by avoiding overlaps, by receiving reliable information on (European/global) demonstration demands, by establishing joint funding programmes, " potential technology demonstrators who can benefit from the better overview of funding opportunities, and " end users by having more confidence in demonstration results due to harmonised verification of and by having better access to demonstration results.

Partners

Nr	Part Legal Name	Town	Country
1	Umweltbundesamt GmbH	Wien	Austria
2	Contaminated Land: Applications in Real environments	London	United Kingdom
3	Bureau de Recherches Geologiques et Minieres	PARIS	France
4	exSite Research Limited	Hillam, Leeds	United Kingdom
5	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek /Netherlands Organisation for Applied Scientific Research	DELFT	Netherlands
6	Openbare Afvalstoffenmaatschappij voor het Vlaamse Gewest	MECHELEN	Belgium
7	r3 environmental technology Limited	Reading	United Kingdom
8	Land Quality Management Ltd	Nottingham	United Kingdom
9	Institut pro udrzitelný rozvoj sídel o.s. Institute for Sustainable Development of Settlements	Praha 10	Czech Republic
10	Universität Stuttgart	Stuttgart	Germany
11	Fachhochschule Nordostniedersachsen	Lüneburg	Germany
12	Latvijas Universitate	Riga	Latvia
13	Bundesministerium für Land und Forstwirtschaft, Umwelt und Wasserwirtschaft	Wien	Austria
14	Institute for Ecology of Industrial Areas/Polish Thematic Network for Environmental Technologies	Katowice	Poland
15	AGENCE DE L'ENVIRONNEMENT ET DE LA MAITRISE DE L'ENERGIE'	ANGERS	France
16	DEKONTA, a.s.	Usti nad Labem	Czech Republic
17	Lietuvos Geologijos Tarnyba	Vilnius	Lithuania
18	Univerza v Ljubljani	Ljubljana	Slovenia
19	ALMA MATER STUDIORUM - Università di Bologna	Bologna	Italy
20	BUDAPESTI MUSZAKI ÉS GAZDASÁGTUDOMÁNYI EGYETEM Budapest University of Technology and Economics	Budapest	Hungary
21	Consorzio Venezia Ricerche	Venezia Marghera	Italy
22	Consiglio Nazionale delle Ricerche	Rome	Italy
23	Federal Environmental Agency, Germany (Umweltbundesamt)	Berlin	Germany
24	Stichting Kennisontwikkeling Kennisoverdracht Bodem	Gouda	Netherlands
25	MINISTERSTVO ZIVOTNÍHO PROSTREDÍ CESKÉ REPUBLIKY (Ministry of the Environment of the Czech Republic)	Prague 10	Czech Republic

26	UNIVERSITAET LUENEBURG	LUENEBURG	Germany

Title: Coordination action on risk based management of river basins

Instrument: Co-ordination Action (CA)

Project total cost: 1.612.298 €

Contract start date: 1/09/2006

EU contribution: 1.612.298 €

Duration: 36 months

Organisation: NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO

DELFT - Netherlands

Co-ordinator: Dr. Jos Brils

Abstract

In RISKBASE leading European scientists and representatives of major, European stakeholder groups will review and synthesise the outcome of EC RTD Framework Program projects, and other major initiatives, related to integrated risk assessment-based management of the water/sediment/soil system at the river-basin scale. The synthesis leads to the development of integrated risk assessment-based management approaches enabling the prevention and/or reduction of the negative impacts caused by human activities on that system. RISKBASE delivers: 1) An overarching concept, generic approach and guiding principles to integrated risk based management of river basins; 2) Recommendations towards evolution and implementation of risk based management in national and community policies and towards implementation in management and 3) A proposal for the European research agenda related to risk based management. Based upon ample experience in previous EC CAs, Thematic Networks and/or Accompanying Measures, a simple project structure is chosen, with only a minimum number of Work Packages (WP). Each WP is managed by one WP-leader, supported by a few other partners (contractors) in the project. The WPs organise several workshops dedicated to specific issues related to risk based management at the river-basin scale. Furthermore, RISKBASE annually organises a General Assembly (GA) and makes use of EUGRIS as web-based information exchange structure. The workshops, GA and the website are open to all who are interested and willing to contribute to achieve the RISKBASE goals and objectives. Furthermore, during the project, each WP selects core-team members to assist the WP-leader in reviewing, synthesising and then reporting of the outcome of WP-workshops. Thus an open, transparent and flexible structure is created ensuring the integration of all essential knowledge, expertise and experience in order to make RISKBASE a success.

Partners

Nr	Part Legal Name	Town	Country
1	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	DELFT	Netherlands
2	DECHEMA GESELLSCHAFT FUER CHEMISCHE TECHNIK UND BIOTECHNOLOGIE E.V.	FRANKFURT AM-MAIN	Germany
3	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS	France
4	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH.	LEIPZIG	Germany
5	UMWELTBUNDESAMT GMBH	WIEN	Austria
6	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	MADRID	Spain
7	BOKU - UNIVERSITAET FUER BODENKULTUR WIEN	WIEN	Austria
8	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	AMSTERDAM	Netherlands
9	JOHANNES JAN VEGTER	AMSTELVEEN	Netherlands
10	UNIVERSITY OF BRISTOL	BRISTOL	United Kingdom

Title: Integrated decision support system for riskassessment and management of the water-sediment-soil system at river basin scale in fluvial ecosystems

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.571.980 €

Project status: Selected

EU contribution: 1.665.040 €

Duration: 30 months

Organisation: Centre Internacional de Mètodes Numerics en Enginyeria

Barcelona - ES

Co-ordinator: Prof. Eugenio Oñate

Abstract

The objective of the project is to develop and validate a new DSS for the risk assessment and management for the prevention and/or reduction of the negative impacts caused by global change and human activities on the water/sediment/soil system at river basin scale in fluvial ecosystems. The DSS will combine and integrate environmental and geo-physical data from earth observation systems, in-situ sensors and geo-referenced information, advanced computer simulation and graphical visualisation methods and artificial intelligence tools for generating knowledge contributing to the assessment of the ecological impact and the design of effective response actions maximising the integrity and safety of the ecosystem and human life. The RAMWASS DSS will be the result of the development, integration and validation of the essential technologies provided by the project partners:- Technology for the transfer of high resolution data emanating from earth observation systems and in-situ sensors into classified and usable information to be ingested as input data for the WASS simulation system (CIMNE)- Advanced computational methods for the fast and accurate simulation of different WASS situations and for evaluating the effect of alternative response scenarios (UPC, CIMNE, CISM, U.Hannover, U.Lüneburg)- Innovative ICT tools for the 3D visualisation of the environment hazard simulations (CIMNE)- An artificial neural network (ANN) based decision model educated using innovative Monte Carlo simulation tools developed by CIMNE A crucial activity of the project will be the in-depth calibration, validation and assessment of the performance, scalability and effectiveness of the DSS in its application to at three relevant aquatic and wetland ecosystems adjacent to river basins in Europe: 1) The marsh area of the Doñana Park in Spain; 2) the biosphere reserve Elbe Riverland in the Elbe river valley in Germany and 3) the marshland and lagoons of the Po river delta in Italy.

Partners

Nr	Part Legal Name	Town	Country
1	CENTRE INTERNACIONAL DE MÈTODES NUMÈRICS EN L'ENGINYERIA	Barcelona	Spain
2	Universitat Politècnica de Catalunya	Barcelona	Spain
3	CONFEDERACION HIDROGRAFICA DEL GUADALQUIVIR	SEVILLA	Spain
4	University of Hannover	Hannover	Germany
5	University of Lüneburg	Lüneburg	Germany
6	German Authority of Biosphere reserve of Elbe Riverlands	Hitzacker	Germany
7	International Centre for Mechanical Sciences	Udine	Italy
8	STAR ENGINEERING Srl	PADOVA	Italy

Title: Improvement and spatial extension of the European Fish Index

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 1.640.498 €

Project status: Selected

EU contribution: 900.000 €

Duration: 24 months

Organisation: Universität für Bodenkultur Wien

Vienna - AT

Co-ordinator: Dr Stefan SCHMUTZ

Abstract

EFI+ is a research and technological development project designed to gain new knowledge and to develop and improve new biological assessment methods to meet needs of the Water Framework Directive (WFD). The output of the project will be a methodological approach to assess the ecological status of rivers in accordance with the WFD. Therefore the EFI+ project represents a direct and obligatory contribution to the Water Framework Directive in further development and implementation of harmonised fish-based assessment tools and methodology that can be used as a standard method in EU Member States, as well as Candidate countries. The objective of EFI+ is to overcome limitations of the existing European Fisch Index (EFI) produced in th FAME project by developing a new, more accurate and pan-European fish index. Specific tasks are (1) to evaluate the applicability of the existing EFI and make necessary improvements to the existing EFI in Central-Eastern Europe and Mediterranean ecoregions, (2) to extend the scope of the existing EFI to cover very large rivers, (3) to analyse relationships between hydromorphological pressures (incl. continuity) and fish assemblages to increase the accuracy of the EFI, (4) to adapt existing software to the requirements of the new EFI to allow calculation of the ecological status for running waters, (5) to implement and disseminate the EFI and supporting software by integration of the project results in the CIS activities (Common Implementation Strategy) and ongoing national and international monitoring programmes such as the Joint Danube Survey and to present results in end-user workshops and an international conference.

Partners

Nr	Part Legal Name	Town	Country
1	Universität für Bodenkultur Wien	Vienna	Austria
2	Agency for Nature Conservation and Landscape Protection of the Czech Republic	Praha	Czech Republic
3	EUROPEAN COMMISSION JOINT RESEARCH CENTRE	Ispra	Italy
4	Finnish Game and Fisheries Research Institute	Oulu	Finland
5	CENTRE NATIONAL DU MACHINISME AGRICOLE DU GENIE RURAL DES EAUX ET DES FORETS	ANTONY	France
6	Leibniz-Institute of Freshwater Ecology and Inland Fisheries	Berlin	Germany
7	Hortobágyi Halgazdaság Rt.	Hortobágy-Halastó	Hungary
8	AQUAPROGRAM S.R.L.	VICENZA	Italy
9	The Stanislaw Sakowicz Inland Fisheries Institute in Olsztyn	Olsztyn	Poland
10	INSTITUTO SUPERIOR DE AGRONOMIA	Lisboa	Portugal
11	University of Bacau	Bacau	Romania
12	Universidad Politecnica de Madrid	Madrid	Spain
13	Swedish Board of Fisheries	Göteborg	Sweden
14	Eawag Swiss Federal Institute of Aquatic Science and Technology	Kastanienbaum	Switzerland
15	University of Hull	Hull	United Kingdom

Title: A Regional Model for Integrated Water Management in Twinned River Basins

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.964.140 €

Contract start date: 1/03/2004

EU contribution: 2.460.160 €

Duration: 36 months

Organisation: UNIVERSITAET HOHENHEIM

STUTTGART - Germany

Co-ordinator: Prof. Karl Stahr

Abstract

The project "RIVERTWIN" aims in adjusting, testing and implementing an integrated regional model for the strategic planning of water resources management in twinned river basins under contrasting ecological, social and economic conditions. The regional model will take into account the impacts of demographic trends, economic and technological development, the effects of global climate and land use changes on the availability and quality of water bodies in humid temperate, subhumid tropical as well as semiarid regions. The existing integration framework will be first tested in a European river basin with high data availability and data density. The Transferability of the model to other regions with different economic level, ecological standards and with low data availability will be jointly tested by the project team and river basin organisations in two river basins in Westafrica and Uzbekistan. Here, the problem of adequate human resources and the uncertainties of input data for the implementation of computer based decision suppport tools will be addressed. Capacity building through training of end users supports the transfer of the research results into application. In cooperation with stakeholders and potential users integrated scenarios of economic growth, land use and climate change will be developed and the model will be used to assess the implications for water management under the respective scenario assumptions. The twinning of river basins will promote mutual transfer of know-how and technology between European and Third countries. Based on the results, river basin management plans can be prepared. Through its holistic basin wide approach, the project contributes to the EU water directive, the Millennium Goals defined by the WSSD and the EU water initiative for Africa and Newly Independent States.

Partners

Nr	Part Legal Name	Town	Country
1	UNIVERSITAET HOHENHEIM	STUTTGART	Germany
2	UNIVERSITAET STUTTGART	STUTTGART	Germany
3	STICHTING ONDERZOEK WERELDVOEDSELVOORZIENING VAN DE VRIJE UNIVERSITEIT	AMSTERDAM	Netherlands
4	ARISTOTELEIO PANEPISTIMIO THESSALONIKIS - ARISTOTLE UNIVERSITY OF THESSALONIKI	THESSALONIKI	Greece
5	STOCKHOLM ENVIRONMENT INSTITUTE	STOCKHOLM	Sweden
6	INSTITUT NATIONAL DES RECHERCHES AGRICOLES DU BENIN	COTONOU	Benin
7	DIRECTION DE L'HYDRAULIQUE	COTONOU	Benin
8	UNIVERSITE D' ABOMEY CALAVI	COTONOU	Benin
9	SCIENTIFIC INFORMATION CENTER OF INTERSTATE WATER COORDINATION COMMISSION OF CENTRAL ASIA	TASHKENT	Uzbekistan
10	SJE - SCHNEIDER & JORDE ECOLOGICAL ENGINEERING GMBH	Stuttgart	Germany
11	TERRA FUSCA, MAROHN & LANGE GbR	Stuttgart	Germany

Title: Promoting Twinning of River Basins for Developing Integrated Water Resources Management Practices

Instrument: Co-ordination Action (CA)

Project total cost: 1.710.000 €

Contract start date: 1/01/2004

EU contribution: 900.000 €

Duration: 48 months

Organisation: OFFICE INTERNATIONAL DE L'EAU

PARIS - France

Co-ordinator: Mr Alain Bernard

Abstract

A Basin Organisation is generally regarded as one of the best solutions to adopt for developing an Integrated Water Resources Management (IWRM) at a catchment level. There have then been many types of BO, some of them existing for several decades, and a lot in a development process ; they present a great diversity of legal statutes and economic schemes. None of these examples can be regarded as a model ; but, by facilitating direct exchanges on best practices, and as well on failed experiments, twinning can help Basin Organisations to improve their effectiveness : BO can profit from peers, regarding administrative, technical and institutional matters, or a quicker diffusion of the research outputs in the real life. The main goal of TWINBASINXN is to support effective use of research and development in the field of IWRM by promoting twinning of BO. This will be achieved by creating a world-wide forum dedicated to identifying and sharing knowledge and best practices. A Memorandum of Understanding (MoU) takes the form of a co-operation framework signed by a wide range of organisations, both public and private, which have an interest in the deployment of IWRM practices ; it is a voluntary agreement, entered into by organisations, prepared to be active participants in developing consensus on issues of common interest, and who are willing to commit both human and financial resources for this purpose, by participating in the operation of Specific Interest Groups (SIGs). This MoU implies public commitments from signatories, from which : to co-operate in the production of recommendations and guidelines for developing twinning and related services by co-operating in the specification of twinning activities - exchange of information, exchange of personnel - and of common knowledge representation systems and dissemination practices. The project will support staff mobility between twinned BO, for enhancing peer-to-peer exchanges and hands-on periods (0,5 to 2 months).

Partners

Nr	Part Legal Name	Town	Country
1	OFFICE INTERNATIONAL DE L'EAU	PARIS	France
2	AGENCE DE L'EAU SEINE NORMANDIE	NANTERRE	France
3	RESEAU INTERNATIONAL DES ORGANISMES DE BASSIN	PARIS	France
4	EA GROUPEMENT DES PROFESSIONNELS DU SECTEUR DE L'EAU EN PROVENCE	AIX EN PROVENCE	France
5	RED MEDITERRANEA DE ORGANISMOS DE CUENCA	VALENCIA	Spain
6	SECRETARIA DE RECURSOS HIDRICOS - MINISTERIO DO MEIO AMBIENTE	BRASILIA - DISTRITO F	Brazil
7	GLOBAL WATER PARTNERSHIP	STOCKHOLM	Sweden
8	TECHWARE - TECHNOLOGY FOR WATER RESOURCES	Bruxelles	Belgium
9	UNIVERSITY OF PRETORIA	PRETORIA	South Africa
10	ORSZAGOS VIZUGYI FOIGAZGATOSAG	BUDAPEST	Hungary
11	SCIENTIFIC INFORMATION CENTER OF INTERSTATE WATER COORDINATION COMMISSION OF CENTRAL ASIA	TASHKENT	Uzbekistan
12	JASA TIRTA I PUBLIC CORPORATION	MALANG	Indonesia
13	NIGER BASIN AUTHORITY - AFRICAN NETWORK OF BASIN ORGANISATIONS	NIAMEY	Niger
14	AGENCE DE BASSIN HYDROGRAPHIQUE ALGEROIS - HODNA-SOUMMAM	KOUBA ALGER	Algeria
15	AGENCE DE BASSIN HYDRAULIQUE DU SEBOU	FEZ	Morocco
16	ORGANISATION POUR LA MISE EN VALEUR DU SENEGAL	DAKAR	Senegal
17	COMISION NACIONAL DEL AGUA	MEXICO DF	Mexico
18	THE ROMANIAN WATERS NATIONAL ADMINISTRATION	BUCHAREST	Romania

Title: Twinning European and third countries river basins for development of integrated water resources management methods

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.175.068 €

Contract start date: 1/12/2003

EU contribution: 1.389.893 €

Duration: 36 months

Organisation: IVL SVENSKA MILJOEINSTITUTET AB

STOCKHOLM - Sweden

Co-ordinator: Dr. Sam Ekstrand

Abstract

Strategic objectives: 1. To fill gaps in knowledge and methods in order to enable implementation of a harmosided IWRM approach that addresses the European Water Initiative, in five river basins. 2. To enable and perform assessment of vulnerability to climate change and anthropogenic development, and produce integrated river basin management plans, that includes optimal combinations of actions. To reach the strategic objectives of TWINBAS, a number of research tasks on hydrology, modelling of pollution flow, impact assessment, socio-economics, scenario analyses and action efficiency have to be carried through. For all these activity areas, the goal is to bring knowledge to a level where IWRM can be implemented for the five twinned river basins; Okavango (Botswana), Nura (Kazakhstan), Bio Bio (Chile) Thames (UK) and Norrstrom (Sweden). TWINBAS will have an important strategic impact by creating the practical means for implementing the EU Water Initiative 'Water for Life'. The nature and width of the gaps in knowledge vary between the different case study rivers, and therefore the research required differs between the river basins. The research and the IWRM components of TWINBAS are organised according to the EU Water Framework Directive (WFD) so that the FWD guideline documents can be utilised. The proposal also addresses the EU Water Initiative, which promotes development that is demand led from the less developed countries. the strong component of public participation and stakeholder involvement will ensure that each component has local ownership and addresses priorities identified within the region. The river basins selected represent a wide variety of water use problems, and a variety of political and societal systems. Thus, the applicability of the WFD approach will vary for the third country basins, and methodology applied will be a modification of the WFD process. TWINBAS aims at enabling development of water management action plans.

Partners

Nr	Part Legal Name	Town	Country
1	IVL SVENSKA MILJOEINSTITUTET AB	STOCKHOLM	Sweden
2	DHI - INSTITUT FOR VAND OG MILJOE	HOERSHOLM	Denmark
3	UNIVERSITY OF SOUTHAMPTON	SOUTHAMPTON	United Kingdom
4	COMISION NACIONAL DEL MEDIO AMBIENTE	SANTIAGO DE CHILE	Chile
5	ALMATY INSTITUTE OF POWER ENGINEERING AND TELECOMMUNICATIONS	ALMATY	Kazakhstan
6	NATURAL ENVIRONMENT RESEARCH COUNCIL	SWINDON	United Kingdom
7	RHODES UNIVERSITY	GRAHAMSTOWN	South Africa

Project URL: http://www.ccma.csic.es/dpts/suelos/hidro/wade/home.html

Title: Floodwater recharge of alluvial aquifers in dryland environments

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.605.295 €

Contract start date: 1/07/2004

EU contribution: 1.700.000 €

Duration: 36 months

Organisation: CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

MADRID - Spain

Co-ordinator: Dr Gerardo Benito

Abstract

The WADE project aims to assess long-term (decades to centuries) water resources in selected semiarid to hyperarid ephemeral river basins by determining long-term transmission losses from floods and quantifying floodwater recharge into alluvial aquifers. An innovative approach will be applied based on three principal research themes. 1) Palaeoflood hydrology will be used to determine long- term flood magnitude and frequency in order to quantify the frequency of recharging flood events. 2) Surface and sub-surface hydrology will be monitored in order to quantify transmission losses through the river bed into the alluvial aquifers. The combination of these two methologies will be able to quantify long-term aquifer recharge through flooding. 3) The final research theme focuses on the socio-economic issues related to the use of alluvial aquifer groundwater within the study catchments. The research will be undertaken in 4 research basins, twinning catchments in Spain and Israel with study catchments in Namibia and South Africa.

Partners

Nr	Part Legal Name	Town	Country
1	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	MADRID	Spain
2	THE HEBREW UNIVERSITY OF JERUSALEM	JERUSALEM	Israel
3	HYDROISOTOP GMBH	SCHWEITENKIRCHEN	Germany
4	DESERT RESEARCH FOUNDATION OF NAMIBIA	WINDHOEK	Namibia
5	THE UNIVERSITY OF EDINBURGH	EDINBURGH	United Kingdom
6	UNIVERSITY OF CAPE TOWN	RONDENBOSCH	South Africa
7	INSTITUT NATIONAL DE LA RECHERCHE SCIENTIFIQUE	SAINTE-FOY (QUEBEC)	Canada
8	BEN GURION UNIVERSITY OF THE NEGEV	BEER SHEVA	Israel
9	MINISTRY OF AGRICULTURE, WATER AND RURAL DEVELOPMENT	WINDHOEK	Namibia
10	SURPLUS PEOPLE PROJECT	ATHLONE, CAPE TOWN	South Africa
11	KAMIESBURG MUNICIPALITY	GARIES	South Africa
12	NAMA KHOI MUNICIPALITY	SPRINGBOK	South Africa

Project URL: http://www.twinlatin.org/

Title: Twinning European and Latin-American River Basins for Research Enabling Sustainable Water Resources Management

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.723.778 €

Contract start date: 1/09/2005

EU contribution: 1.999.855 €

Duration: 36 months

Organisation: IVL SVENSKA MILJOEINSTITUTET AB

STOCKHOLM - Sweden

Co-ordinator: Dr. Sam Ekstrand

Abstract

The Latin American and Caribbean region is highly heterogeneous in terms of climate zones, hydro-ecology, socio-political systems etc. Numerous problems in relation to water quality and water availability arise. Flooding occurs frequently and erosion and pollution pressures have also become major problems. Management strategies, legal framework and stakeholder involvement needs to be improved. Activities and research tasks will be conducted within several fields of IWRM; hydrology, modelling of pollution flow, impact assessment, socio-economic impacts, climate change effects, scenario analysis and action efficiency. The river basins selected are: Baker (Chile-Argentina), Catamayo-Chira (Peru-Ecuador), Cauca (Colombia), Lago de Nicaragua (Nicaragua), and Quarai/Cuareim (Uruguay-Brazil). The European river basins are Thames (UK) and Norrström (Sweden). The project addresses the goals of the EU WI Water for Life, and builds on the methods and guidelines developed for the EU WFD. Interfaces with international organisations have been established. The proposal is designed to enable and facilitate twinning in all fields of activity in order to fill gaps in knowledge. The strong component of public participation and stakeholder involvement will ensure that each component has local ownership. The river basins selected represent a wide variety of conditions, addressing also transboundary water problems. Thus, the applicability of the WFD approach will vary for the third country basins, and methodology applied will be a modification of the WFD process. The final step will be development of tools for the implementation and identification of priority actions analysed in terms of physical/chemical efficiency as well as socio-economic effects. Priority actions are an essential part of an RBMP, and will be a crucial input and an encouragement to the Latin American end-users of TWINLATIN to develop full RBMPs following the finalisation of the project.

Partners

Nr	Part Legal Name	Town	Country
1	IVL SVENSKA MILJOEINSTITUTET AB	STOCKHOLM	Sweden
2	NATURAL ENVIRONMENT RESEARCH COUNCIL.	SWINDON WILTHSHIR	United Kingdom
3	KATHOLIEKE UNIVERSITEIT LEUVEN	LEUVEN	Belgium
4	UNIVERSIDAD DE CONCEPCION	CONCEPCION	Chile
5	FUNDACAO DE APOIO DA UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL	PORTO ALEGRE	Brazil
6	DIRECCION NACIONAL DE HIDROGRAFIA - M.T.O.P. URUGUAY	MONTEVIDEO	Uruguay
7	UNIVERSIDAD NACIONAL DE INGENIERIA	MANAGUA	Nicaragua
8	FONDO DE COOPERACIÓN HISPANO PERUANO	LIMA	Peru
9	CORPORACION AUTONOMA REGIONAL DEL VALLE DEL CAUCA - COLOMBIA	SANTIAGO DE CALI	Colombia

Title: Strategy and methodology for improved IWRM - An integrated interdisciplinary assessment in Four Twinning River Basins in Europe and Asia

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.381.600 €

Project status: Selected

EU contribution: 2.491.850 €

Duration: 36 months

Organisation: Norwegian Institute for Water Research

Oslo - NO

Co-ordinator: Mr Stig A. Borgvang

Abstract

The point of departure for STRIVER is the lack of clear methodologies and problems in operationalisation of IWRM as pointed out by both the scientific and management communities. STRIVER will develop interdisciplinary methods to assess and implement IWRM. Based on the development of a multidisciplinary knowledge base assessment in all case studies (policy, social and natural sciences) and an early stage development of IWRM conceptual framework, the project will undertake IWRM in the four selected twinned catchments covering six countries in Europe and Asia. Twinning activities based on a problem-based approach will be performed in four case river basins: • Tunga Bahdra (2 states in India), •Sesan (Vietnam/Cambodia), • Glomma (Norway), •Tejo/Tagus (Spain/Portugal). Under the IWRM framework, the problems to be covered are (i) water regimes in transboundary regulated rivers, (ii) environmental flow, (iii) land and water use interaction, and (iv) pollution. The research will use sub-basins of each river basin in all cases to allow more detailed studies and easier integration of all stakeholders, for transferability purposes. STRIVER will contribute towards improved interdisciplinary IWRM, based on the coupling and balancing of ecological, social-economic and policy variables in all the four case-basins by twinning activities. To that end, the project will: • develop guidelines for interdisciplinary methods to assess and implement IWRM • assess the transferability of case study results • enhance the dialogue between decision-makers, stakeholders and scientists • disseminate data and information to stakeholders to promote participatory planning and integrated decision-making, taking adequate account of the rights of poor people and gender roles • ensure that project results will benefit all parties also after the end of the project

Partners

Nr	Part Legal Name	Town	Country
1	Norwegian Institute for Water Research	Oslo	Norway
2	Joint Research Centre	ISPRA	Italy
3	International Water Law Research Institute, University of Dundee	Dundee	United Kingdom
4	Institute of Geography	Hanoi	Viet Nam
5	Ministry of Water Resources and Meteorology	Phnom Penh	Cambodia
6	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	Madrid	Spain
7	Instituto Superior Técnico	Lisboa	Portugal
8	University of Oslo	Oslo	Norway
9	Centre for Interdisciplinary Studies in Environment and Development	Bangalore	India
10	Society for Promoting Participative Ecosystem Managment	Pune	India
11	Rheinische Friedrich-Wilhelms-Universität (Universität Bonn)	Bonn	Germany
12	Linköpings Universitet	Linköping	Sweden
13	Consiglio Nazionale delle Ricerche	Roma	Italy

Title: Twinning European and SouthAsian river basins to enhance capacity and implement adaptive integrated water resources management approaches

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.787.516 €

Project status: Selected

EU contribution: 2.871.498 €

Duration: 36 months

Organisation: Friedrich-Schiller-UNiversity Jena

Jena - DE

Co-ordinator: Prof. Wolfgang-Albert Flügel

Abstract

BRAHMATWINN will enhance capacity to carry out a harmonised integrated water resources management (IWRM) approach as addressed by the European Water Initiative (EWI) in headwater river systems of alpine mountain massifs already impacted from climate change, and to establish transfer of professional IWRM expertise, approaches and tools based on case studies carried out in twinning European and Asian river basins. With altogether eleven work packages (WP) the project addresses all important IWRM issues in a balanced way, including conflict resolution in the transboundary twinning Upper Danube River Basin (UDRB) and the Upper Brahmaputra River Basins (UBRB) in Europe and Southeast Asia respectively. In altogether seventy work tasks of the jointly identified WP social and natural scientists in cooperation with water law experts and local stakeholders will realize the project outcomes: (i) a integrated holistic approach and assessment of the transboundary UDRB and UBRB for sustainable IWRM; (ii) integrated indicators to quantify the natural environment and human dimension, selected to assess IWRM vulnerabilities; (iii) a integrated water resources management system (IWRMS) comprising the DANUBIA hydrological model, the river basin information system (RBIS) and the network analysis, creative modelling decision support system NetSyMod; (iv) a set “what-if?” scenarios, evaluated using the DPSIR approach, and associated adaptive IWRM options tested by means of the IWRMS to mitigate impacts of likely climate change; and (v) IWRM action plans based on the stakeholder negotiation and the governance assessment. The project consortium of altogether fifteen partners from Europe (10 partner) and Asia (5 partner) shares the financial grant requested proportionally and will guarantee the generation of the necessary synergism required to represent the complex system component interaction and to carry out the required knowledge transfer between Europe and Asia.

Partners

Nr	Part Legal Name	Town	Country
1	Friedrich-Schiller-UNiversity Jena	Jena	Germany
2	University of Munich	Munich	Germany
3	ETH Zürich	Oslo	Norway
4	Paris-Lodron-University of Salzburg	Salzburg	Austria
5	University of Vienna	Vienna	Austria
6	University of Southampton	Southampton	United Kingdom
7	University of DUNDEE	Dundee	United Kingdom
8	University of Oslo	Oslo	Norway
9	Fondatione Eni Enrico Mattei	Milano	Italy
10	GERCH-Info EEIG	Jena	Germany
11	Indian Institute of Technology	Kanpur	India
12	International Center for Integrated Mountain DEvelopment	Kathmandu	Nepal
13	Royal University of Bhutan	Phuentsholing	Bhutan
14	Institute of Tibetan Plateau Research, Chinese Academy of Sciences	Beijing	China
15	Center for Agricultral Resources Research, Insititute of Genetic and Developmental Biology, Chinese Academy of Sciences	Shijiazhuang, Hebei Provin	China

Project URL: http://nfp-at.eionet.eu.int:8980/irc/eionet-circle/bridge/info/data/en/index.htm

Title: Background cRiteria for the IDentification of Groundwater thrEsholds

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.963.086 €

Contract start date: 1/01/2005

EU contribution: 1.876.825 €

Duration: 24 months

Organisation: BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES

PARIS - France

Co-ordinator: Dr. Anne Marie FOUILLAC

Abstract

The Commission proposal of Groundwater Directive COM(2003)550 developed under Article 17 of the Water Framework Directive (2000/60/EC) sets out criteria for the assessment of the chemical status of groundwater, which is based on existing Community quality standards (nitrates, pesticides and biocides) and on the requirement for Member States to identify pollutants and threshold values that are representative of groundwater bodies found as being at risk, in accordance with the analysis of pressures and impacts carried out under the WFD.In the light of the above, the objectives of BRIDGE are : i) to study and gather scientific outputs which could be used to set out criteria for the assessment of the chemical status of groundwater, ii) to derive a plausible general approach, how to structure relevant criteria appropriately with the aim to set representative groundwater threshold values scientifically sound and defined at national river basin district or groundwater body level, iii) to check the applicability and validity by means of case studies at European scale, iv) to undertake additional research studies to complete the available data,v) and to carry out an environmental impact assessment taking into account the economic and social impacts. The project shall be carried out at European level, involving a range of stakeholders and efficiently linking the scientific and policy-making communities.Considering the requirement of the diary of the Groundwater Daughter Directive proposal, which implies that groundwater pollutants and related threshold values should be identified before December 2005 and listed by June 2006, the duration of the project should be 24 months. In that way the proposed research will contribute to provide research elements that will be indispensable for preparing discussions on further steps of the future Groundwater Directive.

Partners

Nr	Part Legal Name	Town	Country
1	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS	France
2	UMWELTBUNDESAMT GMBH	WIEN	Austria
3	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
5	UNIVERSITEIT GENT	Gent	Belgium
6	BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM	Budapest	Hungary
7	UNIVERSITE DE LIEGE	Liège	Belgium
8	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V	MOL	Belgium
9	Danish Environmental Protection Agency	Copenhagen	Denmark
10	Danmarks og Grønlands Geologiske Undersøgelse	Copenhagen	Denmark
11	ACTeon	Orbey	France
12	UMWELTBUNDESAMT	Berlin	Germany
13	HESSISCHES LANDESAMT FUER UMWELT UND GEOLOGIE	Wiesbaden	Germany
14	INSTITUTO GEOLÓGICO Y MINERO DE ESPAÑA	MADRID	Spain
15	ENVIRONMENT AGENCY	ALMONDSBURY , BRIS	United Kingdom
16	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
17	NATIONAL AGRICULTURAL RESEARCH FOUNDATION	Maroussi-ATHENS	Greece
18	AUTORITA DI BACINO DEL FIUME TEVERE	ROMA	Italy
19	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
20	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK-TNO	Delft	Netherlands
21	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
22	LIETUVOS GEOLOGIJOS TARNYBA	Vilnius	Lithuania
23	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
24	EXECUTIVE ENVIRONMENT AGENCY - Bulgaria	Sofia	Bulgaria

25	TARTU UELIKOOL	Tartu	Estonia
26	APPLICATION EUROPEENNE DE TECHNOLOGIES ET DE SERVICES	Artigues Pres Bordeaux	France
27	AKADEMIA GORNICZO-HUTNICZA	Krakow	Poland
28	OFFICE INTERNATIONAL DE L'EAU	PARIS	France

Project URL: http://www.rbm-toolbox.net/rebecca

Title: Relationships between ecological and chemical status of surface waters

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 7.445.996 €

Contract start date: 1/12/2003

EU contribution: 3.997.952 €

Duration: 42 months

Organisation: Finnish Environment Institute

Helsinki - Finland

Co-ordinator: Dr Seppo Rekolainen

Abstract

The strategic objective of the REBECCA proposal is to provide relevant scientific support for the implementation of the Water Framework Directive (WFD). The two specific aims of the project are, firstly, to establish links between ecological status of surface waters and physico-chemical quality elements and pressures from different sources, and, secondly, to develop and validate tools that member states can use in the process of classification, in the design of their monitoring programs, and in the design of measures in accordance with the requirements of the WFD. These objectives will be achieved by collating existing knowledge and analyzing knowledge gaps, and using this information as a basis for analyzing the dose-response relationships between pressures and chemical/biological quality elements based on existing data. Furthermore, REBECCA will explore, develop and improve models and statistical tools, which can be used in assessing the links between the ecological and chemical quality elements; or to assess critical/target loads and other objectives for pressures. These tools will be validated in selected test sites. The results of the project will be disseminated throughout the project life-time to stakeholders at EU and national levels, particularly to the Working Groups of the Common Implementation Strategy (CIS) for the WFD, and used to develop a Toolbox containing detailed information of the methods, tools and models.

Partners

Nr	Part Legal Name	Town	Country
1	Finnish Environment Institute	Helsinki	Finland
2	EUROPEAN COMMISSION - Directorate General Joint Research Centre	Ispra (VA)	Italy
3	Norwegian Institute for Water Research	Oslo	Norway
4	National Environmental Research Institute	Roskilde	Denmark
5	DHI Water & Environment	Hoersholm	Denmark
6	Stichting Waterloopkundig Laboratorium	Delft	Netherlands
7	Natural Environment Research Council	Swindon	United Kingdom
8	CEMAGREF, Centre National du Machinisme Agricole, du Génie Rural, des Eaux et des Forêts	Antony	France
9	Water Research Institute - National Research Council	Rome	Italy
10	IVL Swedish Environmental Research Institute Ltd.	Stockholm	Sweden
11	The Provost, Fellows and Scholars of the College of the Holy and Undivided Trinity of Queen Elizabeth, near Dublin (hereinafter called TCD)	DUBLIN	Ireland
12	Slovenský hydrometeorologický ústav	Bratislava	Slovakia
13	Instituto Nacional de Investigação Agrária e das Pescas	Lisboa	Portugal
14	Universiteit Antwerpen	Wilrijk	Belgium
15	Danube Delta National Institute for Research & Development	Tulcea	Romania
16	Stiftelsen norsk institutt for naturforskning	Trondheim	Norway
17	Institute for Inland Water Management and Waste Water Treatment	Lelystad	Netherlands
18	Tallinn Technical University	Tallinn	Estonia
19	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden

Title: Screening method for Water data Information in support of the implementation of the Water Framework Directive

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 6.735.725 €

Contract start date: 1/01/2004

EU contribution: 4.034.000 €

Duration: 36 months

Organisation: ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS

PARIS - France

Co-ordinator: Mme Catherine GONZALEZ

Abstract

The monitoring requirements for successfully implementing the WFD will directly depend upon available measurement techniques of demonstrated quality, which will be able to deliver reliable data at an affordable cost. Besides the necessary "classical" laboratory analyses, screening methodologies will play a key role in the WFD implementation, in particular for the detection of accidental pollution or the control of water bodies at risk. The WFD will represent a powerful management tool only if monitoring data are of reliable and comparable quality. The costs of wrong decisions based on erroneous data could be tremendous, which justifies that Community efforts are made to ensure that data are produced according to a proper quality assurance regime. In the light of the above, the objectives of SWIFT-WFD should focus on the production of quality control tools for validation purposes of screening methods, an inventory of existing screening test (chemical and biological) methods through laboratory-based (tank experiments) and/or field interlaboratory studies based on a selection of reference aquatic ecosystems at European scale, and with classical laboratory- based analyses to validate their results and demonstrate their equivalence for parameters regulated by th WFD. In parallel, the project should consider the development of new "low-cost", innovative, screening techniques (both for chemical and biological parameters) and their validation using the same approach (interlaboratory testing and comparison with laboratory-based methods). In addition, exchange of knowledge, transfer of technologies and training related to water monitoring will represent a key issue for ensuring the comparability of data produced by screening methods

Partners

Nr	Part Legal Name	Town	Country
1	ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS	PARIS	France
2	UNIVERSITY OF PORTSMOUTH HIGHER EDUCATION CORPORATION	PORTSMOUTH	United Kingdom
3	ENTE PER LE NUOVE TECNOLOGIE, L' ENERGIA E L'AMBIENTE	ROMA	Italy
4	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS	France
5	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELTPOLITIK gGmbH	BERLIN	Germany
6	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	MADRID	Spain
7	ALCONTROL UK Ltd	Rotherham	United Kingdom
8	UNIVERSIDAD COMPLUTENSE DE MADRID	MADRID	Spain
9	MERMAYDE	BERGEN	Netherlands
10	CHALMERS TEKNISKA HOGSKOLA AB	GOETEBORG	Sweden
11	VESZPREMI EGYETEM	VESZPREM	Hungary
12	LGC Ltd	TEDDINGTON MIDDLE	United Kingdom
13	ACTEON	ORBEY	France
14	VRIJE UNIVERSITEIT BRUSSEL	BRUXELLES	Belgium
15	UNIVERSIDADE DE AVEIRO	AVEIRO	Portugal
16	UNIVERSITAT DE BARCELONA	BARCELONA	Spain
17	NETHERLANDS INSTITUTE FOR FISHERIES RESEARCH	IJMUIDEN	Netherlands
18	UNIVERSITY OF SOFIA "ST. KLIMENT OHRIDSKI"	SOFIA	Bulgaria
19	TECHNISCHE UNIVERSITAET WIEN	WIEN	Austria
20	SCIENCES, TERRITOIRES ET SOCIETES	MONTPELLIER	France
21	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	BRUXELLES	Belgium
22	SZENT ISTVAN EGYETEM	GODOLLO	Hungary

23	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	PARIS	France
24	UNIVERSIDAD DE OVIEDO	OVIEDO	Spain
25	LITHOS GEOSCIENCES	RANCO VA	Italy
26	UNIVERSITE DE BORDEAUX I	TALENCE	France
27	RIJKSINSTITUUT VOOR INTEGRAAL ZOETWATERBEHEER EN AFVALWATERBEHANDELING	LELYSTAD	Netherlands
28	STATE GEOLOGICAL INSTITUTE OF DIONYZ STUR	BRATISLAVA	Slovakia
29	TECHNISCHE UNIVERSITAET GRAZ	GRAZ	Austria
30	CESKA ZEMEDELSKA UNIVERSZITA V PRAZE	PRAHA 6 - SUCHDOL	Czech Republic
31	POLITECHNIKA WARSZAWSKA	WARSZAWA	Poland
32	ASSOCIAZIONE PER LO SVILUPPO DELLA QUALITA AMBIENTALE	ROMA	Italy
33	XPRO CONSULTING Ltd	Nicosia	Cyprus
34	TECHNISCHE UNIVERSITAET MUENCHEN	MUENCHEN	Germany
35	SECOMAM	Domont	France
36	INSTITUTUL NATIONAL DE CERCETARE - DEZVOLTARE PENTRU PROTECTIA MEDIULUI	BUCURESTI	Romania
37	POVODI LABE, S. P.	HRADEC KRALOVE	Czech Republic
38	LATVIJAS UNIVERSITATE	RIGA	Latvia
39	LATVIJAS VIDES AGENTURA	JURMALA	Latvia
40	AQUAMETRIS	LIVERDUM	France

Title: Methods for the concentration and detection of adenoviruses and noroviruses in European bathing waters with reference to the revision of the Bathing Water Directive 76/160/EEC

Instrument:	Specific Targeted Research Project (STREP)	
Project total cost:	2.847.858 €	Contract start date: 1/01/2005
EU contribution:	2.247.624 €	Duration: 27 months
Organisation:	University College of Wales Aberystwyth	Aberystwyth - United Kingdom
Co-ordinator:	Prof. David Victor Kay	

Abstract

The Project will provide a procedure for analysis of EU bathing waters for noroviruses and adenoviruses by validated comparisons of methods for processing water samples to achieve the best virus recovery consistent with cost and feasibility of use in routine monitoring laboratories. Objectives are (a) compare methods fornorovirus and adenovirus detection in recreational waters (b) derive a combination of concentration and detection techniques to provide a reproducible system of testing bathing waters for the target viruses (c) furnish scientific evidence to provide support for norovirus and adenovirus testing of environmental samples in respect of their role as the appropriate viral indicator of faecal pollution (c) prepare the technology for Accession States as part of the development of their environmental and social programmes (d) share technology between laboratories to achieve wider competence in the virological analysis of environmental materials. Detection by PCR and cell culture together with the concentration procedure will provide a combined technique. PCR products will be sequenced and data analysed to derive strain and serotype information.The work addresses the research objectives of SSP 8.1 task 1.5 directly through relevance to the revision of the Bathing Water Directive. Inter-Laboratory comparisons and a large field based surveillance Phase are integrated to ensure that the new combined method will have immediate applicability in EU bathing water monitoring. It will be done by 16 Participant Laboratories in a unified approach to derive a harmonised combined method to provide credibility for future monitoring regimes give the potential to place a virus parameter on a footing equal to the bacterial indicators. Inclusion of Laboratories representative of the Accession States will ensure rapid dissemination to enhance the monitoring of their bathing waters and thus sustain the development of their own tourism and that of the European tourism worldwide.

Partners

Nr	Part Legal Name	Town	Country
1	University College of Wales Aberystwyth	Aberystwyth	United Kingdom
2	Università di Pisa	Pisa	Italy
3	Central Science Laboratory	LONDON	United Kingdom
4	Rijksinstituut voor Volksgezondheid en Milieu	Bilthoven	Netherlands
5	UNIVERSITA DEGLI STUDI DI ROMA TOR VERGATA	ROME	Italy
6	Landesgesundheitsamt Baden-Württemberg	Stuttgart	Germany
7	Université Henri Poincaré - Nancy	Nancy	France
8	Environment Agency	Bristol	United Kingdom
9	Universitat de Barcelona	Barcelona	Spain
10	Bayerisches Landesamt für Gesundheit und Lebensmittelsicherheit	Erlangen	Germany
11	Umweltbundesamt (German Environmental Agency)	Berlin	Germany
12	PANSTWOWY INSTYTUT WETERYNARYJNY - PANSTWOWY INSTYTUT BADAWCZY W PULAWACH	Pulawy	Poland
13	ISTITUTO SUPERIORE DI SANITA	Roma	Italy
14	Faculdade de Farmacia da Universidade do Porto	Porto	Portugal
15	STATE GENERAL LABORATORY	Nicosia	Cyprus
16	Health Protection Agency	LONDON	United Kingdom

Title: New Approaches to Adaptive Water Management under Uncertainty

Instrument: Integrated Project (IP)

Project total cost: 1.591.452.964 €

Contract start date: 1/01/2005

EU contribution: 11.999.961 €

Duration: 48 months

Organisation: University of Osnabrueck

Osnabrueck - Germany

Co-ordinator: Prof. Claudia Pahl-Wostl

Abstract

The central tenet of the NeWater project is a transition from currently prevailing regimes of river basin water management into more adaptive regimes in the future. This transition calls for a highly integrated water resources management concept. NeWater identifies key typical elements of the current water management system and focuses its research on processes of transition of these elements to adaptive IWRM. Each key element is studied by novel approaches. Key IWRM areas where NeWater is expected to deliver breakthrough results include: 1. governance in water management (methods to arrive at polycentric, horizontal broad stakeholder participation in IWRM) 2. sectoral integration (integration of IWRM and spatial planning; integration with climate change adaptation strategies, cross-sectoral optimisation and cost-benefit analysis) 3. scales of analysis in IWRM (methods to resolve resource use conflicts; transboundary issues) 4. information management (multi stakeholder dialogue, multi-agent systems modelling; role of games in decision making; novel monitoring systems for decision systems in water management) 5. infrastructure (innovative methods for river basin buffering capacity; role of storage in adaptation to climate variability and climate extremes) 6. finances and risk mitigation strategies in water management (new instruments, role of public- private arrangements in risk-sharing) 7. stakeholder participation; promoting new ways of bridging between science, policy and implementation The development of concepts and tools that guide an integrated analysis and support a stepwise process of change in water management is the corner-stone of research activities in the NeWater project. To achieve its objectives the project is structured into six work blocks, and it adopts a management structure that allows effective exchange between innovative and cutting edge research on integrative water management concepts.

Partners

Nr	Part Legal Name	Town	Country
1	University of Osnabrueck	Osnabrueck	Germany
2	Alterra BV	Wageningen	Netherlands
3	Natural Environment Research Council	Swindon	United Kingdom
4	Centre National du Machinisme Agricole, du Génie Rural des Eaux et des Forêts	ANTONY	France
5	Geological Survey of Denmark and Greenland	Copenhagen K	Denmark
6	HR Wallingford Ltd	Wallingford, Oxfordshire	United Kingdom
7	International Institute for Applied Systems Analysis	Laxenburg	Austria
8	York University	York	United Kingdom
9	Tashkent Institute of Irrigation and Melioration	Tashkent	Uzbekistan
11	Universitaet Kassel	Kassel	Germany
12	Katholieke Universiteit Leuven	Leuven	Belgium
13	Cranfield University	Bedford	United Kingdom
14	Ecologic- Institute for International and European Environmental Policy	Berlin	Germany
15	Fondazione Eni Enrico Mattei	Milan	Italy
17	Maastricht University	Maastricht	Netherlands
18	Institute of Hydrodynamics, Academy of Sciences of the Czech Republic	Prague 6	Czech Republic
19	Institute of Natural Resources	Pietermartizburg	South Africa
20	National Research Council	Roma	Italy
21	Instituto de Soldadura e Qualidade	Porto Salvo	Portugal
22	IUCN - International Union for the Conservation of Nature and Natural Resources	GLAND	Switzerland
24	Manchester Metropolitan University	Manchester	United Kingdom
25	Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V.	München	Germany
26	National Scientific Centre for Medical and Biotechnical Research/National Academy of Sciences of Ukraine	Kiev	Ukraine

27	Potsdam Institute for Climate Impact Research	Potsdam	Germany
28	Technische Universiteit Delft	Delft	Netherlands
29	Rijksinstituut voor Integraal Zoetwaterbeheer en Afvalwaterbehandeling	Lelystad	Netherlands
30	Seecon Deutschland GmbH	Osnabrueck	Germany
32	Vyzkumny ustav vodohospodarsky T.G. Masaryka (T.G. Masaryk Water Research Institute)	Prague 6	Czech Republic
33	Universidad Complutense de Madrid	Madrid	Spain
34	UFZ - Umweltforschungszentrum Leipzig-Halle GmbH	Leipzig	Germany
36	Umeaa University	Umeaa	Sweden
37	UNIVERSITY OF EXETER	EXETER	United Kingdom
38	Universidad Politécnica de Madrid	Madrid	Spain
39	University of Twente	Enschede	Netherlands
40	Vrije Universiteit Amsterdam - Institute for Environmental Studies	Amsterdam	Netherlands
42	Wageningen University	Wageningen	Netherlands
43	Rheinische Friedrich-Wilhelms-Universität	Bonn	Germany

Title: Accelerate Membrane Development for Urban Sewage Purification

Instrument:	Specific Targeted Research Project (STREP)	
Project total cost:	5.478.669 €	Contract start date: 1/10/2005
EU contribution:	3.034.663 €	Duration: 36 months
Organisation:	KOMPENTENTZZENTRUM WASSER BERLIN GEMEINNUTZIGE GMBH	BERLIN - Germany
Co-ordinator:	Mr. Boris Lesjean	

Abstract

Over the past decade, membrane bioreactors have been increasingly implemented to purify municipal wastewater. However, even with submerged membranes which offer the lowest costs, the MBR technology remains in most cases more expensive than conventional processes. In addition, the European municipal MBR market is to date a duopoly of two non-European producers, despite many initiatives to develop local MBR filtration systems. The proposed AMEDEUS research project aims at tackling both issues, accelerating the development of competitive European MBR filtration technologies, as well as increasing acceptance of the MBR process through decreased capital and operation costs. The project will target the two markets for MBR technology in Europe: the construction of small plants (semi-central, 50 to 2,000pe, standardized and autonomous), and the medium-size plants (central, up to 100.000pe) for plant upgrade. Technological development of new MBR systems will be fostered by a consortium composed of 12 partners, of which five SMEs proposing novel concepts of low-cost and high-performance filtration systems. Two end-users, three non-profit institutions and two universities, all of them well versed in R&D in the MBR field, will investigate solutions to reduce operation costs such as fouling control, membrane cleaning optimisation, aeration decrease, or optimise capital costs through improved implementation of membrane bioreactor process. Furthermore, an analysis of the potential for standardisation will be performed, and a technology transfer towards Southern and Eastern Europe will be organised in order to facilitate the penetration of these new markets. AMEDEUS will achieve concrete and realistic technological breakthroughs for the MBR technology, and improve the current process engineering and operation practices. It will improve the competitiveness of the MBR European market and render common this high-tech process for municipal wastewater treatment.

Partners

Nr	Part Legal Name	Town	Country
1	KOMPENTENTZZENTRUM WASSER BERLIN GEMEINNUTZIGE GMBH	BERLIN	Germany
2	A3 ABFALL- ABWASSER- ANLAGENTECHNIK GmbH	GELSENKIRCHEN	Germany
3	ANJOU RECHERCHE	PARIS	France
4	AQUAFIN N.V.	AARTSELAAR	Belgium
5	ENVI-PUR, s.r.o.	TABOR	Czech Republic
6	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	MOL	Belgium
7	INGE AG	GREIFENBERG	Germany
8	MILLENNIUMPORE LIMITED	WASHINGTON, TYNE &	United Kingdom
9	POLYMEM SA	TOULOUSE	France
10	TECHNISCHE UNIVERSITAET BERLIN * TUB	BERLIN	Germany
11	TECNOTESSILE - SOCIETA NAZIONALE DI RICERCA TECNOLOGICA R.L.	PRATO	Italy
12	UNIVERSITY OF NEW SOUTH WALES.	SYDNEY	Australia

Project URL: http://www.mbr-network.eu/

Title: Membrane bioreactor technology (MBR) with an EU perspective for advanced municipal wastewater treatment strategies for the 21st century

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 4.226.206 €

Contract start date: 1/10/2005

EU contribution: 2.998.969 €

Duration: 36 months

Organisation: NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET

TRONDHEIM - Norway

Co-ordinator: Prof. TorOve Leiknes

Abstract

The World is running out of clean, safe, fresh water. By 2025 one third of humanity (ca. 3 billion people) will face severe water scarcity. This has been described as the "single greatest threat to health, the environment and global food security". Water is essential and preservation of its safety in quantity and in quality is critical to the sustainable development of any society. The goal of this project is to make a contribution to meet this challenge. The protection of water in the European Union has been encouraged through the Water Framework Directive (WFD). The intention of WFD is to protect water resources (quality and quantity) through an integrated water resource management policy. Wastewater treatment is an important aspect of water management. Efficient, cost effective treatment processes are needed for transforming wastewater into water free from contamination which can be returned to the hydrological cycle without detrimental effects. The development and application of MBR for full scale municipal wastewater treatment is the most important recent technical advance in terms of biological wastewater treatment. It represents a decisive step further concerning effluent quality by delivering a hygienically pure effluent and by exhibiting a very high operational reliability. The overall objective of EUROMBRA is to develop a cost-effective, sustainable solution for new, efficient and advanced municipal wastewater treatment based on MBR technology. This will be achieved through a multi-faceted, concerted and cohesive research programme explicitly linking key limiting phenomena (fouling, clogging) observed and quantified on the micro-, meso-. and macro-scale. Key to the success of the programme is the harnessing specialist knowledge, conducting of dedicated yet interlinked experiments and incorporating key aspects of both system design and operational facets, the latter encompassing hydrodynamics and mass transfer, foulant speciation and dynamic impacts

Partners

Nr	Part Legal Name	Town	Country
1	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	TRONDHEIM	Norway
2	CRANFIELD UNIVERSITY.	BEDFORDSHIRE	United Kingdom
3	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	AACHEN	Germany
4	INSTITUTO DE BIOLOGIA EXPERIMENTAL E TECNOLOGICA	OEIRAS	Portugal
5	INSTITUT NATIONAL DES SCIENCES APPLIQUEES DE TOULOUSE	TOULOUSE	France
6	UNIVERSITE MONTPELLIER II	MONTPELLIER	France
7	TECHNISCHE UNIVERSITEIT DELFT	DELFT	Netherlands
8	EAWAG - EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	DUEBENDORF	Switzerland
9	UNIVERSITA' DEGLI STUDI DI TRENTO	TRENTO	Italy
10	UNIVERSITY OF TECHNOLOGY, SYDNEY	SYDNEY	Australia
11	UNIVERSITY OF KWAZULU-NATAL	WESTVILLE	South Africa
12	POLYMEM S.A.	Toulouse	France
13	KOCH MEMBRANE SYSTEMS GMBH	AACHEN	Germany
14	FLOWCONCEPT GmbH	HANNOVER	Germany
15	MILLENNIUMPORE LIMITED	Washington, Tyne & Wear	United Kingdom
16	WATERSCHAP HOLLANDSE DELTA	DORDRECHT	Netherlands
17	ERFTVERBAND	BERGHEIM / ERFT	Germany
18	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	DELFT	Netherlands

Project URL: http://www.wsstp.org/

Title: Water supply and sanitation technology platform

Instrument: Specific Support Action (SSA)

Project total cost: 991.835 €

EU contribution: 670.000 €

Organisation: KIWA NV

Co-ordinator: Dr. Adriana Hulsmann

Contract start date: 1/11/2004

Duration: 19 months

RIJSWIJK ZH - Netherlands

Abstract

This Specific Support Action concerns the Water Supply and Sanitation Technology Platform. The SSA will provide the organisational, management and scientific support necessary to facilitate the process of the Technology Platform in order to produce the deliverables: Vision Document, Strategic Research Agenda and an implementation plan for the water sector in Europe. This is done by the Secretariat a delegation of members of the WSSTP Board, together with and on behalf of the Board. The three deliverables will be used as input for FP7. The mission of the WSSTP is ?to strengthen the competitiveness and the potential for technological innovation of the European water industry, of water professionals and research institutions through the development of a strategic science and research agenda, to meet global challenges and regional demands of ensuring safe, secure and sustainable water supply for human societies and for the environment and sanitation services, within the framework of the available water resources?. The WSSTP will contribute to the MDG?s of the Johannesburg Summit and the European Union Water Initiative, through active participation of developing countries and of organisations that work in developing countries in the platform. The joint focus of the production of the three main is a very unique process of bringing together the various groups of stakeholders. The Water Supply and Sanitation Technology Platform will have a number of important measurable objectives, to which this SSA will contribute significantly:? The production of the abovementioned documents. ? Contributing to the European industry competitiveness, by providing a multi-stakeholder framework. ? Wide spread consultation on and dissemination of the results of the platform.

Partners

Nr	Part Legal Name	Town	Country
1	KIWA NV	RIJSWIJK ZH	Netherlands
2	THE EUROPEAN COMMITTEE OF ENVIRONMENTAL TECHNOLOGY SUPPLIERS ASSOCIATIONS	BRUXELLES	Belgium
3	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	DELFT	Netherlands
4	UK WATER INDUSTRY RESEARCH LIMITED	LONDON	United Kingdom
5	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	TRONDHEIM	Norway
6	VEREIN ZUR FOERDERUNG WEITERGEHENDER STUDIEN ZUR NACHHALTIGKEIT e.V.	SCHLIERSEE	Germany

Project URL: http://www.techneau.org/

Title: TECHNEAU: technology enabled universal access to safe water

Instrument: Integrated Project (IP)

Project total cost: 19.233.315 €

Contract start date: 1/01/2006

EU contribution: 13.242.749 €

Duration: 60 months

Organisation: KIWA NV

RIJSWIJK ZH - Netherlands

Co-ordinator: Dr. Theo VAN DEN HOVEN

Abstract

Many of the numerous small supply systems in rural areas in Europe and developing countries do not comply with regulations. Large centralised supply systems in industrialized regions are struggling to meet the challenge of a reliable, uninterrupted supply of water with a high level of compliance with standards and of minimal risk to human health, including the risk from deliberate contamination of water, whilst being accepted and trusted by consumers. It is the vision of TECHNEAU that, in order to cope with present and future challenges, water supply systems should consider a transformation from mono-scale to flexible multi-scale systems i.e. interlinked centralised and decentralised satellite treatment, monitoring and control systems. TECHNEAU will develop and demonstrate adaptive supply system options and new and improved supply and monitoring technologies and management practices. Treatment strategies will be based on robust multi-barrier schemes and control methodologies, providing safety against a broad spectrum of chemical and microbiological contaminants and avoiding organoleptic problems at the tap. Monitoring technologies will provide on-line and at the site information on water quality including parameters that relate to malicious contamination. Practices for risk assessment/risk management,operation and maintenance, and models for consumer acceptance will constitute the framework for these technologies. These technologies and management practices will enable end-users to make informed choices, appropriate to their own circumstances and constraints, for cost-effective and sustainable source-to-tap solutions for the provision of safe high quality drinking water that has the trust of the consumer. This step-change will be achieved by a critical mass of researchers, technology developers and users from across Europe and developing countries.

Partners

Nr	Part Legal Name	Town	Country
1	KIWA NV	RIJSWIJK ZH	Netherlands
2	SINTEF - STIFTELSEN FOR INDUSTRIELL OG TEKNISK FORSKNING VED NORGES TEKNISKE HOEGSKOLE AS	TRONDHEIM	Norway
3	RIGAS TEHNISKA UNIVERSITATE	RIGA	Latvia
4	EAWAG - EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	DUEBENDORF	Switzerland
5	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	TRONDHEIM	Norway
6	DVGW DEUTSCHE VEREINIGUNG DES GAS-UND WASSERFACHES-TECNISCH-WISSENS CHAFDICHER VEREIN EV	KARLSRUHE	Germany
7	LABORATORIO NACIONAL DE ENGENHARIA CIVIL	LISBOA	Portugal
8	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	DELFT	Netherlands
9	WRC PLC	SWINDON	United Kingdom
10	UNIVERSITY OF SURREY	SURREY	United Kingdom
11	THE EUROPEAN COMMITTEE OF ENVIRONMENTAL TECHNOLOGY SUPPLIERS ASSOCIATIONS	BRUXELLES	Belgium
12	BIODETECTION SYSTEMS BV	AMSTERDAM	Netherlands
13	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	AACHEN	Germany
14	CHALMERS TEKNISKA HOEGSKOLA AB	GOETEBORG	Sweden
15	ALPHA MOS S.A.	TOULOUSE	France
16	SCAN MESSTECHNIK GMBH	WIEN	Austria
17	VERMICON AKTIENGESELLSCHAFT	MUENCHEN	Germany
18	ANJOU RECHERCHE	PARIS	France
19	MEKOROT WATER COMPANY ISRAEL	TEL AVIV	Israel
20	KOMPENTENTZZENTRUM WASSER BERLIN GEMEINNUETZIGE GMBH	BERLIN	Germany
21	WATER RESEARCH COMMISSION	RIETFONTEIN - PRETO	South Africa
22	BBE MOLDAENKE GmbH	KRONSHAGEN	Germany

23	FORSCHUNGSVERBUND BERLIN E.V.	BERLIN	Germany
24	TECHNISCHE UNIVERSITEIT DELFT	DELFT	Netherlands
25	AQUALYNG AS	VANVIKAN	Norway
26	CHRIS SWARTZ WATER UTILIZATION ENGINEERS	MOSSEL BAY	South Africa
27	FREIE UNIVERSITAET BERLIN.	BERLIN	Germany
28	INDIAN INSTITUTE OF TECHNOLOGY - DELHI	NEW DELHI	India
29	STATNI ZDRAVOTNI USTAV	PRAHA 10	Czech Republic
30	OPALIUM	FONTENAY-SOUS-BOIS	France

Project URL: http://aquamoney.org/

Title: Development and Testing of Practical Guidelines for the Assessment of Environmental and Resource Costs and Benefits in the WFD

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.246.408 €

Contract start date: 1/04/2006

EU contribution: 1.672.028 €

Duration: 36 months

Organisation: VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG

AMSTERDAM - Netherlands

Co-ordinator: DR Roy Brouwer

Abstract

The concept of environmental and resource costs plays a central role in the economic analysis of the European Water Framework Directive (WFD). However, there are no methodological guidelines regarding their practical assessment. The main objective of this project is to develop and test such practical and policy relevant guidelines. This will be achieved through the development of standard procedures and a protocol for good practice in decision appraisal for the WFD. These guidelines will then be tested via a series of case studies of selected, representative European river basins. Outcomes of these case studies will be used in two ways. First, this information will be used to refine the guidelines for good practice in WFD decision appraisal. Second, the common design of case studies will permit investigation of techniques for transferring economic values of environmental and resource costs and benefits from water body level to national and international river basin level and vice versa. As part of this exercise we will also investigate the use of geographical information systems (GIS) to synthesise data from the case studies with available physical environment and census data so as to generate a Europe-wide map of expected benefits of improved water quality due to WFD implementation. The proposed project is highly policy focussed, being driven from the outset by the direct involvement of a Europe-wide Steering Committee of policy-makers and other stakeholders directly involved in the implementation of the WFD.

Partners

Nr	Part Legal Name	Town	Country
1	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	AMSTERDAM	Netherlands
2	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELTPOLITIK GmbH	BERLIN	Germany
3	UNIVERSITY OF EAST ANGLIA	NORWICH	United Kingdom
4	UNIVERSITET FOR MILJO- OG BIOVITENSKAP	AS	Norway
5	UNIVERSIDAD POLITECNICA DE VALENCIA	VALENCIA	Spain
6	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS	France
7	PANEPISTIMIO AIGAIOU - UNIVERSITY OF THE AEGEAN	Mytilene	Greece
8	MAGYAR TUDOMANYOS AKADEMIA TALAJTANI ES AGROKEMIAI KUTATO INTEZETE	BUDAPEST	Hungary
9	APLINKOS APSAUGOS POLITIKOS CENTRAS	Vilnius	Lithuania
10	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	MOL	Belgium
11	ALMA MATER STUDIORUM-UNIVERSITA DI BOLOGNA	Bologna	Italy
12	NORSK INSTITUTT FOR VANNFORSKNING (NIVA)	OSLO	Norway
13	DEN KONGELIGE VETERINAER- OG LANDBOHOEJSKOLE	Frederiksberg C	Denmark
14	UNIVERSITATEA DIN BUCURESTI	BUCURESTI	Romania
15	INSTITUT FUER HOEHERE STUDIEN UND WISSENSCHAFTLLICHE FORSCHUNG KAERNTEN	Klagenfurt	Austria
16	BUDAPESTI CORVINUS EGYETEM	Budapest	Hungary

Title: European Analytical Quality Control in support of the Water Framework Directive via the Water Information System for Europe

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 1.775.858 €

Contract start date: 1/12/2005

EU contribution: 1.014.119 €

Duration: 36 months

Organisation: BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES

PARIS - France

Co-ordinator: Dr. Anne Marie FOUILLAC

Abstract

The implementation of the Water Framework Directive (WFD) requires the design of monitoring programmes for all Member States. The effectiveness of this implementation will highly depend on the ability of Member States' laboratories to measure chemical, biological and ecological changes of the quality of Community waters. As such data are the basis for regulatory decisions and measures required to achieve WFD environmental objectives, appropriate analytical quality assurance and control (QA/QC) has to be established across all EU monitoring laboratories. Consequently, the objectives of EAQC-WISE are: - to study existing QC tools and systems and scientific outputs suitable to set up a QC system to support the WFD implementation and future EU soil monitoring, - to undertake research surveys to identify QC gaps, notably for pre-normative research on difficult parameters and sampling operations with emphasis on priority substances and pollutants of Annex VIII, biological and ecological paramters in water, biota and soil, - to recommend key steps of a QC system that would provide confidence in the whole analytical process, from sampling to reporting, for chemical and biological parameters from monitoring at river basin scale as well as at European scale, - to exemplify the feasibility of the proposed system through a series of case studies and if necessary through additional demonstrator experiments, such as a sequence of pan-European comparison for sampling and trace analysis of selected components integrated with detailed scientific evaluations and training components, - to carry out an impact assessment of such a QC system ensuring data comparability at European level. The main output will be a blue print of an efficient and potentially sustainable QC system for WFD implementation. It will be disseminated via CIRCA and the WISE portal.

Partners

Nr	Part Legal Name	Town	Country
1	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS	France
2	COMMISSION OF THE EUROPEAN COMMUNITIES - JOINT RESEARCH CENTRE	BRUSSELS	Belgium
3	INSTITUT NATIONAL DE L'ENVIRONNEMENT INDUSTRIEL ET DES RISQUES	VERNEUIL EN HALATT	France
4	KEMIJSKI INSTITUT LJUBLJANA SLOVENIJA (NATIONAL INSTITUTE OF CHEMISTRY SLOVENIA)	LJUBLJANA	Slovenia
5	LGC LIMITED	TEDDINGTON MIDDLE	United Kingdom
6	WRc plc	SWINDON	United Kingdom
7	NETHERLANDS INSTITUTE FOR FISHERIES RESEARCH	IJMUIDEN	Netherlands
8	Ecologic - Institute for International and European Environmental Policy gGmbh	Berlin	Germany
9	RHEINISCH-WESTFAELISCHES INSTITUT FUER WASSERFORSCHUNG GEMEINNUETZIGE GMBH	MUELHEIM AN DER RU	Germany
10	UMWELTBUNDESAMT	DESSAU	Germany
11	Aquacheck Ltd	Bury, Lancashire	United Kingdom
12	ENVIRONMENTAL INSTITUTE, s.r.o.	KOS	Slovakia
13	ENTE PER LE NUOVE TECNOLOGIE, L' ENERGIA E L'AMBIENTE	Rome	Italy
14	BOKU - UNIVERSITAET FUER BODENKULTUR WIEN	WIEN	Austria
15	Mermayde	Bergen	Netherlands
16	SVERIGES PROVNINGS- OCH FORSKNINGSINSTITUT AB	BORAAS	Sweden
17	UNIWERSYTET WARSZAWSKI	WARSZAWA	Poland

Title: Science-Policy Interfacing in support of the Water Framework Directive implementation

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 1.569.844 €

Project status: Selected

EU contribution: 1.070.000 €

Duration: 24 months

Organisation: HydroScan

Leuven - BE

Co-ordinator: Dr Guido VAES

Abstract

Many current water-related RTD projects have already established operational links with practitioners, in several catchments / river basins, which allow the needs of policymakers to be taken into account. However, experience has shown that this interrelationship is not as efficient as it could / should be. Often, RTD results are not easily available to policy oriented implementer (policymakers) and, vice versa, research scientists may lack insight in the needs of policymakers. This project proposes a number of concrete actions to bridge these gaps in communication by developing and implementing a 'science-policy interface', focusing on setting up a mechanism to enhance the use of RTD results in the Water Framework Directive (WFD) implementation. As a first action, existing science-policy links will be investigated. RTD and LIFE projects that are of direct relevance for the implementation of the WFD will be identified and analysed. The results of these projects will be extracted, 'translated' and synthesised in a way that can efficiently feed the WFD implementation. Secondly, an information system (WISE-RTD Web Portal) will be further developed to cater for an efficient and easy to use tool for dissemination as well as retrieval of RTD results. The Web Portal will be tested in 4 selected river basins to better tune the 'product' to the needs of WFD stakeholders, policymakers and scientists. In parallel, the Web Portal will be disseminated to WFD stakeholders. This dissemination will focus on how to better access and use the RTD results and practical experiences. As third action, this science-policy interfacing of WFD related topics will be extended to non-EU countries taking into account their specific needs. An assessment of recent practices and needs of non-EU countries, together with an in-depth analysis of the operational needs in two Mediterranean pilot river basins, will allow to prepare recommendations for an efficient transfer of knowledge.

Partners

Nr	Part Legal Name	Town	Country
1	HydroScan	Leuven	Belgium
2	QualityConsult - Associazione per lo sviluppo della qualità ambientale	Rome	Italy
3	Institute for Inland Water Management and Waste Water Treatment	Lelystad	Netherlands
4	Mediterranean Network of Basin Organisations	Valencia	Spain
5	Environment Agency of England and Wales	Bristol	United Kingdom
6	XPRO Consulting Limited	Nicosia	Cyprus
7	Eric Evrard	Brussels	Belgium
8	National Technical University of Athens	Zographou	Greece
9	Katholieke Universiteit Leuven	Leuven	Belgium
10	Potsdam Institute for Climate Impact Research	Potsdam	Germany
11	Office International de l'EAU	Paris	France
12	2Mpact N.V.	Ghent	Belgium
13	Aristotle University of Thessaloniki	Thessaloniki	Greece
14	WWF European Policy Programme	Rome	Italy
15	Litani River Authority	Beirut	Lebanon
16	Sebou River Basin Organisation	-	Morocco

Project URL: http://www.switchurbanwater.eu/

Title: Sustainable Water management Improves Tomorrow's Cities' Health

Instrument: Integrated Project (IP)

Project total cost: 22.253.171 €

Contract start date: 1/02/2006

EU contribution: 14.749.996 €

Duration: 60 months

Organisation: UNESCO-IHE INSTITUTE FOR WATER EDUCATION

DELFT - Netherlands

Co-ordinator: Prof Huub Gijzen

Abstract

Context: With increasing global change pressures, and due to existing limitations, and un-sustainability factors and risks of conventional urban water management (UWM), cities experience difficulties in efficiently managing the ever scarcer water resources, their uses/services, and their after-use disposal, without creating environmental, social and/or economic damage. In order to meet these challenges, SWITCH calls for a paradigm shift in UWM. There is a need to convert ad-hoc actions (problem/incident driven) into a coherent and consolidated approach (sustainability driven). This calls for an IP Approach. Research conceptSWITCH therefore proposes an action research project which has as a main objective: The development, application and demonstration of a range of tested scientific, technological and socio-economic solutions and approaches that contribute to the achievement of sustainable and effective UWM schemes in 'The City of the future'.The project will be implemented by different combinations of consortium partners, along the lines of seven complementary and interactive themes. The research approach is innovative for the combination of: action research: address problems through innovation based upon involvement of users.learning alliances: to link up stakeholders to interact productively and to create win-win solutions along the water chain; multiple-way learning: European cities learn from each other and from developing countries, and vice versa.multiple-level or integrated approach: to consider the urban water system and its components (city level) in relation to its impacts on, and dependency of, the natural environment in the river basin (river basin level), and in relation to Global Change pressures (global level).Instruments and scopeAn IP with 30 partners, their resources, and a total budget of 25,191,396 EURO including budget for demonstration activities in 9 Cities in Europe and developing countries.

Partners

Nr	Part Legal Name	Town	Country
1	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	DELFT	Netherlands
2	STICHTING INTERNATIONAL REFERENCE CENTRE FOR COMMUNITY WATER SUPPLY AND SANITATION (IRC)	DELFT	Netherlands
3	STICHTING ETC	LEUSDEN	Netherlands
4	WAGENINGEN UNIVERSITEIT.	WAGENINGEN	Netherlands
5	MIDDLESEX UNIVERSITY HIGHER EDUCATION CORPORATION	LONDON	United Kingdom
6	UNIVERSITY OF BIRMINGHAM	BIRMINGHAM	United Kingdom
7	OVE ARUP & PARTNERS LIMITED	LONDON	United Kingdom
8	UGMT LIMITED	GREENWICH - LONDO	United Kingdom
9	TECHNISCHE UNIVERSITAET HAMBURG HARBURG	HAMBURG	Germany
10	MEKOROT WATER COMPANY ISRAEL	TEL AVIV	Israel
11	THE HEBREW UNIVERSITY OF JERUSALEM.	JERUSALEM	Israel
12	CHONGQING UNIVERSITY	CHONGQING	China (People's Republi
13	INSTITUTE OF GEOGRAPHICAL SCIENCES AND NATURAL RESOURCES RESEARCH, CHINESE ACADEMY OF SCIENCES	BEIJING	China (People's Republi
14	AYUNTAMIENTO DE ZARAGOZA	ZARAGOZA	Spain
15	UNIWERSYTET LODZKI	LODZ	Poland
16	INTERNATIONAL WATER MANAGEMENT INSTITUTE	COLOMBO	Sri Lanka
17	KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI	KUMASI	Ghana
18	BELO HORIZONTE PREFEITURA	BELO HORIZONTE	Brazil
19	UNIVERSIDADE FEDERAL DE MINAS GERAIS	BELO HORIZONTE	Brazil
20	ICLEI EUROPEAN SECRETARIAT GMBH	FREIBURG	Germany
21	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	LAUSSANE	Switzerland
22	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	ATHENS	Greece

23	UNIVERSIDAD DEL VALLE	CALI	Colombia
24	IPES - PROMOCION DEL DESARROLLO SOSTENIBLE	LIMA	Peru
25	INGENIEURGESELLSCHAFT PROF. DR. SIEKER. MBH	DAHLWITZ-HOPPEGAR	Germany
26	TECHNISCHE UNIVERSITAET BERLIN	BERLIN	Germany
27	LOUGHBOROUGH UNIVERSITY	LOUGHBOROUGH	United Kingdom
28	HOUSE OF WATER AND ENVIRONMENT	Al BIREH - RAMALLAH	Cisjordanie / West Bank
29	CENTRE FOR ENVIRONMENT AND DEVELOPMENT FOR THE ARAB REGION AND EUROPE	CAIRO	Egypt
30	UNIVERSIDAD NACIONAL DE COLOMBIA	BOGOTA	Colombia
31	UNIVERSITY OF ABERTAY DUNDEE	DUNDEE	United Kingdom
32	FREIE UND HANSESTADT HAMBURG	HAMBURG	Germany

Title: Innovative and integrated technologies for the treatment of industrial wastewater

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 5.023.215 €

Project status: Selected

EU contribution: 2.750.000 €

Duration: 36 months

Organisation: Consiglio Nazionale delle Ricerche

ROMA - IT

Co-ordinator: Dr Antonio Lopez

Abstract

The main objective of the proposed project is to investigate, assess and significantly enhance the potentiality of promising technological options (i.e., technologies, processes and concepts) for the treatment of industrial wastewater with the specific aim to provide tailor-made solutions to end-users for a wide range of wastewaters. Such solutions will be essentially based on the improved integration of the investigated options and on technological improvements with respect to treatment system components, operation and control. Referring to the investigated options and the envisaged technological solutions, the project's goals are: 1) Detailed investigation and performance enhancement of promising wastewater treatment options such as aerobic granulation, advanced oxidation processes (AOP) and membrane-based hybrid processes; 2) Achieving fundamental and technological knowledge advancements necessary for advanced wastewater treatment application in different industrial sectors; 3) Assessing the economic and environmental sustainability of promising wastewater treatment options; 4) Developing integrated tailor-made solutions for end-users in different industrial sectors; 5) Transferring the developed know-how to potential end-users inside and outside the project; 6) Favoring their actual implementation for enhancing the EU Water Industry competitiveness. In order to achieve such goals, coordinated research activities will be carried out on selected options treating different types of wastewater. The experiences from such activities will be merged to define tailor-made solutions for end-users in different industrial sectors. A major goal will be the definition of treatment needs and framework conditions for a wide range of wastewaters based on the features of the options investigated (i.e., aerobic granulation, AOP combined processes, membrane contactors, membrane chemical reactors).

Partners

Nr	Part Legal Name	Town	Country
1	CONSIGLIO NAZIONALE DELLE RICERCHE	ROMA	Italy
2	Rheinisch-Westfaelische Technische Hochschule Aachen	Aachen	Germany
3	Delft University of Technology,	Delft	Netherlands
4	IVL Swedish Environmental Research Institute Ltd	Stockholm	Sweden
5	Cranfield University	Bedford	United Kingdom
6	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	LAUSANNE	Switzerland
7	CENTRO DE INVESTIGACIONES ENERGÉTICAS, MEDIOAMBIENTALES Y TECNOLOGICAS	MADRID	Spain
8	Norwegian Institute for Water Research	Oslo	Norway
9	SolSep BV	Apeldoorn	Netherlands
10	Bayer MaterialScience AG	Krefeld	Germany
11	WEDECO GmbH	Herford	Germany
12	Austep Austeam Environmental Protection Srl	Milano	Italy
13	ALBAIDA recursos naturales y medio ambiente, s.a.	ALMERIA	Spain
14	AnoxKaldnes	Lund	Sweden
15	Water Innovate Ltd.	Cranfield	United Kingdom
16	DHV	Amersfoort	Netherlands
17	Advanced Wastewater Management Centre The University of Queensland	St. Lucia	Australia

Title: New sustainable concepts and processes for optimization and upgrading municipal wastewater and sludge treatment

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 4.908.100 €

Project status: Selected

EU contribution: 2.800.000 €

Duration: 36 months

Organisation: Eidgenössische Anstalt für Wasserversorgung Abwasserreinigung und Gewässerschutz

Duebendorf - CH

Co-ordinator: Prof. Hansruedi Siegrist

Abstract

The scope of sewage treatment is changing: Up to date municipal wastewater treatment plants (WWTP) were seen as an end-of-pipe treatment just before discharge, having the aim to avoid eutrophication and hygienic health hazard in surface water. Due to the global demographic trends as well as new legislations (e.g. the Water Framework Directive, WFD) increased focus is put on quantity and quality of effluents: WWTP are more and more seen as interface between sanitation and environment, delivering resources to the environment or human activities (recharge of drinking water reservoirs, recycling of nutrient, efficient energy use). This focus shift has implications on the quality goals set for WWTP products: • land requirement • effluent N, P load • effluent pathogen load • energy optimization New focus: •nutrient recycling • micropollutants: ecotoxicology of the effluent • energy production NEPTUNE is focusing on technology solutions allowing to meet present and future standards via upgrading of existing infrastructure (new control strategies with online sensors; effluent upgrading with oxidation, activated carbon or wetland treatment; sludge processing for safe nutrient recycle) as well as via new techniques (fuel cell applications; new oxidative agents; polymer production from sludge). By including pathogen and ecotoxicity aspects into life cycle assessment studies (LCA), the project is helping improve the comparability of various technical options and propose a suitability ranking. The new focus given by the WFD and the emerging interest on organic (eco-)toxic compounds requires characterizing treated effluent and treatment technologies concerning ecotoxicologic aspects and micropollutants. The project is contributing to this discussion by ecotoxicity assessment and micropollutant fate studies.

Partners

Nr	Part Legal Name	Town	Country
1	Eidgenössische Anstalt für Wasserversorgung Abwasserreinigung und Gewässerschutz	Duebendorf	Switzerland
2	Bundesanstalt für Gewässerkunde (Federal Institute of Hydrology)	Koblenz	Germany
3	Laboratory of Microbial Ecology and Technology, UGent	Gent	Belgium
4	Consiglio Nazionale delle Ricerche	Rome	Italy
5	University of Frankfurt	Frankfurt am Main	Germany
6	Technical University of Denmark, Department of Manufacturing, Engineering and Management	Kgs. Lyngby	Denmark
7	NATIONAL INSTITUTE OF RESEARCH AND DEVELOPMENT FOR ISOTOPIC AND MOLECULAR TECHNOLOGY	Cluj-Napoca	Romania
8	Aquafin NV	Aartselaar	Belgium
9	Deutsche Projekt Union GmbH	Cologne	Germany
10	Institute for Product Development	Kgs. Lyngby	Denmark
11	SILUET B - Blaga Petrova	Varna	Bulgaria
12	Pyromex AG	Rotkreuz	Switzerland
13	Gebr. Hunziker AG engineering company	8411 Winterthur	Switzerland
14	SCAN MESSTECHNIK GMBH	Wien	Austria
15	CAMBI A/S	Asker	Norway
16	AnoxKaldnes Biopolymer AB	Lund	Sweden
17	Université Laval	Québec	Canada
18	The University of Queenland	Brisbane	Australia

Title: Source control of priority substances in Europe

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.103.000 €

Project status: Selected

EU contribution: 1.720.000 €

Duration: 36 months

Organisation: IVL Swedish Environmental Research Institute Ltd.

Stockholm - SE

Co-ordinator: Dr John Munthe

Abstract

With the new regulations included in the Water Framework Directive (WFD) (2000/60/EC), new strategies are needed for control of Priority pollutants (PP). For decision making and implementation of the WFD, the industrial sector, local water authorities and EU policy makers need guidelines for the selection and introduction of feasible and cost-effective measures. The overall objective of this project is to support the implementation process for the WFD by providing guidelines and decision support tools for the management of priority pollutants. To fulfil this overall objective the following activities are proposed: - To conduct a material flow analysis for selected priority pollutants. - To evaluate available and emerging measures and management options for PPs. - To develop a decision support tool for identification and selection of relevant measures on European, national and regional level. - T evaluate different potential measures by applying the decision support tools in case studies. - To facilitate the development of collective action plans (i.e. river basin management plans) involving all stakeholders (industries, authorities, citizens, NGOs). - To disseminate results to stake-holders and to strongly interact with industrial organisations, research networks, authorities and NGOs. A Stakeholder Advisory Group (SAG) will be formed with representatives from industries, authorities and NGOs. The SAG will be consulted during all steps in the process of collecting information, developing the decision support tool and the suggested set of management measures. The cooperation with the industrial sector, the different authorities and other stakeholders (public, NGOs) will ensure the accuracy and relevance of basic data collection, as well as the applicability, acceptance and relevance of the results from this project.

Partners

Nr	Part Legal Name	Town	Country
1	IVL Swedish Environmental Research Institute Ltd.	Stockholm	Sweden
2	The Netherlands Organisation of Applied Scientific Research	Delft	Netherlands
3	INSTITUT NATIONAL DE L'ENVIRONNEMENT INDUSTRIEL ET DES RISQUES	VERNEUIL EN HALATT	France
4	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
5	Norsk institutt for luftforskning	Kjeller	Norway
6	Institute for Ecology of Industrial Areas/International Scientific Thematic Network of Environmental Technologies	Katowice	Poland
7	Suomen ympäristökeskus	Helsinki	Finland
8	Water Research Institute	Bratislava	Slovakia
9	Kiwa N.V.	Rijswijk	Netherlands
10	University of Southampton, School of Civil Engineering & the Environment	Southampton	United Kingdom

Title: Source control options for reducing emissions of priority pollutants

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.961.192 €

Project status: Selected

EU contribution: 2.600.000 €

Duration: 36 months

Organisation: Danmarks Tekniske Universitet (Technical University of Denmark)

Kgs. Lyngby - DK

Co-ordinator: Dr. Peter Steen Mikkelsen

Abstract

The overall aim of the SCOREPP project is to develop comprehensive and appropriate source control strategies that authorities, cities, water utilities and chemical industry can employ to reduce emissions of priority pollutants (PPs) from urban areas into the receiving water environment. The SCOREPP project focuses on the 33 priority substances identified in the Water Framework Directive (WFD), and specifically on the 11 priority hazardous substances. However, this list may be expanded to include emerging pollutants or reduced if appropriate model compounds can be identified, depending on the local context. The specific scientific objectives of the SCOREPP project are to identify the sources of PPs in urban areas, to identify and assess appropriate strategies for limiting the release of PPs from urban sources and for treating PPs on a variety of spatial scales. Furthermore to develop GIS-based spatial decision support tools for identification of appropriate emission control measures, to develop integrated dynamic urban scale source-and-flux models that can be used to assess the effect of source control options on PP-emissions and to optimise monitoring programmes, and to assess the direct and indirect costs, the cost-effectiveness and the wider societal implications of source control strategies. The developed approaches, models and assessments will be used to formulate a set of appropriate PP-emission reducing strategies, and a multi-criteria approach will be used to compare and evaluate these strategies in relation to their economic, societal and environmental impacts. The SCOREPP project will interact with the European chemical industry and water utility trade associations together with representatives from ministerial, regional, municipal and community organisations to ensure that these key urban stakeholders can provide input to framing the scope of the project, adapting the project outcomes and communicating the results of the project to a wide audience.

Partners

Nr	Part Legal Name	Town	Country
1	Danmarks Tekniske Universitet (Technical University of Denmark)	Kgs. Lyngby	Denmark
2	Middlesex University Higher Education Corporation	London	United Kingdom
3	Ghent University	Gent	Belgium
4	Anjou Recherche	Maisons Laffitte	France
5	ENVICAT Consulting	WAVRE	Belgium
6	University of Ljubljana Faculty of Civil and Geodetic Engineering	LJUBLJANA	Slovenia
7	Desenvolupament i Societat Estudis S A	Barcelona	Spain
8	City of Stockholm, Environment and Health Administration	Stockholm	Sweden
9	Université Laval	Québec	Canada

Title: Integrated high resolution imaging ground penetrating radar and decision support system for WATER PIPEline rehabilitation

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.337.717 €

Project status: Selected

EU contribution: 2.155.000 €

Duration: 36 months

Organisation: Institute of Communications and Computer Systems

Athens - GR

Co-ordinator: Prof Nikolaos Uzunoglu

Abstract

Many EU cities are experiencing increasing problems with their water pipeline infrastructure. The cost of replacing these old, worn-out systems, if left to deteriorate beyond repair, is astronomical and clearly beyond the resources of many communities. Replacement, however, is not the only choice as many of these systems can be rehabilitated at 30 to 70 percent of the cost of replacement. Accordingly, resources are now increasingly being allocated to address pipeline rehabilitation management issues. Due to the emphasis on sustainable management, risk-based approaches for the rehabilitation management of the water supply network need to be developed. Rehabilitation decisions should be based, inter alia, on inspection and evaluation of the pipeline conditions. Yet, utilities cannot locate a number of their old pipes and current inspection technologies typically do not provide the needed detailed information on pipeline damage. The objectives of this work are: 1. To develop a novel, high resolution imaging ground penetrating radar for the detection of pipes, leaks and damages and the imaging of the damaged region and evaluate it at a test site. 2. To produce an integrated system that will contain the equipment in '1' and a Decision-Support-System (DSS) for the rehabilitation management of the underground water pipelines that will use input from the inspections to assess, probabilistically, the time-dependent leakage and structural reliability of the pipelines and a risk-based methodology for rehabilitation decisions that considers the overall risk, including financial, social and environmental criteria. 3. To field test the equipment and the DSS.

Partners

Nr	Part Legal Name	Town	Country
1	Institute of Communications and Computer Systems	Athens	Greece
2	Azienda Mediterranea Gas e Acqua S.p.a.	Genova	Italy
3	Regia Autonoma Aquaserv	Tirgu-Mures	Romania
4	PIPEHAWK PLC	Alton	United Kingdom
5	Huberg di Huber Guenther & C. S.a.s.	Bolzano	Italy
6	HYDROSAVE UK LTD	Ketterig	United Kingdom
7	TECNIC Consulting Engineers S.p.A.	Roma	Italy
8	RISA Sicherheitsanalysen GmbH	Berlin	Germany
9	Advanced Microwave Systems Ltd.	Athens	Greece
10	Tbilisi State University, Laboratory of Applied Electrodynamics	Tbilisi	Georgia
11	Istanbul Technical University	Istanbul	Turkey

Title: Optimised Radar to Find Every buried Utility in the street

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 5.042.440 €

Project status: Selected

EU contribution: 2.700.000 €

Duration: 36 months

Organisation: OSYS Technology Limited

Newcastle upon Tyne - UK

Co-ordinator: Mr Howard Frederick Scott

Abstract

This project addresses the requirement for advanced technologies for locating, maintaining and rehabilitating buried infrastructures (area II.3.3). Specifically it fulfils the requirement for locating buried assets. Ground Penetrating Radar (GPR) is the only known non-invasive technique that can detect metallic and non-metallic buried objects, but conventional pulse time-domain technology has reached the limit of its development potential. This project will use innovative techniques to provide a clear advance in the state of the art. The project has three major objectives: • To provide a step change in the depth penetration and spatial resolution of GPR used for surveys carried out from the ground surface. This will be achieved by increasing the frequency and dynamic range of the radar by researching and developing Stepped Frequency Continuous Wave techniques and ultra wide-band antennas whose performance is independent of ground characteristics. • To prototype an innovative GPR-based real-time obstacle detection system for steerable bore- heads of Horizontal Directional Drilling (HDD) pipe and cable laying systems so that they can operate more safely below ground. This will require new antenna designs to be developed to provide a look-ahead capability and robust systems to be designed to protect against the hostile mechanical environment • To increase knowledge of the electrical behaviour of the ground, by means of in-situ measurements to enhance understanding of the sub-soil electrical environment, and to provide information for scientifically based antenna design. The project will lead to practical solutions that can be implemented cost-effectively to provide a capability to locate buried infrastructure with accuracy and reliability. This will reduce the need for excavations in the highway, thus minimising direct and indirect costs, reducing the incidence of pollution and enhancing safety.

Partners

Nr	Part Legal Name	Town	Country
1	OSYS Technology Limited	Newcastle upon Tyne	United Kingdom
2	IDS INGEGNERIA DEI SISTEMI	PISA	Italy
3	Gaz de France	PARIS	France
4	Tracto-Technik Spezialmaschinen GmbH	Lennestadt	Germany
5	UK Water Industry Research Ltd	LONDON	United Kingdom
6	EUROPEAN UNION OF THE NATURAL GAS INDUSTRY - EUROPEAN GAS RESEARCH GROUP	BRUSSELS	Belgium
7	Delft University of Technology, Department of Geotechnology	Delft	Netherlands
8	Università degli Studi di Firenze	Firenze	Italy
9	VYSOKÉ UCENÍ TECHNICKÉ V BRNE	BRNO	Czech Republic

Title: Knowledge and Need Assessment on Pharmaceutical Product in Environmental Waters

Instrument: Specific Support Action (SSA)

Project total cost: 877.012 €

Project status: Selected

EU contribution: 630.000 €

Duration: 18 months

Organisation: Association pour la Recherche et le Développement des Méthodes et Processus Industriels

Paris - FR

Co-ordinator: Mr Benoît ROIG

Abstract

The presence of pharmaceutical and veterinary products or even illicit drugs in the environment provokes harmful and very worrisome consequences. During the last decade, the consumption of these substances reached '12500' tons and their use does not stop increasing. These substances are partially metabolised by the body, but thousand tons are rejected in the environment, every year, by way of human or animal excretions. The rates of elimination of these various products and their metabolites by classic wastewaters treatments are variable, and some actual techniques are not effective enough to insure their total elimination. On the basis of European projects and dedicated literature, the objectives of this project is to provide a holistic assessment of the impacts of PPs on the European environment by pulling together results of previous and ongoing EU projects and published data. More precisely, it aims to aggregate the knowledge available on pharmaceutical products (PP) in environment and to propose priority actions to be taken in order to limit the environmental and health effects of these molecules. The knowledge concerns the identification of all pharmaceutical molecules founded in European water, their described impact on ecosystems and aquatic and terrestrial organisms, their elimination, the current analytical methods of control and finally the new development in detection. A typology of pharmaceutical products according to environmental management and risk assessment of PP will be proposed. This approach can be considered as a decision making tool and appears to be relevant for stakeholders such as environmental managers, regulatory institutions and industrials.

Partners

Nr	Part Legal Name	Town	Country
1	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France
2	University of Portsmouth Higher Education Corporation	Portsmouth	United Kingdom
3	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
4	Bureau de Recherches Geologiques et Minieres	PARIS	France
5	University of York	York	United Kingdom
6	Bundesanstalt für Gewässerkunde (Federal Institute of Hydrology)	Koblenz	Germany
7	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forets	ANTONY	France
8	Ecologic- Institute for International and European Environmental Policy gGmbH	Berlin	Germany
9	Université de Sherbrooke	Sherbrooke, Québec	Canada
10	Politechnika Slaska	Gliwice	Poland

ALERT

505329

Project URL: http://coastal-alert.bgs.ac.uk

Title: Sustainable Management of Water Resources by Automated Real-Time Monitoring

Instrument:	Specific Targeted Research Project (STREP)	
Project total cost:	3.475.818 €	Contract start date: 1/06/2004
EU contribution:	2.400.000 €	Duration: 36 months
Organisation:	NATURAL ENVIRONMENT RESEARCH COUNCIL	SWINDON - United Kingdom
Co-ordinator:	Dr Richard D Ogilvy	

Abstract

ALERT aims to develop a radically different strategy for monitoring and managing the impact of climatic change and land-use practice on scarce water resources. Innovative ALERT technology will be designed that will allow the near real-time measurement of geoelectric, hydrology and hydrochemical properties, virtually "on demand", thereby giving early warning of potential threats to ecosystems, and vulnerable water systems. The project will focus primarily on coastal zones where aquifers are under threat from over-exploitation, rising sea levels, anthropogenic pollutants and seawater intrusion. New and proven sensors and data capture devices will be permanently deployed in-situ, within a unified platform (ALERT hydro-station) at a test site in Almería, Spain. The site will be interrogated from the office by novel modem/telemetric and satellite links to provide volumetric images of the subsurface at regular intervals; thereby obviating the need for expensive repeat surveys and manual intervention. New 3D/4D time-lapse image reconstruction algorithms will be developed for distributed buried and borehole arrays. The volumetric electrical images (in space and time) will be transformed into hydrology properties and processes through the further development of mathematical relationships, derived from controlled laboratory studies. These datasets will be used to constrain a predictive hydrogelogical modelling capability. Innovative statistical techniques will be developed to assist up-scaling from the site model to catchment scale. A web-based GIS will be designed with new data fusion, risk analysis and decision support tools to facilitate the sustainable management of water resources in coastal zones. Scenario modelling based on stochastic and Bayesian networks will address the wider societal implications of the proposed work, including the economic, cultural and political issues, in the context of current and planned EU directives.

Partners

Nr	Part Legal Name	Town	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL	SWINDON	United Kingdom
2	FORSCHUNGSZENTRUM JUELICH GMBH	JUELICH	Germany
3	KOBENHAVNS UNIVERSITET	KOEBENHAVN K	Denmark
4	UNIVERSIDAD DE ALMERIA	ALMERIA	Spain
5	UNIVERSITE CATHOLIQUE DE LOUVAIN	LOUVAIN-LA-NEUVE	Belgium
6	ARISTOTELEIO PANEPISTIMIO THESSALONIKIS - ARISTOTLE UNIVERSITY OF THESSALONIKI	THESSALONIKI	Greece
7	INDUSTRIAL RESEARCH INSTITUTE FOR AUTOMATION AND MEASUREMENTS	Warsaw	Poland
8	ESCO sp. zo.o	Warsaw	Poland
9	GEOTOMOGRAPHIE	Neuwied	Germany
10	UNIVERSITE CADI AYYAD	MARRAKECH	Morocco
11	INSTITUT NATIONAL AGRONOMIQUE DE TUNISIE	TUNIS MAHRAJENE (CI	Tunisia

Project URL: http://www.aquastress.net/

Title: Mitigation of Water Stress through new Approaches to Integrating Management, Technical, Economic and Institutional Instruments

Instrument: Integrated Project (IP)

Project total cost: 14.086.618 €

Contract start date: 1/02/2005

EU contribution: 10.300.000 €

Duration: 48 months

Organisation: CONSIGLIO NAZIONALE DELLE RICERCHE

ROMA - Italy

Co-ordinator: Prof. Roberto Passino

Abstract

Water stress is a global problem with far-reaching economic and social implications. The mitigation of water stress at regional scale depends not just on technological innovations, but also on the development of new integrated water management tools and decision-making practices. The AquaStress IP delivers enhanced interdisciplinary methodologies enabling actors at different levels of involvement and at different stages of the planning process to mitigate water stress problems. This IP draws on both academic and practitioner skills to generate knowledge in technological, operational management, policy, socio-economic, and environmental domains. Contributions come from 36 renowned organizations from 17 Countries, including 6 SMEs. The IP will generate scientific innovations to improve the understanding of water stress from an integrated multisectoral perspective to support: - diagnosis and characterisation of sources and causes of water stress - assessment of the effectiveness of water stress management measures and development of new tailored options - development of supporting methods and tools to evaluate different mitigation options and their potential interactions - development and dissemination of guidelines, protocols, and policies - development of a participatory process to implement solutions tailored to environmental, cultural, economic and institutional settings - identification of barriers to policy mechanism implementation - continuous involvement of citizens and institutions within a social learning process that promotes new forms of water culture and nurtures long-term change and social adaptivity. The IP adopts a Case Study stakeholder driven approach and is organised in three phases; (i) characterisation of selected reference sites and relative water stress problems, (ii) collaborative identification of preferred solution options, (iii) testing of solutions according to stakeholder interests and expectations.

Partners

Nr	Part Legal Name	Town	Country
1	CONSIGLIO NAZIONALE DELLE RICERCHE	ROMA	Italy
2	UNIVERSITY OF READING	READING	United Kingdom
3	RIJKSINSTITUUT VOOR INTEGRAAL ZOETWATERBEHEER EN AFVALWATERBEHANDELING	LELYSTAD	Netherlands
4	CRANFIELD UNIVERSITY	BEDFORD	United Kingdom
5	UNIVERSITY OF PIRAEUS	PIRAEUS	Greece
6	UNIVERSITY COLLEGE LONDON	LONDON	United Kingdom
7	UNIVERSITAET OSNABRUECK	OSNABRUECK	Germany
8	ALTERRA B.V.	WAGENINGEN	Netherlands
9	RHEINISCH - WESTFALISCHE TECHNISCHE HOCHSCHULE AACHEN	AACHEN	Germany
10	CENTRE NATIONAL DU MACHINISME AGRICOLE, DU GENIE RURAL DES EAUX ET DES FORETS	ANTONY	France
11	NATURAL ENVIRONMENT RESEARCH COUNCIL	WALLINGFORD	United Kingdom
13	UNIVERSITAET HANNOVER	HANNOVER	Germany
14	UNIVERSITY OF EXETER	EXETER	United Kingdom
15	UNIVERSITAT DE BARCELONA	BARCELONA	Spain
16	SC APA NOVA BUCURESTI SA	BUCHAREST	Romania
17	GEONARDO ENVIRONMENTAL TECHNOLOGIES LTD	BUDAPEST	Hungary
18	STICHTING WATERLOOPKUNDIG LABORATORIUM	DELFT	Netherlands
19	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	DELFT	Netherlands
20	AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA	ROMA	Italy
21	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	ATHENS	Greece
22	ISTITUTO AGRONOMICO MEDITERRANEO DE BARI	VALENZANO	Italy
23	HYDRODATA SPA	TORINO	Italy

24	CENTRE DE COOPERATION INTERNATIONALE EN RECHERCHE AGRONOMIQUE POUR LE DEVELOPPEMENT	PARIS	France
25	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	PARIS	France
26	HIDROMOD - MODELACAO EM ENGENHARIA Lda	LISBOA	Portugal
27	DHI - INSTITUT FOR VAND OG MILJOE	HOERSHOLM	Denmark
28	WAGENINGEN UNIVERSITEIT	WAGENINGEN	Netherlands
29	INNOVATION & DEVELOPMENT CONSULTING	BRUSSELS	Belgium
30	FACULDADE DE ENGENHARIA DA UNIVERSIDADE DO PORTO	PORTO	Portugal
31	HYDROCONTROL - CENTRO DI RICERCA E FORMAZIONE PER IL CONTROLLO DEI SISTEMI IDRICI	CAPOTERRA	Italy
32	POLITECHNIKA KRAKOWSKA	CRACOW	Poland
33	UNIVERSITY OF ARCHITECTURE, CIVIL ENGINEERING AND GEODESY	SOFIA	Bulgaria
34	AEOLIKI Foundation	NICOSIA	Cyprus
35	INSTITUT NATIONAL AGRONOMIQUE DE TUNISIE	TUNIS	Tunisia
36	INSTITUT AGRONOMIQUE ET VETERINAIRE HASSAN II	RABAT	Morocco

Project URL: http://www.reclaim-water.org/

Title: Water reclamation technologies for safe artificial groundwater recharge

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 5.214.732 €

Contract start date: 1/10/2005

EU contribution: 3.000.000 €

Duration: 36 months

Organisation: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

AACHEN - Germany

Co-ordinator: Prof. Thomas Melin

Abstract

Solutions to global water stress problems are urgently needed yet must be sustainable, economical and safe. The utilisation of alternative water sources like reclaimed municipal wastewater is one of the most obvious and promising options in integrated water management. Among the various beneficial uses of reclaimed wastewater Aquifer Recharge (AR) receives growing attention because it features advantages such as additional natural treatment, storage capacity to buffer seasonal variations of supply and demand as well as mixing with natural water bodies which promotes the acceptance of further uses, particularly indirect potable use. Major concerns about the safety of this exploitation route of an alternative water source are connected to microbial and chemical contaminants occurring in wastewater, among which are emerging trace organics like endocrine disrupters and pharmaceuticals. The strategic objective of this proposal is to develop hazard mitigation technologies for water reclamation providing safe and cost effective routes for artificial groundwater recharge. The proposed work will assess different treatment applica-tions in terms of behaviour of key microbial and chemical contaminants. The knowledge generated in the project and the technologies developed will also be suited to the needs of developing countries, which have a growing need of supplemen-tation of freshwater resources. The participation of partners from China and Australia demonstrate the anticipation of the global dimension of the water reclamation and aquifer recharge issue.The proposed project will strategically support the competitiveness of European technology suppliers and water services in the context of water reclamation and groundwater recharge.

Partners

Nr	Part Legal Name	Town	Country
1	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	AACHEN	Germany
2	CONSIGLIO NAZIONALE DELLE RICERCHE	ROMA	Italy
3	TECHNISCHE UNIVERSITAET BERLIN	BERLIN	Germany
4	EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	DUEBENDORF	Switzerland
5	CRANFIELD UNIVERSITY	BEDFORDSHIRE	United Kingdom
6	UNIVERSITAT DE BARCELONA	BARCELONA	Spain
7	DHI - INSTITUT FOR VAND OG MILJOE	HOERSHOLM	Denmark
8	INSTITUT ZA EKOLOSKI INZENIRING D.O.O.	MARIBOR	Slovenia
9	LODE DIAGNOSTICS BV	Groningen	Netherlands
10	MEKOROT WATER COMPANY ISRAEL	Tel Aviv	Israel
11	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	DELFT	Netherlands
12	BUNDESANSTALT FUER GEWAESSERKUNDE	KOBLENZ	Germany
13	TSINGHUA UNIVERSITY	BEIJING	China (People's Republi
14	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	PARIS	France
15	AQUAFIN N.V.	Aartselaar	Belgium
16	UNITED WATER INTERNATIONAL Pty. Ltd.	Adelaide	Australia

Project URL: http://www.uni-goettingen.de/en/kat/20946.html

Title: Groundwater Artificial recharge Based on Alternative sources of wateR: aDvanced INtegrated technologies and managEment

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.358.729 €

Contract start date: 1/11/2005

EU contribution: 2.499.770 €

Duration: 36 months

Organisation: GEORG-AUGUST-UNIVERSITAET GOETTINGEN

GOETTINGEN - Germany

Co-ordinator: Prof. Martin Sauter

Abstract

Aquifers are the main source of water in most semi-arid areas of the Mediterranean basin. As a result of over-exploitation hydrologic deficits of varying acuity prevail in these areas. Seawater intrusion and pollution have been identified as the primary factors for quality degradation. Further deterioration can be expected based on trends in the precipitation regime attributed to climate change. The objective of this project is to identify alternative sources of water and to investigate the feasibility, both environmental and economic of their utilization. Alternative water sources to be artificially recharged comprise: surface water runoff, treated effluent, and imported water. Furthermore, brackish water bodies, present in many aquifers could be utilised after desalination. The project structured into eight work-packages comprehensively addresses all issues related to the problem: expected precipitation rates, recharge and water budgets, identification of potential alternative water sources and technologies for their utilization, development of tools for the management of groundwater resources under artificial recharge conditions, aquifer vulnerability assessment, characterization of the unsaturated zone, and mixing effects. Four test sites have been selected for practical application of the approach. Substantial field testing, integration of technologies and findings to ensure optimal implementations of aquifer recharge alternatives, quantification of socio-economic impacts and development of dissemination platform are planned. Finally a carefully designed project management shall drive and accompany the project execution in order to ascertain consistency and efficiency.

Partners

Nr	Part Legal Name	Town	Country
1	GEORG-AUGUST-UNIVERSITAET GOETTINGEN	GOETTINGEN	Germany
2	UNIVERSITAT POLITECNICA DE CATALUNYA	BARCELONA	Spain
3	LABORATORIO NACIONAL DE ENGENHARIA CIVIL	LISBOA	Portugal
4	TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY.	HAIFA	Israel
5	UNIVERSITE DE LIEGE	LIEGE	Belgium
6	ARISTOTELIO PANEPISTIMIO THESSALONIKIS	THESSALONIKI	Greece
7	GEOLOGICAL AND GEOPHYSICAL CONSULTANTS - GEOSERVICE	ATHENS	Greece
8	THESSALONIKI WATER SUPPLY AND SEWERAGE COMPANY S.A.	THESSALONIKI	Greece
9	THE UNIVERSITY OF NOTTINGHAM	NOTTINGHAM	United Kingdom
10	PALESTINIAN HYDROLOGY GROUP FOR WATER AND ENVIRONMENTAL RESOURCES DEVELOPMENT	RAMALLAH	Cisjordanie / West Bank
11	PALESTINIAN WATER AUTHORITY	RAMALLAH -WEST BA	Cisjordanie / West Bank
12	ENVIRONMENTAL & WATER RESSOURCES ENGINEERING LTD	HAIFA	Israel
13	ISRAEL WATER COMMISSION	TEL-AVIV	Israel
14	CENTRUL PENTRU DEZVOLTARE ECONOMICA	BUCHAREST	Romania

Title: MEmbrane-based Desalination: an INtegrated Approach

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 6.349.500 €

Project status: Selected

EU contribution: 3.300.000 €

Duration: 36 months

Organisation: University of Calabria

Arcavacata di Rende (CS) - IT

Co-ordinator: Prof. Enrico Drioli

Abstract

RO is today the dominant technology in water desalination. However, some critical issues remain open: improvement of water quality, enhancement of the recovery factor, reduction of the unit water cost, minimizing the brine disposal impact. With the aim to solve these problems, an innovative approach based on the integration of different membrane operations in pre-treatment and post-treatment stages is proposed. Expected outcomes and contributions of the research are: i)the development of advanced analytical methods for feedwater characterization, appropriate fouling indicators and prediction tools, procedures and protocols at full-scale desalination facilities; ii)identification of optimal seawater pre-treatment strategies by designing advanced hybrid membrane processes (submerged hollow fiber filtration/reaction, adsorption/ion exchange/ozonation) and comparison with conventional methods; iii)the optimization of RO membrane module configuration, cleaning strategies, reduction of scaling potential by NF; iv)the development of strategies aiming to approach the concept of Zero Liquid Discharge (increasing the water recovery factor up to 95% by using Membrane Distillation - MD;bringing concentrates to solids by Membrane Crystallization or Wind Intensified Enhanced Evaporation) and to reduce the brine disposal environmental impact and cost; v)increase the sustainability of desalination process by reducing energy consumption(evaluation of MD, demonstration of a new energy recovery device for SWRO installations)and use of renewable energy (wind and solar). The research team embodies science and engineering from both the practitioner and academic perspectives. Potential end-users and participating utilities will be involved in research activities and applications. Linkages with ongoing research activities and demonstration studies at full-scale desalination plants will be conducted to ensure the applicability and transfer of the findings of the proposed research project.

Partners

Nr	Part Legal Name	Town	Country
1	University of Calabria	Arcavacata di Rende (CS)	Italy
2	Anjou Recherche – Veolia Water	Maisons Laffitte	France
3	UNESCO-IHE	Delft	Netherlands
4	Kiwa N.V.	Rijswijk	Netherlands
5	Rheinisch-Westfaelisches Institut fuer Wasserforschung Gemeinnützige GmbH	Muelheim an der Ruhr	Germany
6	Ben Gurion University	Beer Sheva	Israel
7	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	PARIS	France
8	Institut National des Sciences Appliquées	Toulouse	France
9	Octave	Saint Martin de la Crau	France
10	GVS S.P.A.	Zola Predosa (Bologna)	Italy
11	University of Technology, Sydney	Ultimo	Australia
12	University of New South Wales	Sydney	Australia
13	Carl von Ossietzky University Oldenburg Institute for Chemistry and Biology of the Marine Environment	Oldenburg	Germany

Title: Seawater desalination by innovative solar-powered membrane-distillation system

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.160.144 €

Project status: Selected

EU contribution: 1.385.000 €

Duration: 36 months

Organisation: Centro de Investigaciones Medioambientales y Tecnológicas

Madrid - ES

Co-ordinator: Dr Julián Blanco Gálvez

Abstract

Despite the advantages of solar membrane distillation (MD) systems very few experimental systems have been developed as opposed to the mature technologies solar PV-driven RO and solar distillation. Therefore, main objective of MEDESOL Project is the development of an environmentally friendly improved-cost desalination technology to fresh water supply in arid and semi-arid regions in EU and Third Countries based on solar MD. The layout involves the innovative concept of multistage MD in order to minimize specific energy and membrane area required and also to substantially reduce the brine generation. The aim of this work was to evaluate the technical feasibility of producing potable water from seawater by integrating several membrane distillation modules (Multi-step Membrane Distillation System). The aim is to develop systems for a capacity ranging from 0.5 to 50 m3/day. Technical simplicity, long maintenance-free operation periods and high-quality potable water output are the very important aims which will enable successful application of the systems that are based in membrane distillation. The heat source will proceed from an advanced compound parabolic solar concentrator, developed to the specific concentration ratio to achieve the specific needed range of temperatures (90ºC) and the seawater heater will include the development of an advanced non-fouling surface coatings to avoid the deposit formation (i.e. scaling) at such temperature. Laboratory tests under defined testing conditions of all components are very important for the preparation of successful field tests under real conditions.

Partners

Nr	Part Legal Name	Town	Country
1	Centro de Investigaciones Medioambientales y Tecnológicas	Madrid	Spain
2	Universidad de La Laguna	La Laguna, STa. Cruz de T	Spain
3	ACCIONA, S.A.	Alcobendas (Madrid)	Spain
4	AGUAS DE LA CUENCA DEL SUR, S.A.	Málaga	Spain
5	AOSOL- Energias Renováveis, Lda.	Samora Correira	Portugal
6	Universität Stuttgart	Stuttgart	Germany
7	TINEP S.A. de C.V.	San Andres Atenco, Tlalne	Mexico
8	Centro de Investigación en Energía- Universidad Nacional Autónoma de México	Temixco (Morelos)	Mexico
9	Kungl Tekniska Högskolan	Stockholm	Sweden
10	Scarab Development AB	Stockholm	Sweden

Title: Farm Level Optimal Water Management: Assistant for Irrigation under Deficit

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 1.557.446 €

Project status: Selected

EU contribution: 1.021.000 €

Duration: 36 months

Organisation: Agrotechnology & Food Innovations BV

Wageningen - NL

Co-ordinator: Mr. Jos Balendonck

Abstract

The objective of FLOW-AID is to contribute to sustainability of irrigated agriculture by developing, testing in relevant conditions, and fine-tuning through feed-back, an irrigation management system that can be used at farm level in situations where there is a limited water supply and water quality. The project integrates innovative sensor technologies into a decision support system for irrigation management, taking into consideration relevant factors in a number of third country partners. The specific objectives are to develop and test new and innovative, but simple and affordable, technical concepts (hardware and software) for irrigation under deficit at farms in a large variety of set-ups and constraints, particularly a maintenance free tensiometer; wireless, low-power data networks; an expert system to assist in farm zoning and crop planning, in view of expected water availability (amount and quality); a short-term irrigation scheduling module that allocates available water among several plots and schedules irrigation for each one. The scientific results from the research will be evaluated in four test-sites, three of them located in Mediterranean Party Countries (Turkey, Lebanon and Jordan), where the large future market for deficit irrigation systems will be. The test-sites are chosen in such a way that they differ in the type of constraints, irrigation structures, crop types, local water supplies, availability of water and water sources in amount and quality, the local goals, and their complexity. The SME partners will take up research results and build prototypes, which will be installed at the test-sites. In close co-operation all partners will adapt the general concepts of water management to the local situation, by using appropriate parts of it, based upon the test-results. The involvement of SME-partners will ensure that the results will be implemented in a short time into adequate and appropriate products for the end-user irrigation market.

Partners

Nr	Part Legal Name	Town	Country
1	Agrotechnology & Food Innovations B.V.	Wageningen	Netherlands
2	Rothamsted Research	Harpenden	United Kingdom
3	LEBANESE AGRICULTURAL RESEARCH INSTITUTE	TAL AMARA	Lebanon
4	UNIVERSIDAD DE CASTILLA-LA MANCHA	Ciudad Real	Spain
5	Ege University Faculty of Agriculture	Bornova-Izmir	Turkey
6	UNIVERSITY OF PISA	Pisa	Italy
7	Delta-T Devices Ltd.	Cambridge	United Kingdom
8	ZENON SA	GLYKA NERA ATTIKIS	Greece
9	Spagnol Srl	Vidor	Italy
10	Jordan University of Science and Technology	Irbid	Jordan

Project URL: http://www.pleiades.es/

Title: Participatory multi-Level EO-assisted tools for Irrigation water management and Agricultural Decision-Support

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.185.000 €

Project status: Selected

EU contribution: 2.697.000 €

Duration: 36 months

Organisation: Universidad de Castilla-La Mancha

Albacete - ES

Co-ordinator: Dr. Anne M. Jochum

Abstract

This project addresses the efficient and sustainable use of water for food production in water-scarce environments. It aims at improving the technical, environmental and economic performance of irrigation schemes by means of a range of measures. Major technical innovation is made possible by the comprehensive space-time coverage of Earth observation (EO) data and the interactive networking/connecting capabilities of Information and Communication Technologies (ICT). Therefore, a key feature will be a set of EO- and ICT-assisted integrated systems and services which are the fundament for integrated water resources management of river basins, irrigation schemes, and farms. It also is the basis for technical and social learning that enables farmers to act responsably by fine-tuning their on-farm irrigation management in accordance with the river-basin water status and management decisions. We consider the economic, environmental, technical, social, and political dimensions and pursue a synergy of leading-edge technological innovation (that facilitates active participation) with participatory approaches (that require distributed spatial information and networking technology). A set of pilot Case Studies has been selected to represent a sample of the wide range of conditions found in the European and Southern Mediterranean and in Latin America, covering Portugal, Spain, Italy, Greece, Turkey, Morocco, Mexico, Peru, and Brazil. We will benchmark the technical, environmental, and economic performance of irrigation systems in our pilot river-basins, conduct trial campaigns with EO- and ICT-assisted products in a participatory evaluation with stakeholders, and assess the effect of the new tools on water productivity and performance of our pilot irrigation systems.

Partners

Nr	Part Legal Name	Town	Country
1	Universidad de Castilla-La Mancha	Albacete	Spain
2	Dirección General de Investigación, Desarrollo Tecnológico e Innovación. Junta de Extremadura	Mérida (Badajoz)	Spain
3	Instituto de Agricultura Sostenible, Consejo Superior de Investigaciones Científicas	Córdoba	Spain
4	INSTITUTO DE DESENVOLVIMENTO RURAL E HIDRAULICA	Lisbon	Portugal
5	ASSOCIÇÃO DE BENEFICIÁRIOS DO CAIA	ELVAS	Portugal
6	Fundação da Faculdade de Ciências e Tecnologia Universidade Nova de Lisboa	Caparica	Portugal
7	Instituto Superior de Agronomia, Research Centre for Agricultural Engineering	LISBON	Portugal
8	Istituto NAzionale di Economia Agraria	Rome	Italy
9	Università di Napoli Federico II	Napoli	Italy
10	ARIESPACE srl	NAPOLI	Italy
11	Institut de Recherche pour le Développement	Paris	France
12	UNIVERSITY OF THESSALY	VOLOS	Greece
13	National Agricultural Research Foundation - Institute of Soil Mapping and Classification	Larissa	Greece
14	INTEGRATED RESOURCES MANAGEMENT (IRM) COMPANY LTD	Senglea	Malta
15	Agrohydrology Research and Training Centre	Menemen	Turkey
16	FACULTE DES SCIENCES ET TECHNIQUES DE MARRAKECH	MARRAKECH	Morocco
17	INSTITUTO DE PROMOCION PARA LA GESTION DEL AGUA	Lima	Peru
18	Instituto Tecnológico de Sonora	Ciudad Obregón, Sonora	Mexico
19	Universidad de Sonora	Hermosillo	Mexico
20	Colegio de Posgraduados	Montecillo	Mexico
21	Empresa Brasileira de Pesquisa Agropecuaria	Sete Lagoas MG	Brazil

Title: Sustainable and Safe Re-use of Municipal Sewage Sludge for Nutrient Recovery

Instrument:	Specific Targeted Research Project (STREP)	
Project total cost:	1.556.520 €	Contract start date: 1/11/2005
EU contribution:	1.159.800 €	Duration: 36 months
Organisation:	BUNDESANSTALT FUER MATERIALFORSCHUNG UND -PRUEFUNG	BERLIN - Germany
Co-ordinator:	Dr. Gerd Kley	

Abstract

Municipal sewage sludge (MSS) is a carrier of nutrients but is often contaminated by hazardous organic and inorganic pollutants. Therefore, it must be disposed of or the pollutants must be removed before agricultural use to protect farmland and human health. Disposal or immobilisation results in an irreversible loss of nutrients. The project is aimed to develop a sustainable and safe strategy for nutrient recovery from sewage sludges using thermal treatment. Mono-incineration of the sludges will completely destruct the organic pollutants in a first step. The incineration residues are ashes with a high phosphorus (P) content that still contain heavy metal compounds above the limits for agricultural use. Phosphorus in the ashes exhibits low bioavailability - a disadvantage in farming. Therefore, in a second thermochemical step heavy metals will be removed and P transferred into mineral phases available for plants. First investigations have shown that volatile heavy metal chlorides are formed by adding magnesium chloride at temperatures of 900-1000 °C and can be separated. Additionally, magnesium phosphates are built up resulting in P-bioavailability of up to 100%. These technologies will be developed and improved with focus on large-scale application aiming at P-fertiliser products. Intense agricultural investigations will guarantee marketability of the fertiliser. Advantages and disadvantages of the proposed technology will be analysed and compared to other treatment and management options. The comparison will be based on energy, material and substance balances as well as established evaluation methods and will quantify the contribution of all options to environmental protection and resource recovery. The method is both technically and economically feasible, it will solve an environmental protection problem and utilize a potential raw material. As a result, approx. 300,000 tonnes of phosphorus can be recovered as fertiliser in Europe.

Partners

Nr	Part Legal Name	Town	Country
1	BUNDESANSTALT FUER MATERIALFORSCHUNG UND -PRUEFUNG	BERLIN	Germany
2	TECHNISCHE UNIVERSITAET WIEN	WIEN	Austria
3	BUNDESFORSCHUNGSANSTALT FUER LANDWIRTSCHAFT	BRAUNSCHWEIG	Germany
4	ASH DEC Umwelt AG	Wien	Austria
5	BAMAG GmbH	Butzbach	Germany
6	SLIBVERWERKING NOORD-BRABANT N.V.	MOERDIJK	Netherlands
7	KEMIRA GROWHOW OYJ	HELSINKI	Finland

Title: Reduction, modification and valorisation of sludge

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 4.121.221 €

EU contribution: 3.053.512 €

Organisation: UNIVERSITAT ROVIRA I VIRGILI

Co-ordinator: PROF. AZAEL FABREGAT LLANGOSTERA

Contract start date: 1/07/2006

Duration: 36 months

TARRAGONA - Spain

Abstract

The adoption of the Urban Waste Water Treatment Directive 91/271/EEC imposes the sewage sludge to be subsequently treated so it is expected by 2005 to increase twofold in comparison whit 1992. However, classical incineration to treat this vast amount of sludge must be no longer accepted from an environmental point of view. In addition, the Sewage Sludge Directive 86/278/EEC regulates the uses and properties of stabilised sludge for being either recycled or disposed. Both directives drive specific actions in two complementary ways. Firstly, a deep knowledge of current sludge treatment, such as mesophilic, thermophilic or autothermophilic processes, must be promoted to solve that problem in the UE ambit, taking in account the particular considerations of each treatment facility. In second place, the development of new processes must be supported to open new alternatives that could valorise that waste.The proposal aims at developing strategies for the disposal and reuse of waste sludge. The scope envisages to develop several processes for reducing both amount and toxicity of sludge, with simultaneous transformation into green energy vectors such as methane or hydrogen. In outline, mesophilic and mainly thermophilic and autothermophilic conditions will be deeply explored as classical alternatives for sludge stabilisation, assuring sanitary conditions of the treated sludge. Also, valuable materials will be obtained from sludge, such as activated carbons, which will be used in conventional adsorption processes and in innovative advanced oxidation processes.The main outcomes expected at the end of the projects are guidelines for technology selection in agreement with the geographic, economic and technical characteristics of the sewage plants, demonstration of the feasibility of new applications for the sewage sludge, manufacturing of activated carbon from sludge sewage as innovative recycling of sludge waste, and a deep understanding of the methods involved.

Partners

Nr	Part Legal Name	Town	Country
1	UNIVERSITAT ROVIRA I VIRGILI	TARRAGONA	Spain
2	GEPEA, UMR-CNRS 6144	SAINT-NAZAIRE	France
3	UNIVERSITAT AUTÒNOMA DE BARCELONA	BELLATERRA (BARCEL	Spain
4	UNIVERSITY OF GLAMORGAN	PRONTYPRIDD, WALES	United Kingdom
5	INSTITUT NATIONAL POLYTECHNIQUE DE TOULOUSE	TOULOUSE	France
6	GESTIÓ AMBIENTAL I ABASTAMENT, S.A.	REUS	Spain
7	TRATAMIENTOS Y RECUPERACIONES INDUSTRIALES, SA	CONSTANTÍ	Spain
8	INSTITUTE OF CHEMICAL TECHNOLOGY PRAGUE	PRAGUE 6	Czech Republic
9	TECHNICAL UNIVERSITY OF LODZ	LODZ	Poland
10	TECHNISCHE UNIVERSITÄT BERLIN	BERLIN	Germany
11	FACULTY OF SCIENCES AND TECHNOLOGY - UNIVERSITY OF COIMBRA	Coimbra	Portugal
12	COSVALADO-INDÚSTRIA, COMÉRCIO E SERVIÇOS VITIVINICOLAS E ALIMENTARES, S.A.	AVEIRO	Portugal
13	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE DÉLÉGATION RHÔNE-ALPES (SITE VALLÉE DU RHÔNE)	VILLEURBANNE	France
14	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY #Amp; MEDICINE	LONDON	United Kingdom
15	SALSNES FILTER AS	NAMSOS	Norway
16	CHEMVIRON CARBON LIMITED	ASHTON IN MAKERFIE	United Kingdom

Title: Horizontal Standards on Organic Micropollutants for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 2.674.949 €

Contract start date: 1/10/2003

EU contribution: 1.627.652 €

Duration: 36 months

Organisation: ENERGIEONDERZOEK CENTRUM NEDERLAND

PETTEN - Netherlands

Co-ordinator: Dr. Hans A. Van der Sloot

Abstract

The working documents on revision of the Sewage Sludge Directive (86/278/EEC) and on Biowaste and the Soil Protection Communication call for standards for sampling and analysis of sludges, treated biowastes and soils. They list hygienic and biological parameters, and inorganic and organic contaminants. The European Directives are intended to prevent unacceptable release of contaminants, impairment of soil function, or exposure to pathogens, and to protect crops, human and animal health, the quality of water and the wider environment when sludges and treated biowastes are used on land. Analytical results are to some extent defined by the methods of determination, it is therefore desirable that methods are defined before setting limit values. The European Commission wishes to cite European (CEN) standards in order that there is harmonised application of the directives and that reports from Member States (MS) can be compared. This proposal to develop standards for organic compounds in sludge, soil and biowaste, presented by the consortium under the name "HORIZONTAL-ORG", will be carried out under the umbrella of the main project HORIZONTAL "Development of horizontal standards for soil, sludge and biowaste". This ensures full integration in the CEN system through a BT Task Force specially set up in for this project and direct supervision by DG ENV and MS, which form the Steering Committee of HORIZONTAL. HORIZONTAL-ORG's objective is to produce standardised methods for sampling and analysing organic micropollutants in sludges, treated biowastes and soils written in CEN format. Where possible these will be horizontal across the different media. Validation of the methods is an essential part of the development as it quantifies performance in terms of repeatability and reproducibility. The consortium is very well connected in CEN and ISO and thus provides an excellent basis for implementation of the deliverables.

Partners

Nr	Part Legal Name	Town	Country
1	ENERGIEONDERZOEK CENTRUM NEDERLAND	PETTEN	Netherlands
2	European Commission DG Joint Research Centre	Ispra (VA)	Italy
4	The University of Reading	Reading	United Kingdom
5	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFCAS	MADRID	Spain
6	INSTYTUT UPRAWY, NAWOZENIA I GLEBOZNAWSTWA	Pulawy	Poland
7	Umweltbundesamt	Berlin	Germany
8	Eurofins Danmark A/S	Galten	Denmark
9	Eurofins A/S	Galten	Denmark
10	Bundesanstadt für Materialforschung und -Prufung	BERLIN	Germany
11	Alterra bv	WAGENINGEN	Netherlands
12	GIE ANJOU RECHERCHE	PARIS	France
13	Umwelbundesamt GmbH	WIEN	Austria
14	DIN Deutsches Institut fuer Normung e.V.	Berlin	Germany
15	Tim Evans Environment	Ashtead	United Kingdom
16	"Fodor Jozsef" Orszagos Kozegeszsegugyi Kozpont Orszagos Kozegeszsegugyi Intezet	Budapest	Hungary
17	Vyskumny Ustav Podoznalectva a Ochrany Pody	Bratislava	Slovakia

Title: Horizontal Standards on Hygienic parameters for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 1.996.709 €

Contract start date: 1/12/2004

EU contribution: 1.647.880 €

Duration: 36 months

Organisation: Energieonderzoek Centrum Nederland

PETTEN - Netherlands

Co-ordinator: Dr. Hans A. Van der Sloot

Abstract

The working documents on revision of the Sewage Sludge Directive (86/278/EEC) on Biowaste and the Soil Protection Communication call for standards on sampling and analysis of sludge, treated biowastes and soils. The European Directives are intended to prevent unacceptable release of contaminants, impairment of soil function, or exposure to pathogens, and to protect crops, human and animal health, the quality of water and the wider environment when sludges and treated biowastes are used on land. The EU animal by-product regulations are fixing microbiological threshold values, for which microbiological methods of analysis are needed. The European Commission wishes to cite European (CEN) standards in order that there is harmonised application of the directives and that reports from Member States (MS) can be compared. This project to develop standards for hygienic parameters in sludge, soil and biowaste, presented under the name "HORIZONTAL-HYG", will be carried out under the umbrella of the main project HORIZONTAL "Development of horizontal standards for soil, sludge and biowaste". This ensures full integration in the CEN system through BT Task Force 151 specially set up in support of this project as well as direct supervision by DG ENV and MS, which form the Steering Committee of HORIZONTAL. Preparation of HORIZONTAL-HYG was taken in a full agreement with the DG ENV, DG JRC and the MS already contributing to HORIZONTAL. HORIZONTAL-HYG's objective is to produce standardised methods for sampling and hygienic microbiological parameters, as Salmonella spp, Escherichia coli, Clostridium perfringens, Ascaris ova in sludges, treated biowastes and soils written in CEN format. Validation of the methods is an essential part of the development as it quantifies performance in terms of repeatability and reproducibility. The consortium is well connected in CEN and ISO and thus provides an excellent basis for implementation of the deliverables.

Partners

Nr	Part Legal Name	Town	Country
1	Energieonderzoek Centrum Nederland	PETTEN	Netherlands
2	Commission of the European Communities Directorate General Joint Research Centre	Brussels	Belgium
3	INSTITUT PASTEUR DE LILLE	LILLE	France
4	The University of Reading	Reading	United Kingdom
5	ALcontrol UK Ltd	Rotherham	United Kingdom
6	University of Southampton	Southampton	United Kingdom
7	TARTU UELIKOOL	Tartu	Estonia
8	GIE ANJOU RECHERCHE	PARIS	France
9	UNIVERSITÄT HOHENHEIM	STUTTGART	Germany
10	Den Kongelige Veterinaer- og Landbohoejskole	Frederiksberg C	Denmark
11	Universitat de Barcelona	Barcelona	Spain
12	ISTITUTO SUPERIORE DI SANITA	ROME	Italy
13	MAGYAR TUDOMÁNYOS AKADÉMIA TALAJTANI ÉS AGROKÉMIAI KUTATÓINTÉZETE	Budapest	Hungary
15	Central Science Laboratory	London	United Kingdom
16	"Fodor Jozsef" Orszagos Kozegeszsegugyi Kozpont Orszagos Kozegeszsegugyi Intezet	Budapest	Hungary

Title: Action to promote involvement of African water researchers in the Framework Programme

Instrument: Specific Support Action (SSA)

Project total cost: 231.600 €

Contract start date: 1/07/2005

EU contribution: 231.600 €

Duration: 24 months

Organisation: NATURAL ENVIRONMENT RESEARCH COUNCIL.

SWINDON - United Kingdom

Co-ordinator: Mr. Neil Runnalls

Abstract

The "African Water" SSA will take immediate action, and establish a framework, for long term improvement in the involvement of African researchers in the water research components of the Framework Programme.The "African Water" SSA is a vital component in the delivery of major EU and member state politicalcommitments to strengthen African water research capacity. This SSA underpins the delivery of water specific commitments made at the Johannesburg WSSD and UN 12th Commission on Sustainable Development (NewYork 2004). In particular this SSA is an integral part of the EU Water Initiative, to deliver research capacitybuilding in Africa.The "African Water" SSA will undertake a range of actions, developed by and in partnership with, Africanresearchers. The SSA will bring together information, key researchers and research administrators in a targeted programme to provide African researchers with the knowledge and tools to more actively participate in allaspects of the Framework Programme. A key output of this SSA will be for Africans to defined their own researchpriorities and to feed these topics through to the FP7 programme. This SSA will have the catalytic effect of increasing African involvement in other research programmes (member states, international agencies, etc).Actions to be undertaken as part of this SSA will include : information dissemination through workshops,conference presentations, publicity actions, email bulletins, focussed explanatory guidance documents. All will be made accessible thorough the web and as hard copy. Actions will also be taken to increase Europeanawareness of African research capacity in order to foster outreach to Africa from EU researchers. The "African Water" SSA will increase cost effectiveness by working in partnership with complementary action beingundertaken by donors, international agencies, NGO's, charitable foundations and the private sector.

Partners

Nr	Part Legal Name	Town	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL.	SWINDON	United Kingdom
2	WATER RESEARCH COMMISSION	GEZINA	South Africa
3	LOUGHBOROUGH UNIVERSITY	LOUGHBOROUGH	United Kingdom
4	HYDROPHIL - CONSULTING & KNOWLEDGE DEVELOPMENT GmbH	VIENNA	Austria

Title: Low cost water test for developing countries – a preparatory study

Instrument: Specific Support Action (SSA)

Project total cost: 480.400 €

EU contribution: 446.000 €

Organisation: University of Bristol

Co-ordinator: Dr Stephen Gundry

Project status: Selected

Duration: 12 months

Bristol - UK

Abstract

This project is a preparatory study for the development of a low-cost water quality test and associated management systems for use in developing countries and in disasters/emergencies. Contaminated drinking water remains a major cause of morbidity and mortality in developing countries, with 1.8 million deaths per year being attributed to water-borne disease. In addition, following major disasters such as hurricanes or earthquakes, many deaths result not from the disaster itself but from subsequent outbreaks of disease caused by contaminated drinking water. Existing water tests are largely designed for use in developed countries and not in situations where laboratory infra-structure, resources and trained personnel are lacking. There is thus a need for more appropriate water testing technology for use in resource-poor and disaster settings. This support action will lay the foundations for a subsequent grant application to develop a water test, with associated management systems, for use in developing countries and in emergency situations. The project will demonstrate to policymakers, donors and research funding organisations that there is an urgent and clear need to provide a low cost water test. Following an assessment of developing country and disaster relief agency needs, a network of experts will be formed to address these needs. This network will meet with stakeholders at the World Water Congress in Beijing. The project will establish how an appropriate water test can be developed from existing technologies within the near term. A follow-on funding application to develop this water test will then be submitted based on these activities. The principal delivery of this preparatory activity is therefore a carefully specified bid for further research funding based on a needs assessment and review of existing water test technology, supported by a high quality international consortium.

Partners

Nr	Part Legal Name	Town	Country
1	University of Bristol	Bristol	United Kingdom
2	University of Southampton	Southampton	United Kingdom
3	AES-CHEMUNEX SA	Ivry-sur-Seine	France
4	Royal College of Surgeons in Ireland	Dublin	Ireland
5	Institute of Water and	Harare	Zimbabwe
6	University of Cape Town	Cape Town	South Africa

Title: Network for the development of sustainable approaches for large scale implementation of sanitation in Africa

Instrument: Co-ordination Action (CA)

Project total cost: 1.593.720 €

Project status: Selected

EU contribution: 1.542.000 €

Duration: 24 months

Organisation: Verein zur Förderung des Technologietransfers an der Hochschule Bremerhaven e. V.

Bremerhaven - DE

Co-ordinator: Mr Mirko Hänel

Abstract

Without a sharp acceleration in the rate of progress, the world will miss the MDG sanitation target by half a billion people. For instance, in sub-Saharan Africa almost two-thirds of the population (64%) are lacking adequate access to excreta disposal facilities. In African countries the sanitation coverage varies from 84% in urban areas to 45% in rural areas. To achieve the year 2015 goal for urban water supply coverage an additional 210 million (194 in rural areas) people over the next 15 years will have to be provided with service. The proposed Coordination Action, aims to congregate the most relevant stakeholders in the field of sustainable sanitation in the Sub-Saharan African and European frame. NETSSAF will promote international cooperation between research organisations, associations, universities and social and governmental stakeholders in a European and Sub-Saharan African context, focussed in particular in the West African countries. A sustainable sanitation expert and research co-ordination platform and an expertise network will be established, in order to co-ordinate, assess and guide suitable research and strategic activities with the aim of identifying best practices, gaps in knowledge and barriers to further execution and to propose directions for futures research. The aim of the proposed network will be to develop a variety of innovative, adaptable and replicable approaches to sustainable sanitation, integrating appropriate low cost technologies in the context of community based management and their relevant governance, institutional frameworks and socio-economic constraints. The main outcome will be the development of a Participative Multi-stakeholder Sanitation Management Support Tool aimed for the end-users to be able to apply large scale sanitation concepts and technologies adapted to the different conditions prevailing in Africa.

Partners

Nr	Part Legal Name	Town	Country
1	Verein zur Förderung des Technologietransfers an der Hochschule Bremerhaven e. V.	Bremerhaven	Germany
2	Hamburg University of Technology	Hamburg	Germany
3	Centre Regional pour l´Eau Potable et l´Assainissement a faible cout	Ouagadougou	Burkina Faso
4	BIOAZUL S. L.	Campillas, Malaga	Spain
5	Bureau Ouest Aricain d´Appui Organisationnel et de Technologies Appropriees	Bamako	Mali
6	International Ecological Engineering Society	Wolhusen	Switzerland
7	Water and Sanitation Program - Africa (an initiative administered by the World Bank - legal entitiy is the World Bank)	Nairobi	Kenya
8	International Water Association	London	United Kingdom
9	Universite Abobo - Adjame	Abidjan	Côte d'Ivoire
10	Swedish University of Agricultural Sciences	Uppsala	Sweden
11	Commune de Matam	Matam	Senagal
12	Swiss Federal Institute of Aquatic Science and Technolgy	Duebendorf	Switzerland
13	Commune Bobo-Dioulasso	Bobo-Dioulasso	Burkina Faso
14	EcoSan Club Austria	Vienna	Austria
15	Kwame Nkrumah University of Science and Technology	Kumasi	Ghana
16	University of Leeds	Leeds	United Kingdom
17	Centre d´Etudes pour la Promotion, l´Amenagement et la Protection de l´Environnement	Ouagadougou	Burkina Faso
18	Stockholm Environment Institute	Stockholm	Sweden
19	Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH	Eschborn	Germany
20	Tampere University of Technology	Tampere	Finland

Title: Resource-Oriented Sanitation concepts for peri-urban areas in Africa

Instrument: Specific Targeted Research Project (STREP)

Project total cost: 3.030.320 €

Project status: Selected

EU contribution: 2.900.000 €

Duration: 36 months

Organisation: University of Natural Resources and Applied Life Sciences, Vienna

Vienna - AT

Co-ordinator: Dr. Guenter Langergraber

Abstract

The UN Millennium Development Goals (MDGs, target 10) call for halving the proportion of people without access to safe drinking water and basic sanitation by 2015. ROSA promotes resource-oriented sanitation concepts as a route to sustainable and ecologically sound sanitation in order to meet the MDGs. These concepts shall be applied in four cities in East-Africa, namely Arbaminch (Ethiopia), Nakuru (Kenya), Arusha (Tanzania) and Kitgum (Uganda). The consortium comprises 2 partners from each of these countries, a university and an end-user. For the model cities strategic sanitation & waste plans (SSWPs) will be developed for the whole city area. These SSWPs will come up with the best solution for the city combining several techniques (resulting in hybrid systems) according to the local requirements. Within the project a part of the SSWPs will be developed in peri-urban areas, where there is a lot of research need for resource-oriented sanitation. Research topics addressed within ROSA are targeting the gaps for the implementation of these concepts in peri-urban areas. They include e.g. an implementation study of the updated WHO-guidelines for use of waste and excreta, the improvement/adaptation of resource-oriented sanitation technologies and the development of community based operation and management strategies. For the implementation of the complete SSWPs the ROSA consortium will develop possibilities for financing. This will be facilitated by the already existing international network of the consortium and the strong link of the activities to on-going programmes/projects in East Africa (e.g. the "Lake Victoria Initiative" of the UN Habitat, the WSP of the Worldbank, the Dutch ISSUE Programme, the Swedish EcoSanRes Programme, etc.). Dissemination activities will be focused on establishing the local East African network between universities, end-users, etc. This network will ensure the consolidation and the replication of the knowledge gained within the region.

Partners

Nr	Part Legal Name	Town	Country
1	University of Natural Resources and Applied Life Sciences, Vienna	Vienna	Austria
2	Technische Universität Hamburg-Harburg	Hamburg	Germany
3	EcoSan Club	Vienna	Austria
4	WASTE Advisors on Urban Environment and Development	GOUDA	Netherlands
5	London School of Hygiene & Tropical Medicine	London	United Kingdom
6	Makerere University	Kampala	Uganda
7	University of Dar es Salaam	Dar es Salaam	Tanzania, United Repub
8	Egerton University	Njoro	Kenya
9	Arbaminch University	Arbaminch	Ethiopia
10	Kitgum Town Council	Kitgum	Uganda
11	Arusha City Council	Arusha	Tanzania, United Repub
12	Municipal Council of Nakuru	Nakuru	Kenya
13	Arbaminch Water Supply and Sewerage Enterprise	Arbaminch	Ethiopia

Title: A knowledge Network for solving real-life water problems in developing countries: Bridging contrasts

Instrument: Co-ordination Action (CA)

Project total cost: 1.149.420 € Project status: Selected

EU contribution: 1.149.000 € Duration: 36 months

Organisation: Dipartimento di Architettura e Urbanistica, Politecnico di Bari Bari - IT

Co-ordinator: Prof Dino Borri

Abstract

The proposal aims at contributing to global and local knowledge networks for solving real life water supply and sanitation (WSS) problems in developing countries in view of reaching the MDGs. Based on an account of failures of WSS interventions in the last decades, ANTINOMOS aims at making an impact through bridging contrasts (between conceptual approaches, or between perceptions of global and local knowledge networks) and knowledge gaps (between knowledge areas which have only recently been recognized by decision makers as a key issue in reaching the MDGs). The core part of the proposal will be devoted to try to bridge these contrasts and knowledge gaps. For this purpose, special attention will be devoted to link state-of-the-art technological advancement in WSS with local resources and grassroots innovations, in order to enable context-specific learning opportunities for more sustainable solutions to real water problems. First, based on a systems approach, a number of technological systems and practices for WSS will be studied and analysed. Both technological systems based on “outside knowledge”, i.e. “expert knowledge” as well as systems based on “inside”, i.e. “indigenous knowledge”, will be studied. Then, special learning devices and knowledge management tools will be developed (where feasible in cooperation with international and local knowledge networks) and applied, in order to foster cross-fertilization between knowledge frames and global-local interaction. Involvement of key decision-makers and change agents at the local level will be a key step to facilitate uptake and integration of solutions in real life. In this perspective, the two primary objectives of the proposal will be: 1. Bridging contrasts and antinomies through the development of learning spaces across individual disciplines 2. Support both international and local knowledge networks through the generation of new knowledge and the development of innovative knowledge management tools.

Partners

Nr	Part Legal Name	Town	Country
1	Dipartimento di Architettura e Urbanistica, Politecnico di Bari	Bari	Italy
2	Centre for Environmental Management and Decision Support	Vienna	Austria
3	Lettinga Associates Foundation	Wageningen	Netherlands
4	Cranfield University	Cranfield	United Kingdom
5	Swedish Institute for Infectious Disease Control	Solna	Sweden
6	Ecole Nationale du Genie Rural, des Eaux et des Forets	Montpellier	France
7	University of KwaZulu-Natal	Durban	South Africa
8	Instituto Mexicano de Tecnología del Agua (Mexican Institute of Water Technology)	Jiutepec	Mexico
9	Facultad Latinoamericana de Ciencias Sociales	México D.F.	Mexico
10	Centre for Science and Environment	New Delhi	India
11	Indian Institute of Management, Ahmedabad	Ahmedabad	India
12	Reforms Support & Project Management Unit of the Department of Water Supply and Sanitation, Government of Maharasthra	Navi Mumbai	India
13	UNESCO-Institute for Water Education	Delft	Netherlands

Title: Water scenarios for Europe and for neighbouring states

Instrument: Integrated Project (IP)

Project total cost: 10.204.981 €

Project status: Selected

EU contribution: 6.993.477 €

Duration: 48 months

Organisation: Suomen ympäristökeskus (Finnish Environment Institute)

Helsinki - FI

Co-ordinator: Prof. Juha Kämäri

Abstract

The SCENES project will develop and analyse a set of comprehensive scenarios of Europe's freshwater futures up to 2025, covering all of "Greater" Europe reaching to the Caucasus and Ural Mountains, and including the Mediterranean rim countries of north Africa and the near East. These scenarios will provide a reference point for long-term strategic planning of European water resource development, alert policymakers and stakeholders about emerging problems, and allow river basin managers to test regional and local water plans against uncertainties and surprises which are inherently embedded in a longer term strategic planning process. The scenarios developed by SCENES will be policy-relevant by identifying the requirements of stakeholders and decision makers, and including stakeholders in the scenario-building process. The SCENES project will deliver combined qualitative and quantitative scenarios. The qualitative scenarios (storylines) provide an internally-consistent picture of how water resources in different parts of Europe may develop up to 2025. The quantitative scenarios, produced by state-of-the art models, complement the story-lines by providing numerical information, and by "enriching" the qualitative scenarios by showing trends and dynamics not apparent in the storylines. The qualitative scenario analysis will also focus on water quality, ecological and hydrological aspects, with special regard to the requirements of the WFD. Scenarios will be interactive and adaptive in the sense that they will be developed through a three phase approach. The first phase will be a 'fast track' pan-European scenario exercise using existing information. The second phase will involve regional and pilot area scenario enrichment. The final phase will be the drawing together of results and dissemination of the scenario outputs.

Partners

Nr	Part Legal Name	Town	Country
1	Suomen ympäristökeskus (Finnish Environment Institute)	Helsinki	Finland
2	University of Kassel	Kassel	Germany
3	International Institute for Applied Systems Analysis	Laxenburg	Austria
4	Universidad Politécnica de Madrid	Madrid	Spain
5	Stichting Waterloopkundig Laboratorium	Delft	Netherlands
6	Natural Environment Research Council - Centre for Ecology and Hydrology	Swindon	United Kingdom
7	Alterra, Wageningen University and Research Centre	Wageningen	Netherlands
8	Warsaw Agricultural University	Warsaw	Poland
9	Baltic Environmental Forum	Riga	Latvia
10	Tallinn University of Technology	Tallinn	Estonia
11	Ecole National du Génie Rural, des Eaux et des Forêts	Montpellier	France
12	International Center for Advanced Mediterranean Agronomic Studies - Mediterranean Agronomic Institute of Bari	Valenzano (Bari)	Italy
13	Middle East Technical University	Ankara	Turkey
14	Institut Agronomique et Veterinaire Hassan II	Rabat	Morocco
15	Technical University of Crete	Chania	Greece
16	Budapest University of Technology and Economics Department of Sanitary and Environmental Engineering	Budapest	Hungary
17	Magyar Tudományos Akadémia Talajtani és Agrokémiai Kutatóintézete	Budapest	Hungary
18	National Institute for Research and Development for Environmental Protection	Bucharest	Romania
19	South Russian Regional Centre for Preparation and Implementation of International Projects	Rostov-on-Don	Russian Federation
20	Institute for Hydraulic Engineering and Land Reclamation	Kiev	Ukraine
21	Institute for European Environmental Policy	London	United Kingdom
22	International Water Association	London	United Kingdom
23	Wageningen University	Wageningen	Netherlands

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Water and Soil European Research

Catalogue of FP6 Projects

Water cycle and soil-related aspects

1	**Hydrology and Climate processes** Flash-flood forecasting Global water cycle, water resources and droughts
2	**Ecological impact of global change, soil functioning and water quality** Ecological impact of global change on surface water bodies, ecosystem , health indicators and remediation strategies Water-soil systems functioning and management
3	**Integrated management strategies and mitigation technologies** Integrated water management at catchment scale Integrated urban water management and mitigation technologies Management of water under scarcity and mitigation technologies Sewage sludge treatment and management Sustainable water management solutions for developing countries
4	**Scenarios of water demand and availability** Water scenarios for Europe and for neighbouring countries

GLOBAL CHANGE AND ECOSYSTEMS

The Framework Programme for research, technological development and demonstration is the main instrument of the European Union aiming to support RTD activities that are contributing to other European policies and to strengthening the European Research Area (ERA).

Within the Environmental research financed by the European Union's 6th Framework Programme, the area **"Water cycle and soil-related aspects"** is aiming to "*understand the mechanisms and assess the impact of global change and in particular climate change on the water cycle, water quality and availability, as well as soil functions and quality to provide the bases for management tools for water systems to mitigate the impacts*".

This publication briefly summarises relevant information about all the projects selected during the FP6 activities in this area together with some projects addressing specific water policy issues.

The overall budget allocated by the European Commission to the 58 projects presented in this catalogue is totalling about 188 M€.

The publication is available at:
http://forum.europa.eu.int/Public/irc/rtd/eesdwatkeact/library?l=/projects_information&vm=detailed&sb=Title