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THE INPIM E-NEWSLETTER

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Welcome to the INPIM E-Newsletter # 83

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All its Readers**

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DETAILS

NEWS

Irrigation Key for Africa's Food Security

Water management is 'a key element' in food security, FAO Director-General Jacques Diouf told a ministerial conference on Water for Agriculture and Energy in Africa: the Challenges of Climate Change which opened this week. The conference is organized by FAO, as the Chair of UN Water, together with the Libyan Arab Jamahiriya Government and in collaboration with stakeholders including the African Union, the African Ministers' Council on Water Development, the African Development Bank and the Economic Commission for Africa. During the three-day conference ministers from 53 African countries will consider a 'Blue Revolution' programme designed to harness Africa's largely untapped water resources to its development. The conference aims at setting the scene for moving from talk to action. The \$65 billion, 20-year programme details the irrigation and hydro energy investments required in each country. Sub-Saharan Africa, with the world's highest rate of undernourishment, is expected to be hard-hit by climate change. But the continent needs to triple its food production by 2050 to feed a population that will reach two billion. This is the first time that thorough and precise individual Country Investment Briefs have been prepared, based on short-, medium- and long-term assessments and considering investment in water control at the village level, extensive irrigation systems and major river basins, both for agriculture and for hydro-electric power generation.

Turning to the ongoing global financial, economic and food crises, Diouf stressed that 'reviving agricultural production in poor countries is the only viable and lasting solution to combat hunger. We must therefore invest more in agriculture.' He noted it is 'essential to improve the conditions under which farmers work and trade', and that this was one reason he recently called for a new world summit of heads of state and government to 'ensure greater coherence in the governance of global food security and lay the foundations of a new system of agricultural trade that offers farmers in the developed and developing countries alike the opportunity to earn a decent living'. 'We must have the intelligence and the imagination to devise agricultural development policies, rules and mechanisms that will give us an international trade regime that is not only free but also fair,' he continued. In the immediate term, the summit should envisage the creation of an 'Early Reaction Fund' to revive local agricultural production in case of crisis, particularly in low-income countries heavily reliant on food imports. Delegates to the conference are expected to adopt a joint declaration supporting water development at the national, regional and continental levels in order to fully exploit the potentialities of Africa's agriculture and energy sectors to ensure the food security of the continent and meet its increasing food and energy needs.

UN Water is an inter-agency mechanism coordinating the UN's water-related activities.

(Source: <http://water.environmental-expert.com/resultEachPressRelease.aspx?cid=26929&codi=41334&idproducttype=8&level=0>)

World Bank Will Help to Expand Successful Water Security Initiatives in Brazil

The World Bank approved a US\$103 million additional finance loan for the Ceará Integrated Water Resource Management Project (Progerirh). The loan will allow the semi-arid northeastern Brazilian state of Ceará to continue improving the management of water resources and to expand rural and urban access to drinking water, even during periods of drought. "Since its beginnings in 2000, Progerirh has helped transform the water sector in Ceará," said Cid Gomes, Governor of Ceará. "It enabled the State to dramatically improve management of both demand and supply of water, and contributed to expand reliable access to safe water for the poor in Fortaleza and other urban areas, as well as the countryside." The additional financing will continue to support the implementation of actions that promote the original objectives. It would consolidate the State water resources management system and its instruments while continuing to support the increase in water supply for multiple uses. "Like other states of the poor Northeast of Brazil, water scarcity limits Ceará's economic and social development. For twenty years the Bank has been a close partner to the State, in improving both its water infrastructure and water institutions. Over this period the State has made major advances, and has become an acknowledged leader in water management in the country. This new loan will provide continued support which is vital both for management of Ceará's own water and for the water it will receive from the inter-basin transfer from the São Francisco River," said John Briscoe, World Bank Director for Brazil. The Brazilian Northeast experiences critical problems related to water scarcity, with periodical, long and severe droughts and the associated deep economic and social problems. The State of Ceará, which has ninety-three percent of its territory in the semi-arid area, without any perennial rivers, is especially penalized by these climatic adversities.

"We would like to compliment the Government for their strong commitment to keeping water security a high priority for Ceará even in between droughts," said Manuel Contijoch, Project Manager for the World Bank. "The Bank looks forward to continuing to work closely with the State Government on the project's implementation, in order to expand the project's many positive impacts and benefit all of Ceará's population, but especially the poorest." This US\$103 million additional financing from the International Bank for Reconstruction and Development (IBRD) to the State of Ceará is guaranteed by the Government of Brazil. The loan period is 21 years, including a six-year grace period. The original Progerirh loan, totaling US\$136 million, was signed on February 10, 2000. Since 1976, the World Bank has invested almost US\$1.5 billion in Ceará, mainly for rural poverty reduction and water sector management.

(Source: <http://water.environmental-expert.com/resultEachPressRelease.aspx?cid=8509&codi=42994&idproducttype=8&level=0>)

WEF, EPA and Other Water Quality Organizations Renew Memorandum of Understanding for Decentralized Wastewater Management

The Water Environment Federation (WEF) joined the US Environmental Protection Agency (EPA) and thirteen water quality organizations in renewing a commitment to improving national decentralized wastewater treatment system performance by signing the Memorandum of Understanding (MOU) for Decentralized Wastewater Management last week in Washington, D.C. This new MOU will continue the efforts begun under the original 2005 agreement that worked to improve wastewater treatment for 25 million existing homes and a third of all new development nationwide using onsite/decentralized wastewater systems. The goals of the new agreement include strengthening external partnerships; improving decentralized wastewater treatment system performance through improved practitioner competency, management practices, research and technology transfer; improving accountability, control, and oversight through enhanced state, tribal and local program implementation; improving local decision making through improved public awareness, education programs, and information materials; and supporting the principles outlined in the Voluntary Management Guidelines and Management Handbook for Decentralized Systems developed by EPA's Office of Wastewater Management. Additionally, MOU partners will work to advance the awareness of decentralized systems as potential resources for addressing the infrastructure challenges of centralized systems, and for providing opportunities to implement innovative technologies, develop water scarcity strategies, and implement long-term sustainability initiatives in urban and rural settings.

"Decentralization plays an important role in the maintenance of public health and the global water environment," said WEF Executive Director Bill Bertera. "This agreement will allow WEF to utilize its expertise to establish and promote widespread adoption of best practices with regards to the design, operation, maintenance and management of these systems and assist water quality professionals with selecting the most appropriate wastewater management option for their specific situation." WEF plans to meet MOU goals by collaborating with the other organizations through an array of educational vehicles including workshops, conferences, web casts, training courses, and seminars as well as technical and educational articles placed in publications and newsletters. The other signatory organizations include the Consortium of Institutes for Decentralized Wastewater Treatment (CIDWT), National Association of Towns and Townships (NATaT), National Association of Wastewater Transporters, Inc. (NAWT), National Environmental Health Association (NEHA), National Environmental Services Center (NESC), National Onsite Wastewater Recycling Association, Inc. (NOWRA), Rural Community Assistance Partnership, Inc. (RCAP), Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), Groundwater Protection Council

(GWPC), State Onsite Regulators Alliance (SORA), Water Environment Research Foundation (WERF), Association of State Drinking Water Administrators (ASDWA), and the Association of State and Territorial Health Organizations (ASTHO).

(Source: <http://water.environmental-expert.com/resultEachPressRelease.aspx?cid=5306&codi=40570&idproducttype=8&level=0>)

IDB Supports Colombia's Water and Sanitation Reforms

US\$250 million loan tied to program to reach universal service coverage in Colombian cities and sharply reduce the coverage gap in rural areas by 2019. Colombia will consolidate its water and sanitation service delivery model and will seek to accelerate service expansion efforts as part of a Programmatic Policy-based Loan (PBL) for US\$250 million approved by the Inter-American Development Bank. This operation is the first in a series of up to three loans in support of policy reforms intended to help Colombia implement more effective and equitable social policies in the water and sanitation sectors. The PBL is a fast-disbursing instrument that enables Colombia's Treasury to finance programs according to its fiscal priorities, so long as it advances reforms in a particular economic sector. This program to support the consolidation of reforms in water and sanitation reflects Colombia's commitment to carry out adjustments in the legal, political and institutional framework governing this sector. Specifically, Colombia intends to meet goals regarding the equity, efficiency, quality and sustainability of its water and sanitation services, and to reach universal coverage in urban areas and make significant progress in rural areas by 2019. These objectives will be met through adjustments to laws, administrative procedures, policies and the regulatory and institutional framework in water and sanitation.

Under the current operation, Colombia intends to increase urban water service coverage from 94.5 percent to 97.8 percent in 2011, and in sanitation from 90.1 percent to 93.2 percent. This would mean that 3.2 million and 3 million additional people, respectively, will have water and sanitation services as a result of the reforms. The policy reforms are also intended to improve the efficiency of investments in service expansion by at least 33 percent, which would generate benefits in increased service coverage whose net present value would exceed US\$320 million.

(Source: <http://water.environmental-expert.com/resultEachPressRelease.aspx?cid=23771&codi=40513&idproducttype=8&level=0>)

Interaction between Water and Forest – Challenge to Water Policies and Forest Management

Incorporating results from forest hydrology studies in water policies can help avoid uncertainty and confusion caused by the current difficulties in

transferring research findings to different countries and regions, varying forest types and species and diverse forest management regimes. In addition, institutional mechanisms to enhance synergies in forests and water administrations are needed at national and regional levels. These key messages to the decision makers were formed during the international conference "Water and Forests: a convenient truth?" held in October 2008. The conference gathered together renowned scientists to address the topic not only at a global level, but also highlighting the situation in the Mediterranean area. The conference agreed that it is clear that forests are linked to water yield. Forests use more water than shorter types of vegetation caused by their higher evaporation. Water use efficiency differs between forest species; and soil water availability fluctuates at each stand. Canopies protect the ground from runoff which also means higher interception. Root systems influence the groundwater recharge. Consequently, forest management practices should be adjusted to reach desired impacts on water by using a mix of different tree species and of varying ages, or by designing forest structure and open areas (e.g. from harvesting). Follow up of such measures is required as it is essential to determine the influences of forest management actions in water at each stand.

One of the other main findings shows that global climate models predict marked changes in seasonal snow and rainfall with more uncertainties than in temperatures. Also, they forecast a significant decrease in rainfall in the Mediterranean basin and an increase of rainfall during winters in Central and Northern Europe. Therefore, when designing large scale forest plantations for C sequestration, water shortage should not be accentuated. Shade provided by riparian forests may help reduce thermal stress to aquatic life as climate warming intensifies.

(Source: <http://water.environmental-expert.com/resultEachPressRelease.aspx?cid=31974&codi=43088&idproducttype=8&level=0>)

Clean Future for World's Dirtiest River

MANILA, PHILIPPINES - Indonesia's efforts to clean up the Citarum River, often called the world's most polluted river, today received a major boost following the Asian Development Bank's (ADB) approval of a \$500 million multi-tranche loan package. The first loan tranche is for \$50 million. The Citarum River Basin Territory supports a population of 28 million people, delivers 20% of Indonesia's gross domestic product, and provides 80% of the surface water supply to Indonesia's capital city, Jakarta. Over the past 20 years, rapid urbanization and industrial growth have resulted in growing quantities of untreated domestic sewage, solid waste and industrial effluents being dumped in the Citarum. Pollution levels now compromise public health, and the livelihoods of impoverished fishing families have been jeopardized by widespread fish kill.

"The Citarum River basin urgently needs improved management and significant infrastructure investments," said Christopher Morris, a Senior Water Resources Engineer in ADB's Southeast Asia Regional Department. "ADB assistance will bolster Indonesia's efforts to pursue effective integrated water

resources management in the basin. Integrated water resources management is recognized internationally as the best means of promoting the coordinated development and management of water, land, and related resources in river basins. "ADB's initial assistance will provide safe water supply and sanitation facilities for poor families who currently use water from the polluted canal for bathing, laundry and other uses," said Mr. Morris. "It will also allow the cultivation of an additional 25,000 hectares of paddy, benefitting 25,000 farming families." The program will provide bulk water supply for an additional 200,000 households in Jakarta, and will ultimately increase Jakarta's water supply by 2.5% annually, and resolve Bandung's critical water supply shortages, benefitting millions. ADB assistance will also support community sanitation solutions and the construction of solid waste facilities and wastewater treatment plants in the Citarum River basin to enhance environmental protection measures.

"Rapid urbanization, climate change, environmental degradation, public health, and food security are all important issues challenging water resources management in Asia and the Pacific region," said Mr. Morris. "The strategic plan or 'road map' for integrated water resources management will mean that all of these factors are addressed."

(Source <http://www.adb.org/media/Articles/2008/12741-citarum-water-management/>)

ADB Supports Water and Sanitation Improvements in Sri Lanka

MANILA, PHILIPPINES - Key urban centers in Sri Lanka's Northern and Northwestern Provinces are utilizing Asian Development Bank (ADB) funds to upgrade neglected and overstretched water and sanitation systems. ADB is providing a 32-year loan of \$59.78 million and a grant of \$23.22 million from the Asian Development Fund for the Dry Zone Urban Water and Sanitation Project which will rehabilitate and expand water and sanitation services in the towns of Chilaw, Mannar, Puttalam, and Vavuniya. The Netherlands Trust Fund for the Water Financing Partnership Facility will provide a \$2 million grant in co financing and the Government of Sri Lanka will extend the equivalent of \$28.33 million for a total project cost of \$113.33 million. Water resources are scarce in the northern dry zone area. The situation is aggravated by multiple uncoordinated water uses and users, ageing infrastructure, and development- and conflict-related pressures. Piped water coverage is low, ranging from 10% of the population in Vavuniya to about 70% of the population in Puttalam. During the dry season, most households spend up to 50 minutes each day to fetch water. With little access to piped water, many people are forced to gather supplies from other sources, which are often polluted or of poor quality. Sanitation systems are typically rudimentary, with wastewater often seeping into groundwater.

"By improving access to safe water and sanitation, the project will improve the lives of thousands and help decrease poverty levels as it will reduce medical expenditure and lower the number of work days lost from sickness. It will also help reduce the time women and children currently spend collecting

water, providing increased scope for more productive activities," said Tatiana Gallego-Lizon, Urban Development Specialist with ADB's South Asia Department. The project will provide water supply to households for approximately 200,000 residents in these four towns and improve sanitation for around 100,000 people within the target areas by the time the project is completed in 2013. The project will also help improve service delivery by decentralizing activities to the National Water Supply and Drainage Board regional offices. It will also seek to improve the capacity for planning and management of water resources, as well as to strengthen the capacity of local authorities to provide adequate services.

The project will also provide opportunities for members of the target communities to participate in the decision-making process and management of resources. "The project constitutes an opportunity to support the reconciliation process by bringing communities together to assist in the rehabilitation and development of areas that have been affected by decades of conflict," said Ms. Gallego-Lizon.

(Source: <http://www.adb.org/media/Articles/2008/12737-water-sanitation-improvement/>)

World Bank Approves a Grant of US\$190 Million for an Urban Water Supply Project in the Democratic Republic of Congo

The Board of Directors of the World Bank approved a US\$190 million IDA grant for an urban water supply project in urban areas in the Democratic Republic of Congo (DRC). The Urban Water Supply Project (Projet d'Alimentation en Eau Potable en Milieu Urbain (PEMU)) seeks to sustainably increase access to potable water in selected urban areas and improve the effectiveness of REGIDESO, the national water utility. DRC has some of the largest water resources in the world, and although its hydro-geological resources are believed to be substantial, the country still faces considerable difficulties when it comes to supplying water to its population. Currently, only 22 percent of the total population, or 11 million people, have access to safe drinking water in the country. This project will bring DRC a step closer to achieving the seventh Millennium Development Goal (MDG-7)—to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. It is estimated that through this project, nearly 1.2 million urban dwellers will have access to drinking water, which in turn will improve their quality of life (MDG-1), reduce infant mortality (MDG-4), improve maternal health (MDG-5), and fight the spread of HIV/AIDS, malaria and other diseases (MDG-6).

"The lack of drinking water poses a threat to public health and it is the poor who bear the brunt of inefficient service," said Franck Bousquet, the World Bank's Task Team leader. "For a liter of water, they may pay up to seven times more than they should were they adequately served by public services." Poor households in urban areas are the main target population of this project, which will also finance water stand posts in particular for the poor. In addition to improved access, the project will reduce losses and increase productivity so as to improve the financial situation of REGIDESO. The project strategy is to create the conditions for the operational and financial viability of REGIDESO, improve

its operations, and redress its finances through a change process led by a professional operator under a five-year management contract. "Existing customers will also benefit from improved service as a result of better management geared toward achieving results that will be monitored regularly by independent audits," Bousquet added.

Three cities have been selected for the investments funded under the project— Kinshasa, Matadi and Lubumbashi. Preliminary studies have shown that emphasis should be placed on these three major urban centers to restore the financial viability of REGIDESO. Together, these three cities account for 72 percent of the company's revenue, 79 percent of its active customers, but only 38 percent of its infrastructure network. Other donors are also financing investments in secondary cities in DRC.

(Source; <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:2017488~menuPK:34463~pagePK:34370~piPK:34424~theSitePK:4607,00.html>)

DONORS' LENDING AND SUPPORT FOR IRRIGATION & DRAINAGE PROJECTS

World Bank

Bangladesh: Water and Sanitation Project

IDA Credit: US\$149 million

TERMS: Maturity = 40 years; Grace = 10 years

Project Description

The project aims to improve the sustainable delivery of storm water drainage, wastewater and water services by the Dhaka Water Supply and Sewerage Authority (DWASA) to the population of Dhaka. The project has five components: (a) rehabilitation and strengthening of existing sewerage system; (b) rehabilitation and strengthening of storm water drainage system; (c) implementation of environment and social safeguards; (d) service provision to low income communities; (e) project management, monitoring and evaluation (M&E), consultations and communications.

Media Contact

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Nicaragua: Greater Managua Water and Sanitation Project (Prasma)

IDA Credit: US\$20 million

TERMS: Maturity = 40 years; Grace = 10 years

Project Description

The project will support Nicaragua's efforts to improve the quality of life of the population living in the Greater Managua region, by providing access to reliable water supply and sewerage services. The operation will finance (i) water and sanitation coverage extensions in low-income neighborhoods; (ii) improvements in water supply and efficiency in specific areas and; (iii) institutional strengthening activities as well as the project's management and monitoring activities.

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Asian Development Bank

Songhua River Basin Water Pollution Control and Management Project: China, People's Rep. of

Amount: US\$200.0 million

Project Impact

Enhanced urban environment and improved public health and quality of life for urban residents in the project cities and counties in the provinces of Heilongjiang and Jilin along the Songhua River Basin (SRB).

Project Outcome

Reduced pollution and improved water supply, wastewater management, and solid waste management in SRB.

Project Outputs

The Project has three components broken down into 5 subcomponents and 34 activities as indicated in the design and monitoring framework.

1. Improved and expanded water supply services, and wastewater treatment in the project cities and counties in Heilongjiang province.

1.1 Four water treatment plants (WTPs) in the project cities and counties in Heilongjiang province with additional capacity and distribution mains are operational.

1.2 Nine wastewater treatment plants (WWTPs) and sewers in the project counties in Heilongjiang province are operational.

2. Improved and expanded wastewater treatment, solid waste management, and river improvement in the project cities and counties in Jilin province

2.1 Eight WWTPs and sewers in the project counties and cities in Jilin province are operational

2.2 Ten sanitary landfill facilities in Jilin province are operational.

2.3 River improvement at the source of the Songhua River is completed.

3. Institutional capacity development for project management.

Social Aspects

The Project will directly benefit an urban population of 5.9 million including 2.89 million in Heilongjiang Province and 3.01 million in Jilin Province. Of the total direct beneficiary population, about 11.56% (10.18% in Heilongjiang Province and 12.88% in Jilin Province) are classified as poor based on the weighted average local urban poverty line of CNY130 per month. The poverty and social impacts of the Project include several dimensions; (i) improved urban environmental conditions and enhanced sanitation through pollution control in the SRB with the provision of water supply, wastewater management, solid waste management, and river rehabilitation components with the Project cities and counties; (ii) increased employment and income generation opportunities from temporary job creation during construction phase and permanent job creation during the operational phase; (iii) reduction in the incidence of water and vector-related diseases with associated reduction in medical costs and in the number of workdays and school days lost; (iv) value-added benefits from local procurement; (v) improved investment conditions to stimulate the development of local economy to create new jobs and income generating opportunities and accelerate the rehabilitation of the ecological system of the Project cities; (vi) accelerated development of tourism industry in the Project cities and counties, i.e. Changbaishan Special Administrative District, the well-known tourist are in Jilin; and (vii) increase in land and property values.

Project Officer

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Integrated Citarum Water Resources Management: Indonesia

Amount: US\$3.8 million

Project Impact

The expected impact of this TA is the sustainable management of water resources. Reduced poverty, and improved health and living standards in the Citarum River Basin.

Project Outcome

The expected outcome is improved and integrated water resource management in place, with government and the community working in partnership to achieve the shared vision.

Project Outputs

The planned component projects (outputs) are grouped by key IWRM areas as follows: (i) Institutions and Planning for IWRM; (ii) Water Resource Development and Management; (iii) Environmental Protection; (iv) Water Sharing; (v) Disaster Management; (vi) Community Empowerment; and (vii) Data, Information and Decision Support.

Project Officer

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UPCOMING REGIONAL AND INTERNATIONAL MEETS AND EVENTS**UNW-DPC/UNCCD/AWC organizes "Water & Land" Capacity Development Workshop for Water and Environmental Journalists**

22-24 Jan 2009

Cairo, Egypt

A "Water & Land" Capacity Development Workshop for Water and Environmental Journalists in the Arab Countries is being organized by UNW-DPC, the United Nations Convention to Combat Desertification (UNCCD) and the Arab Water Council (AWC). It will take place in Cairo, Egypt, from 22 to 24 January 2009.

The main objective of the workshop is to create awareness among media professionals in Arab countries regarding the current situation of water resources management and land degradation in the region, and to seek active involvement of the media for creating public awareness and advocacy to promote sectoral reforms to support the Millennium Development Goals and the Convention to Combat Desertification. The expectation is that with increased media attention to these issues, there will be more public awareness, which in turn, draw more intensified attention by decision-makers on these issues. The participants of the workshop are water and environmental journalists and media professionals from Arab countries representing different print and electronic media (radio, television, newspapers, Internet, etc.).

The expected outcomes of the workshop are:

- The participating media professionals acquire knowledge about the social, governance and technical nature of water, desertification, land degradation and drought (DLDD).
- Journalists will have explored how the key issues are linked to news and feature stories they investigate and where to look for further information. Increase public awareness of the problem of water and DLDD and possible impacts on them in the Arab countries.
- Compilation of reports from the participants prepared for the workshop regarding the national situation of media in their countries related to water and DLDD issues.

After the workshop, the participants will be encouraged to report on how they have adopted the ideas learnt from the workshop in their work. These reports will be included in a final workshop report that will be largely disseminated.

Water Today's Water Expo 2009

26-28 Feb 2009

Chennai, Tamil Nadu, India

Water Today's Water Expo 2009 is in its third edition of its annual water expo. It is a perfect, proactive platform for water and wastewater Industry offering all the exciting business opportunities under one roof. 'Water Today'

with a vision about the growing potable water need world over, arranges this Mega event WATER EXPO 2009 with a special focus on Packaged Drinking Water Industry.

Use this opportunity to:

- Be a part of an industry that is expected to grow \$4 billion soon
- Be a part of an industry that turn out a phenomenal 40 to 50% increase a year.
- Be a part of an industry that offers scope for private-public-partnerships
- Discover new niche markets and increase business partnerships
- Maximise your brand visibility and build the brand image

'Water Today' invites you to participate in this Mega Water Expo 2009 and avail this opportunity to forge right business ties. We have enclosed an application with tariff card and a detailed floor plan for your perusal.

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5th World Water Forum

15-22 March 2009

Istanbul, Turkey

The World Water Forum, which is organized by the WWC every three years in collaboration with the authorities of the host country, is the largest international event in the field of water.

15,000 people from 150 countries are expected to attend the 5th Forum to discuss issues and solutions regarding water in the world.

Thematic Process

The thematic process for the 5th World Water Forum follows a "pyramid" approach: all themes, topics and sessions will ultimately lead to the achievement of a clear set of experiences, recommendations and commitments for action on bridging water divides among actors, sectors and among the present and future generations. The programme framework is developed by the programme Committee and specifies the aim, themes and topics. 6 themes have been identified:

Ends

- Global Changes and Risk Management
- Advancing human Development and the MDGs
- Managing and Protecting water resources and their supply systems to meet human and environmental needs

Means

- Governance and Management
- Finance
- Education, Knowledge and Capacity Building

Thematic Coordinators have been identified for each theme: their role is to develop within a thematic consortium the respective theme, topics and sessions to identify and share experiences and actions bridging the gaps between actors, sectors, regions and generations of relevance for the theme and to formulate recommendations, commitments and actions to further build these bridges.

(Source: <http://www.worldwaterforum5.org/index.php?id=1897>)

Transboundary Water Management Programme

March 23-April 3 2009

Mozambique

8-12 June 2009

Sweden

The Stockholm International Water Institute together with Ramboll Natura provide interactive and cross- disciplinary international training programmes in Integrated Water Resources Management (IWRM) and Transboundary Water Management (TWM). In 2009, a two part programme in Transboundary Water Management will be held in Mozambique and Swaziland, March 23 - April 3 and in Sweden, June 8-12.

The programme provides a meeting place for professionals involved in water issues around the world, with the aim of building both personal and institutional bridges. The training programme further draws on regional and global experience from transboundary water resources management and discusses legal frameworks and novel techniques for enhancing the broad benefits of shared waters. The programme will engage each participant in mentor and peer reviews on work plans and projects, discussions, expert panels and group work, role plays as well as field visits and in-depth case studies. Participants represent a broad group of water resources-related stakeholders, such as governments, NGOs, media, private sector and academia.

Water Africa 2009

01-03 April 2009

Accra, Ghana

Summary

Water Africa is an international trade exhibition for goods and services for the water and wastewater engineering sector with an accompanying seminar programme. It offers exhibitors the chance to promote their products and services to officials from central and local government, regional contractors and consultants, industrial customers and NGOs. It has been staged in various African capitals almost annually since it began in 1993. The 2009 event will be held in the Accra International Conference Centre in Ghana on 1-3 April 2009.

Organizers

Ace Event Management, with the support of the Ghanaian Ministry of Water Resources, Works & Housing and the Ghana Water Supply Company

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The 10th China Water Show

28-30 April 2009

Shanghai, China

The China International Water Supply & Drainage and Water Treatment Exhibition (WSDWTF) has been held annually in Shanghai since 1999. WSDWTF is one of the most famous international water shows with the largest scale in China. It has not only attracted many domestic water industry exhibitors and visitors, but has also attracted many participants from North America, Europe, and Asia Pacific who are willing to enter the Chinese market. With the perfect combination of specialization and integration, localization and internationalization, WSDWTF has become the most influential water event in China.

(Source: <http://water.environmental-expert.com/resultEachEvent.aspx?cid=20634&codi=4111&idproducttype=3&idmainpage=0&level=0>**)**

CIWEM Annual Conference 2009: Water and the Global Environment

29-30 April, 2009

Olympia Conference Centre, London, UK

Summary

In April 2009 CIWEM is holding a two-day Annual Conference at Olympia Conference Centre in London that will address multidisciplinary issues across all areas of the global water and environment sector. The event includes a mix of keynote speakers, offered papers, an exhibition and many networking opportunities that will make this the key event for water and environment professionals. Exhibitors will showcase the diversity of the water and environment industry, allowing delegates to network with industry peers and experts face-to-face.

Organizers

The Chartered Institution of Water and Environmental Management (CIWEM)

Contact Name: Justin Taberham

E-mail: Justin@ciwem.org

2nd International Conference on Water Economics, Statistics, and Finance

03-05 July 2009

Thrace, Greece

Summary

This meeting is aimed at providing specialists interested in economics, statistics, and financing of water and sanitation with the opportunity of getting together and constituting a forum to debate on how utilities are financed, their various water tariff structures and their measurement of performance, national and regional water industry statistics, water facts, water consumption and charging figures. A parallel conference will be organized at the same venue by the IWA Specialist Group on Strategic Asset Management entitled Asset Management of Medium and Small Wastewater Utilities. Arrangements have been made for participants to attend this event.

Organizers

International Water Association (IWA) Statistics and Economics Specialist Group, with the cooperation and sponsorship of the Department of Environmental Engineering of the Democritus University of Thrace and the Department of Economics of the University of Crete.

Contact Name: Konstantinos P. Tsagarakis

E-mail: iwa@econ.soc.uoc.gr

WEFTEC 2009

10-14 October 2009

Orange, FL, USA

The Water Environment Federation's Annual Technical Exhibition and Conference, is the largest conference of its kind in North America and offers water quality professionals from around the world with the best water quality education and training available today. Also recognized as the largest annual water quality exhibition in the world, the expansive show floor provides unparalleled access to the most cutting-edge technologies in the field, serves as a forum for domestic and international business opportunities, and promotes invaluable peer-to-peer networking between its more than 20,000 attendees.

NEW PUBLICATIONS

Handbook of Soil and Groundwater Biogeochemistry

With an exponentially increasing human population on earth, and a finite amount of dry land, the stress put on both land and sea productivity is increasing accordingly. The use of land to produce agricultural crops uses the best land in terms of its drainage, tilth, and ease of management. There is great competition for this land as a substrate for housing and recreation by that same population for those reasons. This collection of volumes is intended to describe

surface water, groundwater, soil, and sediment quality from a chemical point of view. Air quality is another environmental topic, which will not be discussed. This work will describe water quality from the point of view of natural quality; natural processes that lead to degraded quality; pollutants that degrade quality, both chemical and biological; radioactive elements; organic solutes including dissolved organic carbon, color-producing substances, chemical oxygen demand, biochemical oxygen demand; evaluation of water analyses; evaluation of water and groundwater quality; graphical methods for presenting water-quality data; methods for extrapolating water quality data; and relationship of water quality to water use. Chemical processes are fundamental to natural phenomena such as crop growth, aqueous and marine animal and plant life, animal life in soil, and ultimately human life. Natural processes are discussed that may result in water having certain chemical and physical characteristics, such as hardness, softness, saltiness, high temperature, or dissolved gases, which require that the water be treated for potable or boiler uses. Man-made pollutants find their way into water from various sources, sewage from leaking public sewers and septic systems, agricultural chemicals, animal feedlot wastes, road deicing salt, landfills, industrial wastes, mine wastes, and brine disposal from petroleum exploration. Most organic chemicals have limited to virtually no solubility in water. However, those that do dissolve can cause water's quality to suffer or make it totally useless or damaging to health. Organic solvents, polychlorinated biphenyls, phthalic acid esters, herbicides, insecticides, nematocides, and acaricides are among the substances that will be discussed in regard to their effect on water quality.

Author: Olin C. Braids; Peter Swarzenski
Price: 350.00 EUR
ISBN: 978-1-4020-9772-0

Geographic Information Systems in Water Resources Engineering

State-of-the-art GIS spatial data management and analysis tools are revolutionizing the field of water resource engineering. Familiarity with these technologies is now a prerequisite for success in engineers' and planners' efforts to create a reliable infrastructure. Geographic Information Systems in Water Resource Engineering presents a review of the concepts and applications of GIS in the various sub-fields of water resource engineering. After a summary review of analyses and database functions, the book addresses concepts and applications in the following areas:

- Surface Water Hydrology
- Groundwater Hydrology
- Water Supply and Irrigation systems
- Wastewater and Stormwater Systems
- Floodplain Management
- Water Quality
- Water Resource Monitoring and Forecasting
- River Basin Planning and Management

The book develops a general understanding of the nature of GIS and how it is used to create and analyze geographic data. The author first introduces primary field data collection methods and describes procedures for interpretation and analysis. The second portion of the book focuses on the linkage of GIS data with water resource analysis and management models. Applications are presented with descriptions of GIS database development, analysis background theory, and model integration with GIS. The profound impact of GIS systems on water resources engineering continues to grow. Geographic Information Systems in Water Resource Engineering arms engineers and planners with an arsenal of tools to assist in the creation of a reliable, environmentally sensitive, infrastructure.

- Provides a basic understanding of GIS includes methods of interpretation and analysis
- Links GIS data with water resource analysis models
- Presents various water resource applications such as hydrologic modeling watersheds and modeling erosion
- Describes GIS database development, analysis background theory, and model integration with GIS

Table of Contents

Overview of GIS for WR Engineering. Introduction to GIS. GIS Analysis Functions and Operations. GIS Database Development. GIS for Surface Water Hydrology. GIS for Floodplain Management. GIS for Groundwater Hydrology. GIS for Urban Water Systems. Suitability Assessment using GIS. GIS for WR Monitoring and Forecasting. GIS for WR Decision Support Systems. GIS Management and Policies.

Author: Lynn E. Johnson
Price: US\$ 120.00
ISBN: 9781843392378
Pages: 328

Managing and Transforming Water Conflicts

What is the one thing that no-one can do without Water? Where water crosses boundaries – be they economic, legal, political or cultural – the stage is set for disputes between different users trying to safeguard access to a vital resource, while protecting the natural environment. Without strategies to anticipate, address, and mediate between competing users, intractable water conflicts are likely to become more frequent, more intense, and more disruptive around the world. In this book, Delli Priscoli and Wolf investigate the dynamics of water conflict and conflict resolution, from the local to the international. They explore the inexorable links between three facets of conflict management and transformation: Alternative Dispute Resolution (ADR), public participation, and institutional capacity. This practical guide will be invaluable to water management professionals, as well as to researchers and students in engineering, economics, geography, geology, and political science who are involved in any aspects of water management.

Covers water disputes on all scales, from the local to the international, rather than restricting discussions to specific local areas or to issues applicable only to international waters • Offers clear applications for those involved in dispute resolution, as well as far-reaching case study analyses, drawn from decades of real-world conflict experience • Provides a wealth of reference material in the appendices, including detailed case studies and treaty components that can be found nowhere else • A skills-building workbook for students that follows the themes and structure of the text will be made available via the Cambridge website, and distributed in hardcopy by UNESCO and the World Bank

Contents

Foreword A. Szöllösi-Nagy; Introduction; 1. Background, trends, and concepts; 2. Water wars, water reality - reframing the debate on transboundary water disputes, hydro politics, and preventive hydro diplomacy; 3. Water conflict management - theory and practice; 4. Crafting institutions - law, treaties, and shared benefits; 5. Public participation, institutional capacity, and river basin organizations for managing conflict; 6. Lessons learned - patterns and issues; 7. Water conflict prevention and resolution - where to from here?; Appendix A. 1997 Convention and ILC draft rules on international groundwater; Appendix B. River basin organizations; Appendix C. Case studies of transboundary dispute resolution J. T. Newton; Appendix D. International water pricing - an overview and historic and modern case studies K. M. Anderson and L. J. Gaines; Appendix E. Treaties with groundwater provisions K. Matsumoto; Appendix F. Treaties with water quality provisions M. Giordano; Appendix G. Treaties that delineate water allocations; References; Index.

Reviews

Pre-publication praise: 'I know of no two persons in the world of water who could better combine their efforts to describe a comprehensive picture of water use and avoiding the associated potential conflicts. This is a work that shows the results of combined decades of experience and caring about water.' William Cosgrove, President, Bureau d'audiences publiques sur l'environnement (Quebec) and co-author of the World Water Vision

Pre-publication praise: 'Delli Pricoli and Wolf carefully analyse hydromyths such as 'water wars' and show why co-operation rather than conflict over water is more common around the world. The publication of this book is most timely as water resources are increasingly recognized as a limited but renewable resource that need to be managed wisely. Co-operation amongst riparian states on water is a building block of economic development and a key element of working toward a more sustainable resource use.' Ger J. Bergkamp, Head - Water Programme, IUCN the World Conservation Union

Authors: Jerome Delli Priscoli and Aaron T. Wolf
ISBN: 9780521632164

FELLOWSHIP AND FUNDING OPPORTUNITIES

Malaysian Technical Cooperation Programme

The Malaysian Technical Cooperation Programme (MTCP) was launched in 1980. The main objective lies under its philosophy that the human resource development is a vital catalyst for countries to achieve sustainable economic and social development. The Programme consolidates various forms of technical cooperation in areas where Malaysia has the valuable experience and expertise. Through these cooperation efforts, Malaysia's bilateral ties with MTCP member countries were strengthened. The MTCP Scholarship for Postgraduate Studies provides opportunities for students to pursue advanced academic study in Malaysia. This scholarship is a Government-to-Government basis, without any bond imposed by Malaysia. Scholarships are intended for promising candidates who may be expected to make a significant contribution to their own countries on their return from Malaysia. Scholarships are available for postgraduate studies at Masters and PhD level tenable at Malaysian Universities.

Target group: Undergraduate, Bachelor's degree
Purpose: Study

Countries

ASEAN

Brunei, Cambodia, Indonesia, Lao PDR, Myanmar, Philippines, Singapore, Thailand, Vietnam

OTHER SEA AND ASIA

China, D.P.R. Korea, Mongolia, Timor Leste

SAARC COUNTRIES

Bangladesh, India, Maldives, Nepal, Pakistan, Sri Lanka

NORTH AFRICA AND WEST ASIAN STATES

Afghanistan, Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Republic of Yemen, Saudi Arabia, Syria, Tunisia, UAE

PACIFIC ISLANDS

Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Solomon Island, Tonga, Tuvalu, Vanuatu, Western, Samoa

EAST AND CENTRAL EUROPE

Albania, Bosnia and Herzegovina, Croatia, Turkey, CIS, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan

AFRICA

Angola, Benin, Botswana, Burkina Faso, Cameroon, Comoros, Congo, Cote D`Ivoire, Djibouti, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Equatorial, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe

SOUTH AMERICA

Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Panama, Paraguay, Peru, Suriname, Uruguay, Venezuela

THE CARIBBEAN

Antigua Barbuda, Bahamas, Barbados, Belize, British Vir, Cayman Islands, Cuba, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent Grenadines, Trinidad Tobago, Turks Caicos Islands

Requirements for Eligibility

The scholarship is open equally to qualified candidate up to 45 years of age at the time of application. Candidates should be the citizens of above mentioned countries.

- They should, at the time of application, obtain a degree or equivalent qualification with at least upper second class honours, (or CGPA 3.0) for Master's programme; and hold a Master's degree with good grades for PhD programme.
- The candidates must demonstrate outstanding verbal, reading and writing proficiency in the English language through one of the following:
 - Test of English as a Foreign Language (TOEFL) or
 - Test administered by the International English Language Testing Service (IELTS).

If deemed necessary, applicants may also be required to attend an interview and/or take an entrance test or English Test conducted by the Ministry of Higher Education or the Board of Admissions of the particular university.

- Applicants must be in good health, both physically and mentally.

APPLICATION TO THE UNIVERSITY

University's application for admission is solely the candidate's responsibility. Proof of admission is not a prerequisite to the award. Selection committee for MTCP Scholarship will only consider qualified applicants with outstanding academic achievement and professional performance. Interested applicants are advised to apply before the beginning of the academic year which falls on the month of July for most of Malaysian university. The scholarship awarded does not guarantee a placement in the university. Admission to any program is by way of applications to the university. Applications must abide to the requirement and procedure for admission set by the university.

VALUE OF AWARDS

- Each scholarship consists of:
 - A return air tickets from recipient's capital city to Malaysia;
 - An approved tuition fees by the respective university;
 - A maintenance allowance at the rate of RM1,200.00 per month;
 - A yearly grant for books and internal travel;

Thesis allowance, installation and termination grant.

- No marriage/family allowance for accompanying spouse or children.
- Government of Malaysia reserves the rights to review the value of awards at anytime, and if such changes are made, the value of scholarship will be changed and the effective date will be informed to the successful candidates.

University of Groningen PhD Fellowship

Selection criteria

Target group: PhD degree
Purpose: Research
Field of study: All

Countries

Afghanistan, Albania, Algeria , American Samoa, Angola, Anguilla , Antigua And Barbuda , Argentina , Armenia , Aruba , Azerbaijan, Bahamas , Bahrain , Bangladesh, Barbados , Belarus , Belize , Benin , Bermuda, Bhutan , Bolivia , Bosnia-Herzegovina , Botswana , Bouvet Island , Brazil, Brunei , Bulgaria, Burkina Faso, Burundi , Cambodia, Cameroon, Cape Verde, Cayman Islands , Central African Republic , Chad , Chile , China , Christmas Island, Cocos (Keeling) Islands , Colombia , Comoros , Conch Republic , Congo, Democratic Republic of the , Cook Islands , Costa Rica , Croatia , Cuba , Cyprus, Djibouti , Dominica , Dominican Republic , East Timor , Ecuador , Egypt , El Salvador , Equatorial Guinea , Eritrea , Estonia , Ethiopia , Falkland Islands, Faroe Islands, Fiji, French Guiana, Gabon, Gambia, Georgia, Ghana, Gibraltar, Grenada, Guadeloupe, Guam , Guatemala, Guinea , Guinea Bissau, Guyana , Haiti, Honduras, Hungary, India , Indonesia, Iran , Iraq , Israel, Ivory Coast (Cote D'Ivoire), Jamaica , Japan , Jordan , Kazakhstan , Kenya , Kiribati, Kuwait , Kyrgyzstan, Laos , Latvia , Lebanon , Lesotho , Liberia , Libya, Lithuania , Macau , Macedonia, Madagascar, Malawi , Malaysia , Maldives, Mali, Malta , Marshall Islands , Martinique , Mauritania , Mauritius , Mayotte , Mexico, Micronesia, Moldova , Mongolia, Montserrat, Morocco , Mozambique, Myanmar, Namibia , Nauru , Nepal , Netherlands Antilles , New Caledonia , Nicaragua, Niger , Nigeria , Niue , Norfolk Island , North Korea , Northern Mariana Islands, Oman , Pakistan, Palau , Panama , Papua New Guinea , Paraguay , Peru, Philippines , Pitcairn Island , Poland , Polynesia, Puerto Rico, Qatar , Reunion, Romania, Russia , Rwanda, S.Georgia & S. Sandwich Isls. , Saint Kitts & Nevis, Saint Lucia , Saint Pierre And Miquelon , Saint Vincent & Grenadines , Samoa, San Marino , Sao Tome And Principe , Saudi Arabia , Senegal , Serbia, Seychelles , Sierra Leone, Slovakia , Slovenia , Solomon Islands , Somalia, South Africa, South Korea, Sri Lanka, Sudan , Suriname, Svalbard And Jan Mayen Islands , Swaziland , Syria , Taiwan, Tajikistan , Tanzania , Thailand, Togo , Tokelau, Tonga , Trinidad And Tobago , Tunisia , Turkey , Turkmenistan, Turks And Caicos Islands , Tuvalu , Uganda , Ukraine , United Arab Emirates, Uruguay , Uzbekistan , Vanuatu , Venezuela , Vietnam , Virgin Islands , Wallis And Futuna Islands , Yemen , Zambia , Zimbabwe , Montenegro.

Eligible candidates

Junior Ph.D. researchers who conduct Ph.D. research within the scope of a cooperation between the University of Groningen and an institution in a developing country.

Value and purpose of grant

The journeys to the Netherlands and back home are included in the scholarship grant. Travel costs, travel insurance, airport taxes, living allowance, settling allowance etc.

Grant award period

Maximum of six months each year within a four-year period.

Other details

Candidates from a university that has signed a cooperation agreement with the University of Groningen will be given preferential treatment.

Grant provider

University of Groningen

Application procedure

For information on how to apply, see

http://www.rug.nl/let/voorzieningen/internationalOffice/handleiding/beurzenEnFondsen/phd_fellowship_programme_rug

Applications must include:

- A research proposal. This proposal should include:
- A clear research question;
- A short description of current developments in the chosen area of research;
- A plan for the work;
- A survey of relevant literature;
- A list of the applicant's publications;
- References.

For additional information see: http://www.rug.nl/let/voorzieningen/internationalOffice/handleiding/beurzenEnFondsen/phd_fellowship_programme_rug

Erasmus Mundus Scholarship Program

The Erasmus Mundus program is a co-operation and mobility program in the field of higher education which promotes the European Union as a centre of excellence in learning around the world. It supports European top-quality Masters Courses and enhances the visibility and attractiveness of European higher education in third countries. It also provides EU-funded scholarships for third country nationals participating in these Masters Courses, as well as scholarships for EU-nationals studying at Partner universities throughout the world.

Selection Criteria

<i>Target group:</i>	Master's degree, Bachelor's degree
<i>Purpose:</i>	Study, Research
<i>Field of study:</i>	All

Countries

Saint Kitts & Nevis, Saint Lucia, Saint Pierre And Miquelon, Saint Vincent & Grenadines, Samoa, San Marino, Sao Tome And Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Solomon Islands, Somalia,

South Africa, South Korea, Sri Lanka, Sudan, Suriname, Svalbard And Jan Mayen Islands, Swaziland, Switzerland, Afghanistan, Albania, Algeria, American Samoa, Angola, Anguilla, Antigua And Barbuda, Argentina, Armenia, Aruba, Australia, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia-Herzegovina, Botswana, Bouvet Island, Brazil , Brunei, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape Verde, Cayman Islands, Central African Republic, Chad, Chile, China , Christmas Island, Cocos (Keeling) Islands, Colombia, Comoros, Conch Republic, Congo, Democratic Republic of the, Cook Islands, Costa Rica, Croatia, Cuba, Djibouti, Dominica, Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Ethiopia, Falkland Islands, Faroe Islands, Fiji, French Guiana, Gabon, Gambia, Georgia, Ghana, Greenland, Grenada, Guadeloupe, Guam, Guatemala, Guinea, Guinea Bissau, Guyana, Haiti, Honduras, Hungary, India, Indonesia, Iran, Iraq, Israel, Ivory Coast (Cote D'Ivoire), Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Lebanon, Lesotho, Liberia, Libya, Macau, Macedonia, Madagascar, Malawi , Malaysia, Maldives, Mali, Marshall Islands, Martinique, Mauritania, Mauritius, Mayotte, Mexico, Micronesia, Moldova, Mongolia, Montserrat, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, New Caledonia, New Zealand, Nicaragua, Niger, Nigeria, Niue, Norfolk Island, North Korea, Northern Mariana Islands, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Pitcairn Island, Polynesia, Puerto Rico, Qatar , Reunion, Russia, Rwanda, S.Georgia & S. Sandwich Isls. , Syria, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tokelau, Tonga, Trinidad and Tobago, Tunisia, Turkmenistan, Turks and Caicos Islands, Tuvalu, Uganda, Ukraine, United Arab Emirates, United States, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Virgin Islands, Wallis and Futuna Islands, Yemen, Zambia, Zimbabwe, Montenegro.

Eligible Candidate

The selection criteria are set by the consortium which offers the masters. Each consortium may appoint a small number of scholars for a scholarship. Candidates should apply directly to the Erasmus Mundus program.

Grant Information

Value and purpose of grant: The contribution from the European Union for an Erasmus Mundus scholar is 13.000 euro for a period of three months.

Closing date

Annual calls for the submission of applications state deadlines and other requirements or priorities, where and if relevant.

Grant provider

European Union

Application Procedure

Applications can only be submitted online at the participating consortium. See for additional information:

http://europa.eu.int/comm/education/programmes/mundus/index_en.html

Should further assistance be needed, you may contact the National Structure through the email: erasmusmundus@nuffic.nl or [EAC-Erasmus Mundus@cec.eu.int](mailto:EAC-ErasmusMundus@cec.eu.int)

The financial contribution of the European Union to the Erasmus Mundus scholarships for the academic year 2007-2008 will be 62.6 million Euros.

CAPACITY BUILDING AND TRAINING

River Basin Modelling

06-24 April 2009
UNESCO-IHE

Course fee: €2250
Course Coordinator: A. Jonoski, PhD, MSc
I.I. Popescu, PhD, MSc
Course location: UNESCO-IHE, Delft
Start date: 06 April 2009
End date: 24 April 2009
Duration in weeks: 3 weeks
Deadline application: 06 March 2009

Brief description

With growing scarcity and quality deterioration of water resources in many developing countries, taking into account climate change effects and increasing frequencies of floods and droughts, the role of river basin modellers to address these problems has become a necessity. The users of hydroinformatic tools and of river basin models in particular, need a substantial experience to develop models which will increase the capacity of organizations to manage and protect water resources and optimize their utilization.

After completing the River Basin Modeling short course, participants will be able to assess alternative modeling software systems, build safe and reliable models and know how to use them for planning and design.

Learning objectives

The course aims at providing participants with a comprehensive understanding of the multi-purpose nature of river basins and model-based approaches to their integrated planning and management. The course covers the fundamentals of modelling, and how to build and apply reliable models for basin wide water allocation, groundwater and catchment management. The overall goal of the course is to teach water professionals that by using river basin models they can maximize economic and social well-being in an equitable manner without compromising the sustainability of the ecosystems.

Target group

The course is designed for professionals (engineers and scientists) active in the water sector, especially those involved in using simulation models for river basin modelling. Pre-requisites are a basic knowledge of hydraulics and hydrology.

Additional information

Water resources management has become a field where computer-based models are expected to facilitate the complex process of decision making which involves several stakeholders with varied interests and various socioeconomic objectives, of the natural resources. One of the aims of the course is to show how different types of models can be used as support in the decision making processes in river basins. Managing water resources in river basins requires water resources engineering expertise combined with use of appropriate hydro informatics models. During the course practical applications of the modelling systems are demonstrated, involving testing of different management alternatives with fully integrated models.

- Basin-wide water allocation – RIBASIM.
- Groundwater modelling – Processing MODFLOW.
- Catchment and river modelling - MIKE SHE / MIKE 11 and SWAT.

Contact:

a.jonoski@unesco-ihe.org

Advanced Water Treatment Technology

06-24 April 2009
UNESCO-IHE

Course fee:	€2250
Course location:	UNESCO-IHE, Delft
Start date:	06 April 2009
End date:	24 April 2009
Duration in weeks:	3 weeks
Deadline application:	06 March 2009

Brief description

The aim of this course is to provide an overview of both the theoretical and practical aspects of conventional and advanced water technology for surface water treatment.

Learning objectives

On completion of the short course participants should be able to:
Understand the basic principles of coagulation, flocculation and disinfection processes, and select appropriate processes depending on the nature of impurities to be removed and the intended use of the treated water. Comprehend the basic principles of membrane processes and the capabilities/constraints of using membrane processes in water treatment applications, and have practical knowledge on the design and operation of these processes. Select an appropriate membrane process for a specific application, and be able to identify appropriate pre-treatment and post treatment schemes, and cleaning protocols for these processes.

Target group

The module specifically targets professionals in water treatment companies, consulting agencies, ministries and equipment suppliers.

Additional information

The short course's didactics include lectures, laboratory sessions, design exercises/workshops, and a visit to a modern water treatment plant. The lectures and workshops include computer presentation, and are of an interactive nature. During the design exercise, a computer aided design of a brackish and seawater reverse osmosis system is made using the program Rodesign 7.4 (Hydranautics), and an overview of other computer programs is given. A visit to the world's largest integrated membrane plant is also included.

Subjects

- Coagulation & Flocculation Processes
- Chlorination & Advanced Disinfection (Ozone & UV)
- Desalination & Membrane Related Technologies
- Ion Exchange Technology
- Water Softening Technology

Syllabus

- Water quality aspects of lakes & rivers
- Theory of coagulation and flocculation processes, coagulation kinetics, effects of coagulation.
- Break-point chlorination, advanced disinfection processes (ozone/UV).
- Laboratory course on water treatment techniques and analysis of common water quality parameters.
- Principles of microfiltration, ultrafiltration and reverse osmosis; specific membrane problems such as fouling, scaling and cleaning, pre-treatment options; commercial membrane elements and systems, Computer Aided Design of brackish/seawater reverse osmosis plants.
- Ion exchange resins (selectivity, column operation, regeneration of resins and applications).
- Principles of chemical softening and sludge blanket softening; design and operation of pellet softening and membrane softening plants.
- Process schemes of water treatment plants

Contact:

m.kennedy@unesco-ihe.org

Financial Management of Water Organizations

27 April- 15 May 2009
UNESCO-IHE

Course fee: €2250
Course location: UNESCO-IHE, Delft, The Netherlands
Start date: 27 April 2009
End date: 15 May 2009
Duration in weeks: 3 Weeks
Deadline application: 27 March 2009

Brief description

The aim of this course is to prepare participants for positions of leadership in water sector and utility management.

Learning objectives

Successful participants will be able to: understand the need for commercial accounting and the components of standard financial statements in irrigation, water and sanitation entities; assess the financial position of a water organization through an analysis of financial statements; have an contextual overview of financial issues in the water and sanitation sector worldwide; are able to undertake a tariff analysis for water and sanitation services.

Additional information

Finance for urban water supply, sewerage and irrigation: types of costs; cost and fixed asset accounting; financial statements -balance sheet and income and expenses statement; profitability and financial ratio analysis; demand assessment; affordability and willingness to pay; direct and contingent valuation; vendors; Economics: supply and demand curves; marginal costing, price and income elasticity; tariffs: average historical costs, long run marginal costing; metering, billing and collection; budgeting, zero and priority based budgeting; asset management plans; sources of finance for capital investment; bond markets; development banks; project finance; retained earnings.

Contact:

m.schouten@unesco-ihe.org

SUBSCRIPTION INFORMATION

NEW SUBSCRIPTIONS: Visit our website and follow the instructions, or send an email to enews-subscribe@inpim.org.

TO UNSUBSCRIBE: Send an email to enews-unsubscribe@inpim.org

The contents of the INPIM E-Newsletter do not necessarily reflect the official policies of the International Network on Participatory Irrigation Management or the opinions of INPIM leadership. The INPIM E-Newsletter is published every month by INPIM and can be contacted at e-newsletter@inpim.org or info@inpim.org

For more information on INPIM please visit <http://www.inpim.org>
31000 Visitors around the world visited the website of INPIM in the month of December, 2008

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