Fundación Centro de las Nuevas Tecnologías del Agua

3rd International Congress Smallwat11

Wastewater in Small Communities:

Towards the Water Framework Directive (WFD) and the Millennium Development Goals (MDG)

Smallwat11 WFD MDG

3rd INTERNATIONAL CONGRESS

centa

FUNDACIÓN CENTRO DE LAS NUEVAS TECNOLOGÍAS DEL AGUA

Document drawn up by the Foundation Centre of New Water Technologies (CENTA Foundation)

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Introduction

The proper treatment of urban wastewater is an indispensable element of the world strategy for the conservation of water resources.

Awareness about the need to protect and conserve water ecosystems and the conviction that access to drinking water and basic sanitation systems are essential to ensure a decent and healthy life have been driving the international community's efforts to try address this issue, which however, is far from being solved as shown by the increase of world population lacking access to improved sanitation system (2,600 million people)[1].

Many challenges must be met, but obviously rural and scattered populations as well as periurban sprawl in developing countries, are of the utmost importance.

The Fundación Centro de las Nuevas Tecnologías del Agua (CENTA Foundation) is a research centre which was set up in 1994 with the support of the Regional Government of Andalusia that has focused a great part of its efforts on producing appropriate technological support aimed at wastewater treatment in small rural communities where technical and economic resources are more limited. This technological support can be transferred to less favoured countries and areas.

[1] Source: Joint Monitoring Program (WHO & UNICEF)

CENTA aims to provide a space for scientific and technical reflection and debate in the field of sanitation and water purification in rural and disperse areas and in less favoured areas. Since 2002, CENTA has promoted the celebration of the International Congress Smallwat, whose third edition is to be held this year, in 2011.

The conference will be held in the city of Seville, at the Hotel Barceló Renacimiento, from 25 to 28 April 2011.

The conference is intended for researchers, technicians and public officials internationally who would like to publish their work or update their knowledge by attending the lectures on the best research work carried out in recent years throughout the world, which are to be presented as oral communications specially selected for the conference, and to take part in the debate on compliance with the provisions of the international agenda for the year 2015, according to the Water Framework Directive (WFD) and in line with the Millennium Development Goals (MDG) related to water.

The **objectives** of the third Congress, which are a consolidated part of the international scientific agenda, aim to establish a platform for updating technological progress, and provide an opportunity for reflection on the study of sanitation, in general, and of water purification, especially in rural areas and developing countries.

2

Background

Undoubtedly, the CENTA is a national and international leader in the field of sanitation and wastewater treatment in small communities, especially in the field of extensive water purification technologies. All of this is due to the work that CENTA has been carrying out, since 1998, at the Carrión de los Céspedes Experimental Plant.

This centre is a pioneer in Europe, starting its activity within an R&D&I Plan for Non-Conventional Water Purification Technologies, launched by the Regional Government of Andalusia (Junta de Andalucía) in 1987, in order to find technical and economically feasible solutions for the treatment of wastewater in the rural communities of Andalusia. This Plan is focused on experimental data collection for the design, maintenance and operation of extensive water purification technologies, adapted to the Spanish context.

In 1998, the Regional Government of Andalusia transferred the management of the Plan to the CENTA Foundation, and its main focus is at the Carrión de los Céspedes Experimental Plant, where the research activities have been carried out since then.

There is no doubt that the Carrión de los Céspedes Experimental Plant is today a singular technological platform and is unique in all the world: it has more than 41,000 m^2 dedicated to experimentation, a pool of all existing technologies, and the

expertise it offers in the field of extensive treatments make it a truly singular facility and a reference point for R & D & I in the water sector both in Spain and abroad.

Aerial view of the experimental centre

The CENTA is aware that in the field of water, the scientific progress is as important as the transfer of technology to the places where it has been applied. It is also absolutely convinced that scientific and technological cooperation contribute enormously to social and economic development, and so the CENTA has been promoting, since 2002, the celebration of the International Congress Smallwat which, with this third edition, has become an international reference point for the scientific community, for administrations and for public and private operators.

2.1 1st International Congress Smallwat (Seville, March 2002)

Considering the European regulatory context, including the deadlines established under Directive 91/271 on urban wastewater treatment and the Water Framework Directive 2000/60, the recent Declaration of the Millennium Development Goals, as well as the need to evaluate the research carried out in Andalusia, the CENTA thought that an international conference would be of great use, with invited experts and professionals explaining and sharing their experiences on wastewater treatment in small and periurban communities throughout appropriate technologies.

Consequently, in March 2002, thanks to the economic and institutional support of the Regional Government of Andalusia and the Ministry of Environment, the **1st International Congress "Smallwat02"** was held with the aim of becoming a forum for discussing the problems of small-scale water purification systems, to highlight the value of extensive technologies as an alternative solution to such problems, especially in less favoured areas, and to involve participants to develop a sustainable policy as regards the urban water cycle.

> The **1st Smallwat** demonstrated the value of the experience of Andalusia, a pioneer in Europe in the field of non-conventional wastewater treatment, and it boosted CENTA's scientific and technical cooperation at international level.

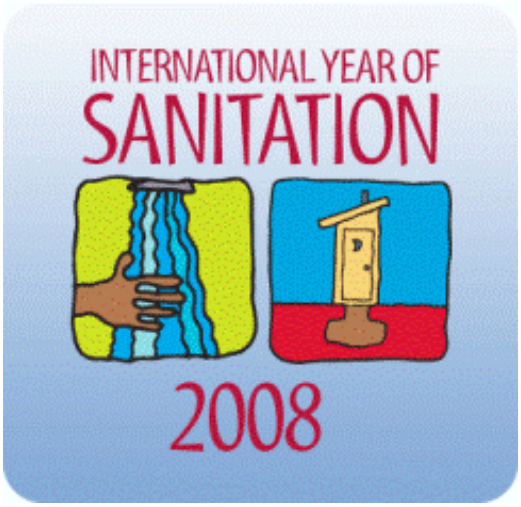
The first edition was focused on the **Mediterranean** and was attended by more than **350 participants** from **26 countries** both from the European Union and outside the EU. The event strengthened the international image of CENTA and a large network of experts was put in place for the exchange of knowledge.

This gave a great boost to the CENTA's scientific and technical cooperation with the leading institutions working with small-scale sanitation and water purification systems.

2.2 2nd International Congress Smallwat (Seville, Nov. 2007)

From 2002 onwards, the international agenda on sanitation intensified. And so, during the World Summit on Sustainable Development in Johannesburg (2002), a clear relationship was established between water and poverty, and the importance of access to drinking water and sanitation for the achievement of the Millennium Development Goals. In 2003, at the III World Forum on Water in Kyoto, the first report was released on the world water crisis, showing alarming figures on the world population lacking of access to drinking water and basic sanitation: 1,100 million and 2,400 million people, respectively.

This led the UN to declare, in 2005, the International "Water for Life" Decade: 2005-2015, with the aim of reducing the proportion of people without access to safe drinking water and basic sanitation by half by the year 2015. In 2006, in order to strengthen the efforts made by the international community as regards sanitation, the General Assembly of the United Nations proclaimed 2008 to be the International Year of Sanitation.



All these events in conjunction with increasing interest shown by the technical and scientific community for decentralised treatments and appropriate technologies, made the CENTA decide, with the support of the international expert network which forms part of its Scientific Committee, to hold the 2nd International Congress "Smallwat07", to be held again in Seville, in November 2007.

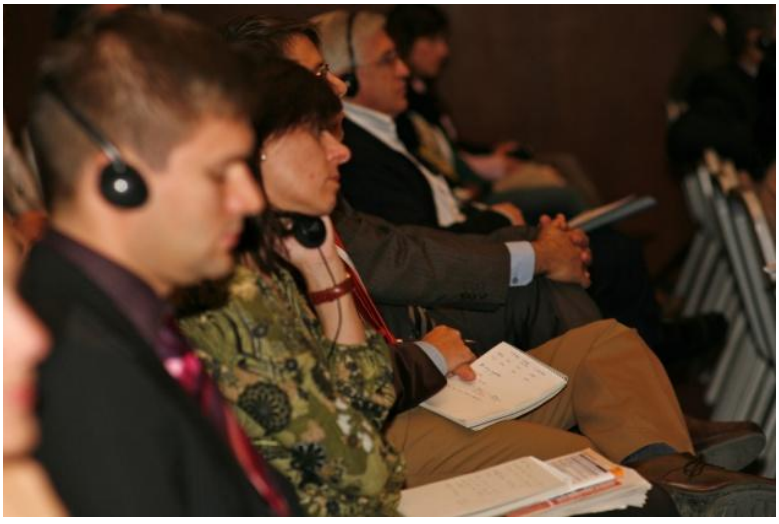
This second edition of SmallWat aimed to create a preparatory platform for the International Year of Sanitation, to present a perspective of the problem worldwide together with the most important technical progress and experiences, and generate a space for debate between technicians, scientists, and managers to promote attitudes in favour of sustainable development.

The second edition of the Congress received the support of the Ministry of the Environment, Rural and Marine Affairs, through its Directorate General for Water, the Andalusian Regional Ministry of the Environment, as well as the Spanish Agency for International Development Cooperation, and the Andalusian Agency for International Development Cooperation, which facilitated access of technicians and scientists from developing countries to the conference.

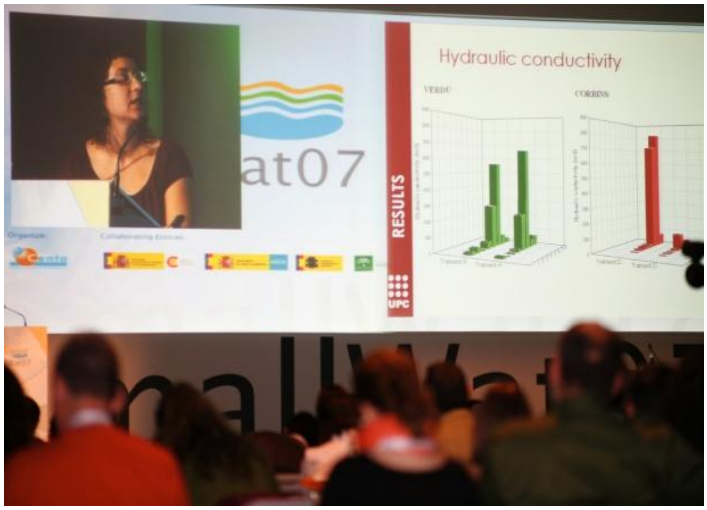
Over 600 people from 64 countries from all of the continents met at Smallwat07. During the official sessions, the most relevant cases were presented, each offering its own perspective.

As well as the oral communications at the official sessions, the programme also made room for the analysis of regional and/or national approaches, presented by politicians and managers.

We should highlight the presentations from the United States and the European Union, and the regional approaches from Africa, Asia and Latin America, presented by the most prestigious institutions were also of great interest.



SmallWat07 included **95 oral communications**. These were presented during 6 parallel sessions held between the plenary sessions which were dedicated to the **territorial** perspective.
A further 100 **works were presented in the poster exhibition.**



Spain devoted a whole session to discuss the situation in the different Autonomous Regions, under the coordination of the Directorate-General for Water of the Ministry of the Environment.

At the end of the working sessions, the scientific committee drew up a document containing the conclusions which were read at the closing ceremony of the conference. The main points were as follows:

> The need for a further development of legislation in many countries.
> The convenience of addressing the standardisation of selection process for the different alternatives for the treatment of liquid waste generated in small communities.
> A significant deficiency in the field of training and specific capacity building of the professionals in this sector.
> The need to concentrate efforts on raising awareness on the importance of sanitation and wastewater treatment for public health and the good ecological status of our natural water systems.

The important role of the second edition of the Smallwat as a venue for debate and exchange of technical knowledge was also highlighted. It was therefore also concluded that the Congress should be held on a regular basis by institutionalising it on the international agenda. It was then decided to celebrate it again in 2011 and 2015.

3

Smallwat11:

Wastewater in small communities: Towards the Water Framework Directive (WFD) and the Millennium Development Goals (MDG)

The 3rd International Congress SmallWat is an Andalusian initiative which has fully consolidated its position in the international arena, as proven by the more than 300 communications which have been proposed by authors from 42 countries to be delivered during the official sessions of the congress.

For the third edition, the Organisers are seeking quality rather than quantity with respect to the previous conference, but without forgetting the importance of attracting the highest possible number of participants of a wide range of nationalities.

During the previous edition in 2007, one primary objective was to illustrate the real situation in different geographical areas and let international managers and entities involved in development issues explain their views.

In 2011, the debate will focus on the important knowledge gained as regards sanitation technologies in small communities and on the increasing number of studies carried out by the scientific community on sustainable technologies for wastewater treatment, which are especially appropriate for rural areas and less favoured countries. Both the quantity and the quality of the works presented will be stressed.

In this respect, it is worth mentioning that during the previous editions of the Smallwat, it was deemed necessary to involve the scientific community in order to address the serious sanitation crisis throughout the world. Now, it seems that there is a clear awareness of this subject, and Research Centres are increasingly devoting more studies to this matter. This event has, to some extent, undoubtedly contributed to this greater awareness, as it is now seen as a reference point in this field.

And so, as a departure from the practice in previous editions, SmallWat11 will publish its works in high-impact scientific magazines, something that was much more difficult 10 years ago. Having *Ecological Engineering* as the official magazine of the conference, where a selection of the best works will be published, shows the support that the scientific community has given to the work that has been carried out in recent years, with Andalusia having been a pioneer for over 20 years.

It is, then, of the utmost importance to spread all this knowledge among the greatest number of people at this edition, be they technicians, managers or politicians, particularly in those areas where it is most needed.

The 3rd SmallWat 11 will be held in **Seville**, from **25 to 28 April** 2011, at the **Hotel Renacimiento Convention Centre**.

3.1 Objectives

The objectives of Smallwat11 are, on the one hand, to present the important progress that has been made over the last 4 years in the field of technologies which are appropriate for water purification in rural areas and in less favoured regions and, on the other hand, to disseminate this knowledge among the greatest number of people interested in this issue.

Out of the over 300 communications that have been submitted, 150 have been accepted as oral presentations and more than 100 will be shown as posters.

One novelty compared to previous editions is that the posters will not be presented in hard copy format but digitally, on screens. A slot will be made in the programme for the presentation of the best posters.

Communications will deal with the following *topics*:

- Wastewater treatment technologies:
- Case studies
- Decentralised management of wastewater
- Eco-sanitation
- Re-use
- Water Framework Directive
- Achievement of the Millennium Development Goals

3.2 The Scientific Committee

As part of its endeavours to come a consolidated international observatory in its field, the Smallwat11 has brought onto its scientific committee, a number of entities and research centres from 14 countries, with the collaboration of many highly-respected scientists:

NAME	INSTITUTION	COUNTRY
Dr. Ralf Otterphol	Hamburg Technology University	Germany
Dr. Peter Wilderer	Institute of Advanced Sustainability Studies. TUM	Germany
Dr. Goen Ho	University of Murdoch	Australia
Dr. Paula P. Loureiro	Federal University of Mato Grosso do Sul	Brazil
Dr. Alberto Galvis	Water Supply, Environmental Sanitation and Water Resource Conservation Research Centre CINARA	Colombia
Dr. George Tchobanoglous	University of California, Davis. A	USA
Dr. Takhasi Asano	University of California, Davis.	USA
Dr. Robert H. Kadleck	University of Michigan.	USA
Dr. Damiá Barceló	Institute for Water Research of Catalonia ICRA	Spain
Dr. Eloy García	Madrid Institute for Advanced Water Studies.	Spain
Dr. Joan García	Polytechnic University of Catalonia.	Spain
Dr. Lluis Sala	Costa Brava Water Consortium	Spain
Dr. Juan José Salas	CENTA	Spain
Dr. Renée Moleta	University of Savoya.	France
Dr. Pascal Molle	Science and Environmental Technology Research Institute (CEMAGREF)	France
Dr. Andreas Angelakis	National Agricultural Research Foundation	Greece
Dr. Naoyuki Funamizu	Higher School of Engineering. University of Hokkaido	Japan
Dr. Benedict M. Mutua.	Faculty of Engineering and Technology	Kenya
Dr. Laila Mandi	University of Marrakesh	Morocco
Dr. Simón González	Institute of Engineering of the Autonomous University of Mexico	Mexico
Dr. Blanca Jimenez	Institute of Engineering of the Autonomous University of Mexico	Mexico
Dr. Duncan Mara	University of Leeds	United Kingdom
Dr. Jan Vymazal	Prague Science University.	Czech Republic

3.3 Thematic framework: four years until 2015

Smallwat11 will provide a space to reflect on the possible ways to achieve the international agenda objectives as regards water by 2015, by combining the technological progress of recent years with other key aspects for the debate: social, economic, regulatory, managerial aspects, etc.

2015 is a key date on the international agenda as regards water, with two important milestones:

> The end of the "Water for Life" Decade, declared by the UN
> The achievement of the objectives related to good ecological status laid down by the Water Framework Directive 2000/60 for EU countries.

The Smalwat11 conclusions will help to determine how far we are from these goals, which are the key issues, and where to direct our main efforts over the next four years.

3.3.1 Water Framework Directive: towards good ecological status.

Directive 91/271 on urban wastewater purification has set up a series of requirements that Member States tried to meet through their first Sanitation Plans. These Plans were intended to solve the problem in large urban areas, within the deadline established by the Directive, leaving on a second level the wastewater treatment in rural and scattered communities with less than 2,000 equivalent inhabitants.

Although the goals of these first Plans have not yet been fully met, the entry into force of Framework Water Directive 2000/60 has laid down still more ambitious goals, stating that water bodies must achieve good ecological status by 2015.

Although water purification in small communities is not quantitatively a great problem, it is a serious obstacle to the achievement of the quality goals for water bodies. The successful solution of such problems is hampered, among others, by the dispersion of its abilities, too few determined actions, the great variety of cases to be found in this range of populations, and the lack of homogeneous, well-defined technical criteria.

However, some Member States, such as France, Denmark and the Czech Republic, aware of the importance of the issue, have recently developed initiatives in this respect. In Spain, in 2007, the Ministry of the Environment, Rural and Marine Affairs, in collaboration with the Autonomous Regions drew up a Sanitation and Water Quality Plan which stresses the need to tackle the issue of urban wastewater treatment in small communities.

It seems opportune, then, to recall the main actions carried out in Europe, while evaluating the successes and failures, with a view to tackle the problem of water purification in disperse areas using the best technical solutions, and the best planning and management tools.

3.3.2 The end of the Water for Life Decade for Action (2005-2015)

The General Assembly of the United Nations proclaimed the period 2005-2015 as the "Water for Life" International Decade, and set up the goal of reducing the proportion of world population without sustainable and safe access to drinking water and sanitation by half by 2015.

Although the problem of access to drinking water has improved in recent years (from 1.200 down to 884 million people who do not enjoy this right throughout the world), when it comes to sanitation the problem, far from being mitigated, has been aggravated, since 2.600 million people worldwide lack access to improved sanitation.

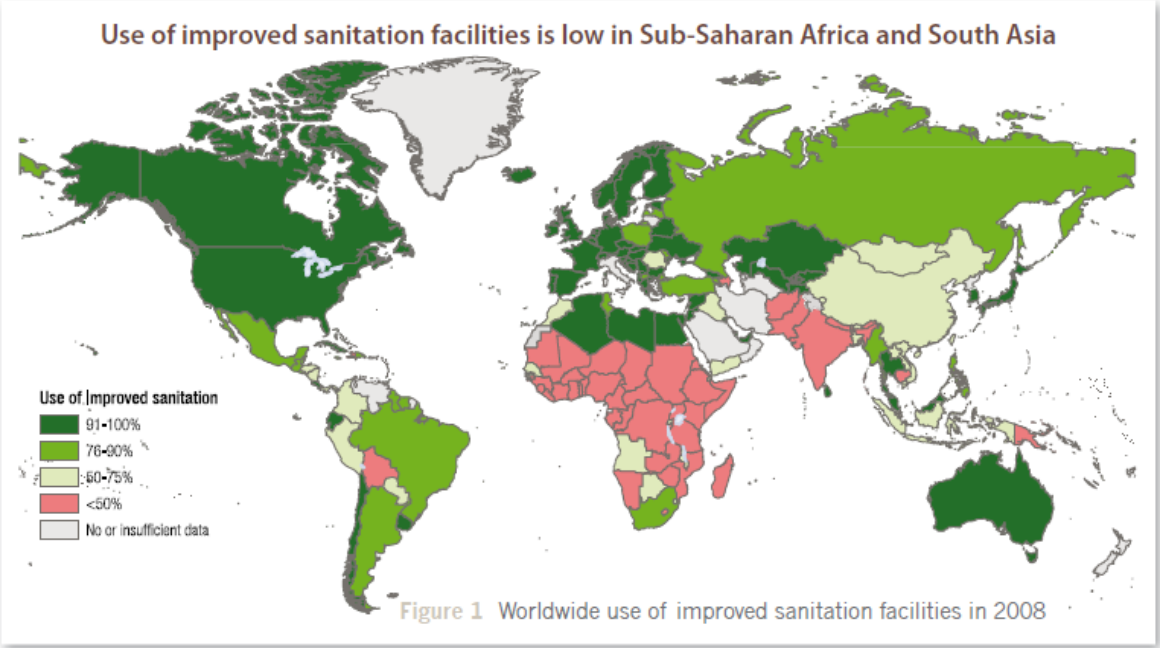


Figure 1 Worldwide use of improved sanitation facilities in 2008

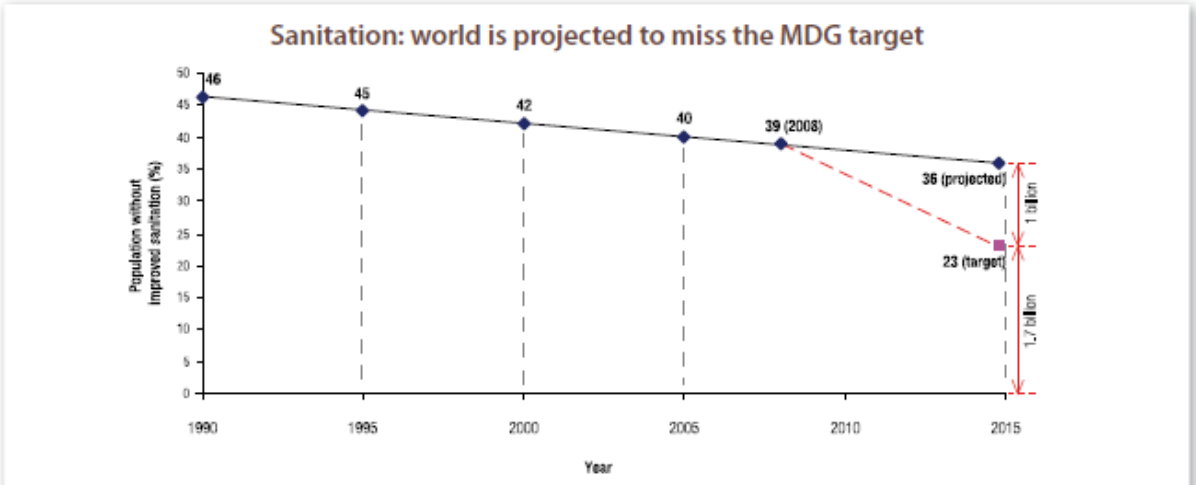


Figure 7 Global progress towards the MDG target: trend in use of improved sanitation 1990-2008, projected to 2015

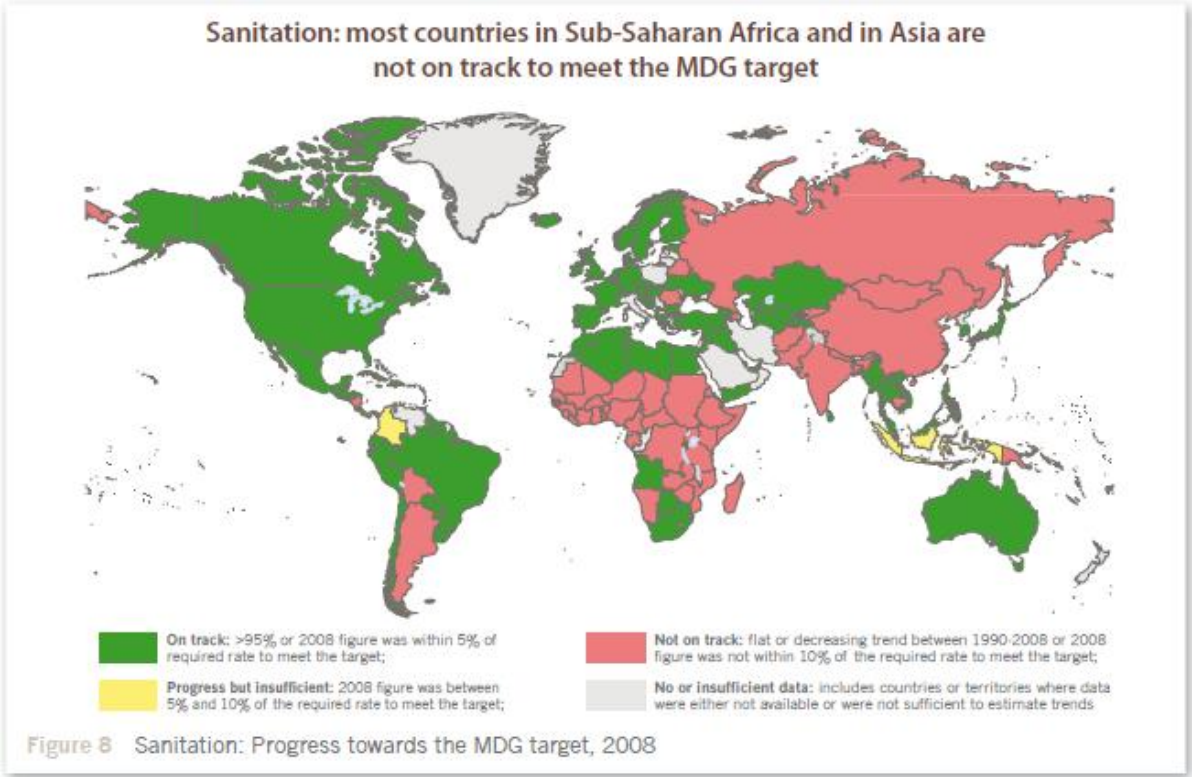


Figure 8 Sanitation: Progress towards the MDG target, 2008

The keys to understanding the worsening of the world situation, coinciding with greater technological progress, will be the subject of many debates at Smalwat11.

3.4 Sustainable Congress

Climate change is one of the most important threats to humankind. The 4th report of the Intergovernmental Panel on Climate Change (IPCC) leaves no room for doubt: climate change is an undeniable fact, caused, with a 90% probability, by greenhouse gas emissions (GGE) of human origin.

The celebration of Smallwat11, like any other human activity, will generate GGE that will have a negative impact on the climate.

We are, therefore, aware of our responsibility regarding climate change and will take the necessary steps to minimise the impact due to the organisation of the event, and to offset the emissions produced.

With the collaboration of O_{CO2}, we will calculate the emissions caused by the celebration of the Congress, and implement a reduction plan; moreover, voluntary economic donations will be collected to compensate the emission impact through the development of a project in the field of renewable energy, energy efficiency, and reforestation, prevention of deforestation or waste treatment in developing countries.

3.5 Draft programme

The official programme will start on Monday, 25 April, and will continue for another two days.

The opening of the conference will be the first plenary session and it will be followed by parallel sessions so that all communications can be delivered.

Day 1: Monday 25 April 2011

8:00 -10:00		**ACREDITATION**		
10:00 -11:00	PLENARY ROOM	**OPENING SESSION** Authorities Board		
11:00 -11:30	PLENARY ROOM	**KEYNOTE SPEECH** **Dr. George Tchobanoglous. California Davis University.** *"THE CHALLENGE FOR SMALL COMMUNITIES IN THE 21ST CENTURY"*		
11:30-12:00		*COFFEE BREAK*		
12:00-13:30	PLENARY ROOM	**PLENARY PRESENTATIONS** • **Ms. Olivia Castillo** Board Member UNSGAB - United Nations Sec.Gen.Advisory Board on Water & Sanitation • **Ms. Marta Moren Abat**. General Director of Water Resources. Ministry of Environment, Rural and Marine Affairs. Spain • **Water and Sanitation Fund**. Spanish Agency for International Cooperation (AECID)		
13:30-15:00		*LUNCH*		
15:00 -16:30	PLENARY ROOM	**SESSIÓN 1** **Water framework Directive (WFD): towards a good ecological status** • Representative from Denmark. • Representative from France. • Representative from Poland. • Representative from Spain.	ROOM A	**SESSIÓN 2** **Millennium Development Goals (MDG)** **Main Paper:** **"Water and Sanitation Fund of Spanish Cooperation"** Spanish Agency for International Cooperation. **PLATFORM PRESENTATIONS**
17:00 -17:30		*COFFEE BREAK*		
17:30-19:00	PLENARY ROOM	**PLATFORM PRESENTATIONS**	ROOM A	**PLATFORM PRESENTATIONS** **Round table: Towards the Millennium Development Goals**

Day 2: Tuesday 26 April 2011

TOPIC	**ROOM A**	**ROOM B**	**ROOM C**	**ROOM D**
	TREATMENT TECHNOLOGIES	**CASE STUDIES**	**DECENTRALIZED WASTEWATER COLLECTION**	**WATER REUSE**
9:00 – 11:00	**Keynote Speaker:**	**Keynote Speaker:**	**Keynote Speaker:**	**Keynote Speaker:**
	Joan García Technical University of Catalonia, Spain	**Enrique Ortega** CEDEX, Spain	**Alberto Galvis** CINARA. Colombia	**Andreas Angelakis**. National Agricultural Research Foundation, Greece
	PLATFORM PRESENTATIONS	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**
11:00-11:30	*COFFEE BREAK*			
11:30-12:30	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**
12:30-13:30	**PLENARY ROOM**	**MASTER CONFERENCE- PLENARY ROOM** **Naoyuki Funamizu** **Graduate School of Engineering, University of Hokkaido, Japan** ***"RESOURCES ORIENTED SANITATION SYSTEM FOR THOSE AREAS WITH ECONOMIC AND TECHNICAL LIMITATIONS"***		
13:30-15:00	*LUNCH*			
15:00–16:30	**Keynote Speaker:**	**Keynote Speaker:**	**Keynote Speaker:**	**Keynote Speaker:**
	Jan Vymazal University of Life Sciences Prague, Czech Republic	**Andalusian Water Agency**	**Benedict M. Mutua** Dean Faculty of Engineering and Technology, Kenya	**Isabel Martin** CENTA - Center of New Water Technologies, Spain
	PLATFORM PRESENTATIONS	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**
16:30-17:00	*COFFEE BREAK*			
17:30-19:00	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**	**PLATFORM PRESENTATIONS**
21:00	**OFFICIAL DINNER: Abades Triana Restaurant**			

Day 3: Wednesday 27 April 2011

<table>
<tr><td rowspan="2">TOPIC</td><td>ROOM A</td><td>ROOM B</td><td>ROOM C</td><td>ROOM D</td></tr>
<tr><td>TREATMENT TECHNOLOGIES</td><td>CASE STUDIES</td><td>WATER GOVERNANCE</td><td>ENVIRONMENTHAL ISSUES</td></tr>
<tr><td rowspan="3">9:00 – 11:00</td><td>Keynote Speaker:</td><td>Keynote Speaker:</td><td>Keynote Speaker:</td><td>Keynote Speaker:</td></tr>
<tr><td>Simón González
Institute of Engineering-UNAM, Mexico</td><td>M. Saladin
EAWAS, Suiza</td><td>Liyanage Rowan.
National Water Supply &Drenage Board. Sri lanka</td><td>Lluis Sala.
Costa Brava Council, Spain</td></tr>
<tr><td>PLATFORM PRESENTATIONS</td><td>PLATFORM PRESENTATIONS</td><td>PLATFORM PRESENTATIONS</td><td>PLATFORM PRESENTATIONS</td></tr>
<tr><td>11:00-11:30</td><td colspan="4">COFFEE BREAK</td></tr>
<tr><td>11:30-13:00</td><td rowspan="5">PLATFORM PRESENTATIONS</td><td>PLATFORM PRESENTATIONS</td><td rowspan="5">PLATFORM PRESENTATIONS</td><td rowspan="5">PLATFORM PRESENTATIONS</td></tr>
<tr><td>ECOLOGICAL SANITATION</td></tr>
<tr><td>Keynote Speaker:</td></tr>
<tr><td>Paula P. Loureiro
Federal University of Mato Grosso do Sul, Brasil</td></tr>
<tr><td>PLATFORM PRESENTATIONS</td></tr>
<tr><td>13:30-15:00</td><td colspan="4">LUNCH</td></tr>
<tr><td rowspan="2">15:00- 16:30</td><td rowspan="2">PLATFORM PRESENTATIONS</td><td>TREATMENT TECHNOLOGIES</td><td rowspan="2">PLATFORM PRESENTATIONS</td><td>TREATMENT TECHNOLOGIES</td></tr>
<tr><td>PLATFORM PRESENTATIONS</td><td></td></tr>
<tr><td>16:30-17:00</td><td colspan="4">COFFEE BREAK</td></tr>
<tr><td>17:00 -18:00</td><td>PLENARY ROOM</td><td colspan="3">MASTER CONFERENCE- PLENARY ROOM
Juan José Salas Rodríguez
Center of New Water Technologies (CENTA), Spain
“CARRIÓN DE LOS CÉSPEDES EXPERIMENTAL PLANT: 20 YEARS WORKING FROM EXPERIENCE TO EXCELLENCE”</td></tr>
<tr><td>18:00</td><td>PLENARY ROOM</td><td colspan="3">CONGRESS CLOSING</td></tr>
</table>

Day 4: Thursday 28 April 2011

	Technical Tour
	EXPERIMENTAL CENTER **CARRIÓN DE LOS CÉSPEDES (Seville)** **Singular infrastructure:** **Treatment technologies and water reuse**
10:00 – 13:30	*The tour will be organized in groups to coordinate the visit properly.* *First groups will start around 10:00 and last groups will finish around 13:30 hours*

4

SmallWat 2015: The Network.

As mentioned above, the year 2015 is a key date of the international agenda as regards water. For the Smallwat, it means the end of a phase during which, with the leadership of Andalusia, a series of important goals have been achieved:

- To put Andalusia on the international scientific map, by disseminating our valuable, widely-acknowledged 20 year experience.
- The export of the model is developed.
- The establishment of important relationships for scientific and technical cooperation, especially with developing countries.

It seems that this obviously positive experience cannot be allowed to come to an end. It must be re-focused, externalised and more globalised.

To this end, 2011 should be the first step by putting in place the Smallwat Network, a global network to support and ensure the continuity and future of this initiative.

The objective of the SmallWat network is to consolidate technological and scientific excellence in the field of sustainable models for wastewater treatment, by improving

knowledge in the field through the integration of the existing or emerging practical and research capacities of the members of the network.

The network main activities will be the following:

- Research integration activities: multidisciplinary research aimed at producing advanced knowledge rather than specific outcomes.
- Integration support activities: promotion of the use of electronic devices, exchange of personnel, joint use of infrastructure, etc.
- Activities to expand excellence, through training and the dissemination of technical and scientific knowledge.