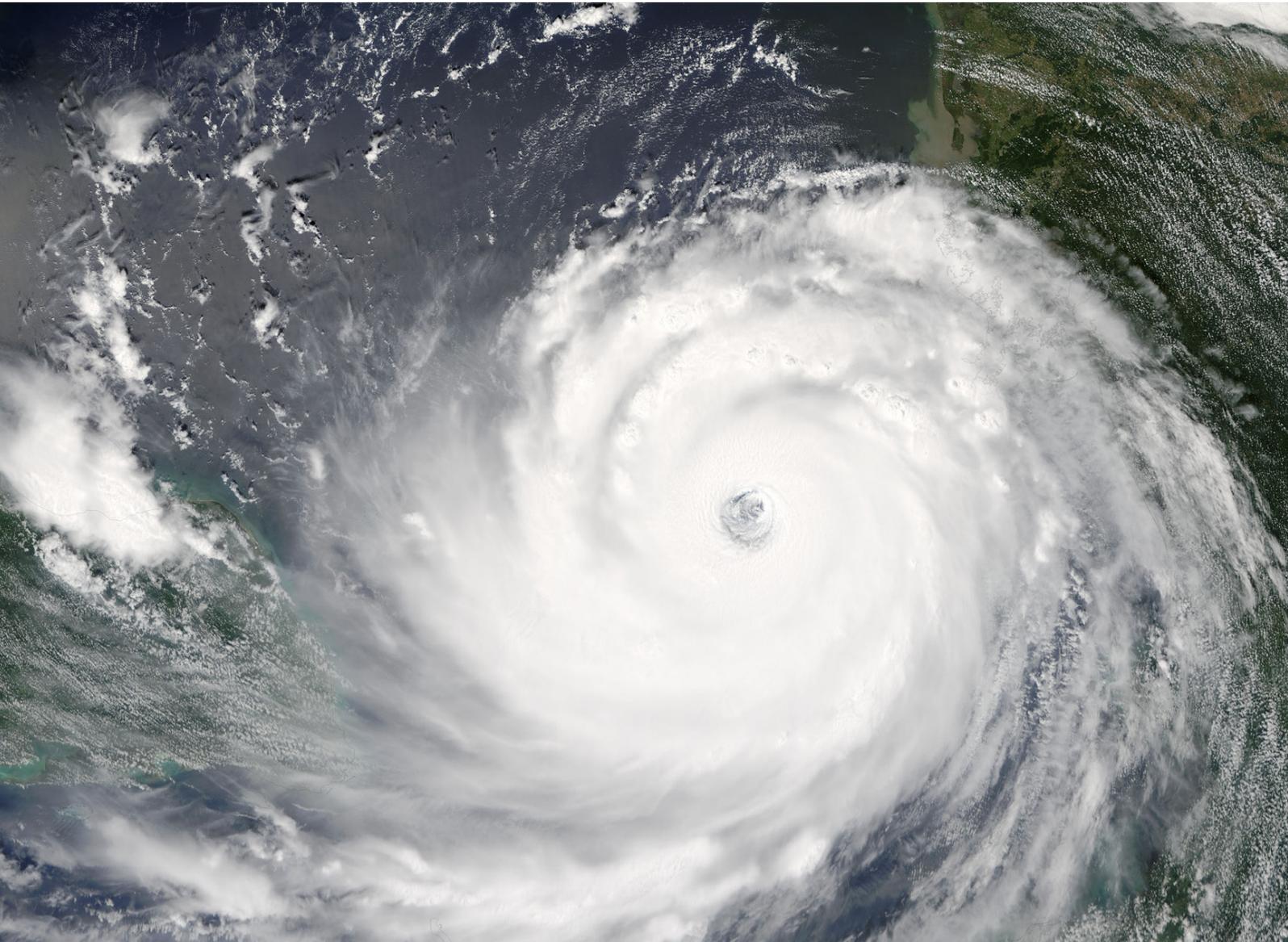


# CLIMATE CHALLENGES

SUMMARY

WATER CAUCUS, MARSEILLE, FRANCE, 14 OCTOBER 2009



## Keynote and Panel:

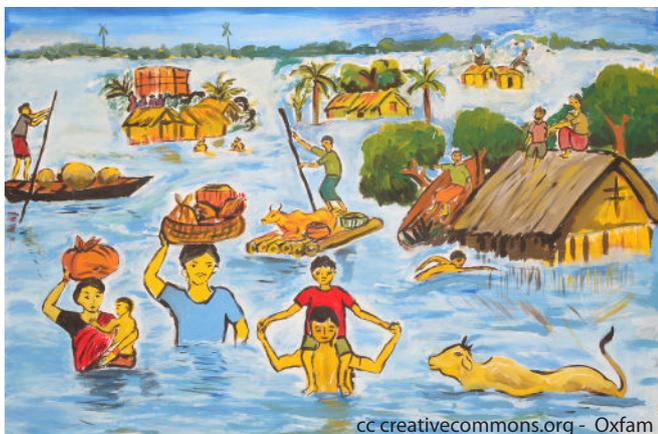
- Pavel Kabat, WUR Netherlands
- Simon Anderson, IIED
- Bill Cosgrove, World Water Assessment Programme
- Richard Harpin, Halcrow
- Lifeng Li, WWF
- Eva Rathgeber, Gender and Water Alliance
- Henk van Schaik, CPWC – Moderator
- Martin Visbeck, Leibniz-Institut für Meereswissenschaften

This workshop debated the notion of adaptive management from different perspectives. The assembled group comprised water leaders from a diverse set of backgrounds working in areas ranging from government to the private sector, science to advocacy, and spanning a range of disciplines from engineering to the natural and social sciences.

A keynote presentation from Pavel Kabat focused on the issue of how the water community could benefit from climate information and cope with its uncertainty.

Recognizing that the root of most uncertainty in climate projection lies in future economic and demographic development and how this is translated into greenhouse gas emissions and changes in the environment, Dr Kabat suggested that the most adequate response would be so-called “adaptive management”.

From the top-down this combines developed, flexible and adaptive response options decided upon through an interactive bottom-up multistakeholder process. Elements of this process should include decision-making on risk acceptance and option selection precautions, including on de-investments and allowance for continuous adjustment to changing conditions.

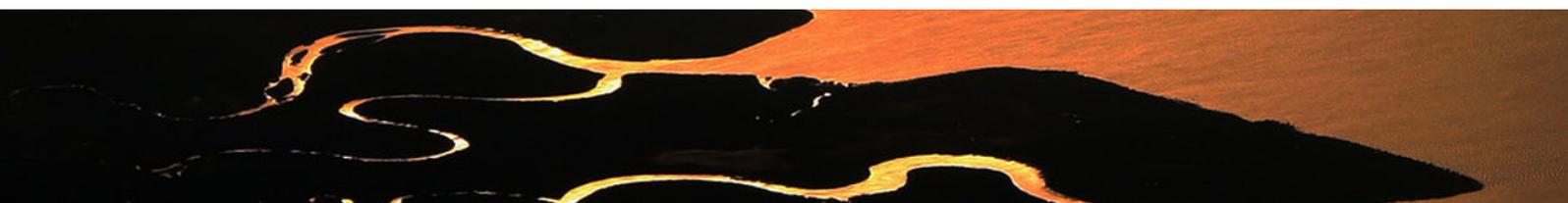


Dr Kabat’s major proposal was supported by Richard Harpin (Halcrow Group) who offered insights into current practice in the engineering business.

Lifeng Li (World Wildlife Fund) remarked on the importance of managing water as part of wider ecosystem management and that ecosystem services should provide greater impetus to conserve these natural systems.

Simon Anderson (International Institute for Environment and Development) added his perspective on current adaptation policy and practice and pointed out significant potential opportunities had been missed, in particular with regard to empowering less developed nations in accessing and processing information available.

Eva Rathgeber (Gender and Water Alliance) reminded the participants that most management solutions are not gender neutral and that the specific roles of men and women in the social fabric of societies need to be taken into account.





Bill Cosgrove (World Water Assessment Programme) added that developing and implementing adaptive management solutions requires at its base, global access to the best information. This immediately challenges our current situation with declining in-situ observation systems and a growing hesitancy to share primary data with the community at large in an open and unrestricted manner.

Information about the future will always be uncertain and probabilistic in nature. The most likely outcome should be expected to change as one gets closer to the date of concern. Thus adaptive management should be developed in the context of a “no regret” strategy, enabling the flexibility to readjust without large de-investment costs and the potential to step up measures when needed.

Reactions from participants stressed that the governance issues of implementing the next generation of water management taking into account climate variability and change are significant. In addition, Martin Visbeck (Programme Chair of the World Climate Conference) pointed out that the framework for climate risk management for the water sector requires new levels of institutional arrangement. .

The Global Framework for Climate Services, prepared at the World Climate Conference 3 in September 2009, provides a significant opportunity.

Financial and gender aspects also need to be taken into account. In particular, the recognized responsibility of the developed world to facilitate enduring capacity building in the developing world that would enable development of efficient local solutions.



Martin Visbeck, Session Rapporteur



## NEXT STEPS

The Global Framework for Climate Services will depend on strong partnership between the sectors in order to share a wide range of important information that will serve as the basis for a substantially new, timely and efficient climate service tailored to the needs of the global water community. The ensuing improved climate risk management in the water sector will increase climate resilience and hence is a tangible first step towards larger climate adaptation issues.

Participants considered it useful to continue the debate on the basis of concrete examples, in addition to furthering the dialogue on the features and concept of adaptive management.

Participants considered it useful to continue the debate on the basis of concrete examples, in addition to furthering the dialogue on the features and concept of adaptive management.

The complexity of water issues transcends many disciplines, nations and societal dimensions. As such, the World Water Council has a role in “opening the water box” to those who can provide valuable information, who can provide the much needed financial resources, and who will benefit from improved global management of scarce water resources. With broad and diverse participation by all stakeholders and constituencies, the WWC is poised to take a leadership role on water and climate issues.



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# EFFICIENT FOOTPRINTS

SUMMARY

WATER CAUCUS, MARSEILLE, FRANCE, 14 OCTOBER 2009



## Keynote and Panel:

- Tony Allan, SOAS University of London
- Matthew Wenban-Smith, Alliance for Water Stewardship
- Safwat Abdel-Dayem, Arab Water Council
- Ramon Llamas, Fundacion Marcelino Botin
- Joppe Cramwinkel, Royal Dutch Shell
- Arjen Hoekstra, Water Footprint Network and University of Twente

A water "footprint" defines the water needed for the production of any product or service from start to finish and builds on the concept of "virtual water." It is time for an evolution in our understanding of how water footprints can be used to catalyse water stewardship through increasing water efficiencies at different scales - from the supply chains of companies, and choices on food self-sufficiency of states all the way to field level optimisation.

During the World Water Council's Water Caucus, renowned experts from around the world gathered for a lively debate. The aim was not to reach a consensus but to identify different perspectives and to get an understanding of the various conflicting arguments underpinning different points of views. Various questions were touched upon, ranging from how the concept of footprints and water stewardship can ensure greater efficiency, to what roles businesses, governments and civil society play in ensuring that minimal water footprints are achieved. should include decision-making on risk acceptance and option selection precautions, including on de-investments and allowance for continuous adjustment to changing conditions.

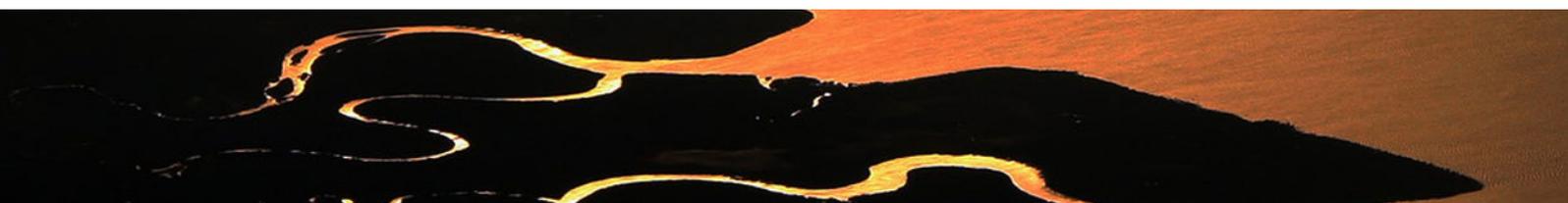


Bertrand Charrier, Session Rapporteur



After a brief introduction by Jerry Delli Priscoli, World Water Council Bureau member, Professor Allan pointed out that water footprints remain a topic of discussion essentially within advanced economies, but it is essential to consider them within international trade policies as well. He emphasized that the most promising avenue for progress remains in helping farmers to become more efficient in their production of goods. Professor Allan also encouraged thinking about individual consumption of products, the impact it has on water and the differences each of us can make by changing our habits.

After the moderator, Arjen Hoekstra from the Water Footprint Network, opened the floor to the audience, Jack Moss from Aquafed commented on the policy potential that the concept of water footprints has. If the focus is to change consumer habits, then the question about how to connect consumers and farmers becomes even more important. Although the agro-food industry is beginning to look at water footprints as a concept, the question remains on how to transfer the consumer perception to farmers and to map out responsibilities. The discussion in the room gave way to various views on consumer power influence versus government and business power.





Cooperation is very much needed between sectors, Joppe Cramwinckel of Shell reminded the assembly, especially since water and energy footprints are intricately linked. He emphasized the need to widen the context while deepening and clarifying the debate around the water intensiveness of biofuels. Shell as a corporation has the potential to further research in non-freshwater sources and innovative re-use of water. However, as a business, it needs to strengthen its collaboration with other sectors to address sustainability, equity and security issues.

Safwat Abdel-Dayem, Secretary General of the Arab Water Council, supported the observation that the strategic choice of grain crops has a huge impact on the amount of water ultimately needed. Wise trade of water-intensive products from water-rich to water-poor regions can enhance global water use efficiency and reduce pressure on water-scarce areas, but it may also reduce food security in those areas if international politics interferes. Dr. Abdel-Dayem commented that finding the right balance, in addition to considering quality issues, is a difficult task.

Ramon Llamas of the Fundacion Marcelino Botin commented on how the issue of water has entered the policy domain and what could be improved. He explained that Spain has a large water footprint, but it imports more virtual water than it exports. Despite being the driest country in Europe, the major problem they face, however, is not the lack of water, but mismanagement. Typically, 85% to 95 % of freshwater consumption is attributed to agricultural use in Spain, while only 10% of the blue water in irrigated agriculture produces 80% to 90% of the agriculture economics. This means that nearly all of the freshwater used in agriculture produces low value crops, which could instead be imported from water-rich countries. This is why a change in the allocation of Spanish blue water might solve current water conflicts. Professor Llamas suggested that a situation similar to that of Spain may exist in most arid and semi-arid regions of the industrialized and emergent economies, specifically in the MENA region.

To commence the second part of the discussion, Matthew Wenban-Smith of the Alliance for Water Stewardship presented the concept of water stewardship or “responsible use of freshwater that is socially, environmentally and economically sustainable” as a response to increased impacts and risks. Mr. Wenban-Smith underlined that in many places, water use is not sustainable and needs to be managed better. Stewardship can contribute to this objective by utilising a “rewards” approach, building on an understanding of water footprints, on the one hand, and watershed level impacts, on the other.

The audience further raised questions on the role of footprinting approaches in allocation, quality, pricing, politics and best management standards. Although it would be beneficial to have single international standards with targets for each region, it was felt that creating “product labels” would not help the situation.



## NEXT STEPS

Water footprints and, more widely, the relationship between water, food and energy was further examined during a roundtable discussion of the World Water Council's General Assembly on the following Friday. It was pointed out that developing a greater understanding of useful metrics and gaining agreement on what should be measured, where, how and by whom is very important. This could help at a global level in establishing greater common ground on water footprinting data.

Given the complex institutional environment, a significant challenge is how to simplify issues—and communicate them effectively—so that they are comprehensible and manageable for policy makers and resource users. It was recommended that the Council establish a core group to take this forward, but also to work at lower levels on synthesizing and communicating data and analysis on water, food and energy systems.



# TRANSBOUNDARY FUTURES

SUMMARY

WATER CAUCUS, MARSEILLE, FRANCE, 14 OCTOBER 2009



## Keynote and Panel:

- Dipak Gyawali, Nepal Water Conservation Foundation and Former Minister of Water Resources of Nepal
- Cicero Bley, Itaipu Binacional
- Jean-François Donzier, International Network of Basin Organizations
- MP Kabbani, Lebanese House of Parliament
- Sibylle Vermont, Ministry of Environment of Switzerland, Chair of the Bureau of the UN-ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes
- Olçay Unver, World Water Assessment Programme

There are more than 276 transboundary river basins and hundreds of transboundary aquifers shared by over 3 billion people. The future development of many countries depends on successful management and allocation of these resources. Although many legal and institutional mechanisms have been developed to improve cooperation, very few have proven sustainable and replicable. Most of the world's shared water resources remain outside transboundary agreements between all riparian countries, some have no agreements in place at all.

Recent global economic events and future challenges including population growth, changing land-use and climate change demand that governance of transboundary water resources be improved in order to support and nurture stronger economic growth and social development. But what might (and should) a more comprehensive global architecture on transboundary management look like and how might it function? On the eve of the World Water Council's General Assembly, the Water Caucus workshop on Transboundary Futures began to formulate a first response to this question. In welcoming the participants and encouraging "out-of-the-box" thinking, Dogan Altinbilek, Governor of the World Water Council, noted that the sessions on transboundary issues organised during the 5th World Water Forum (Istanbul, 2009) were among the most attended and lively.



Dipak Gyawali, Director of the Nepal Water Conservation Foundation and Former Minister of Water Resources of Nepal, began his keynote speech by pointing out that transboundary issues are often characterised by nested problems that can sometimes not even be properly defined, let alone solved by international treaties. In addition, he observed that internal administrative or disciplinary boundaries can be just as difficult to contend with as international boundaries, all of which require unconventional solutions.



Citing the clean-up efforts of the Rhine River, he identified a few elements that prove for successful cooperation in transboundary situations. These include involvement of a range of stakeholder groups/social solidarities that set collective goals and establish constructive engagements at the lowest possible level. Moreover, it is helpful to regard international agreements as informal at the outset.

He maintained that multi-track diplomacy and innovative partial solutions, rather than perfect solutions, can contribute to making more rapid progress. These solutions are not always technical, but can also be social in nature, such as creating moral pressure on authorities. In reaction to his speech, various members of the audience pointed out that partial solutions are ineffective in situations of conflict, disaster or inexistent water rights. Transboundary solutions are also dependent on increasing awareness of individuals towards higher-level sharing principles.



Mohammad Kabbani, member of the Lebanese House of Parliament, initiated the reaction from panellists in describing the political challenges in Lebanon. He proposed that mathematical modelling tools can help to calculate the extent of impediments to be overcome. He launched a call to action in this sense, also emphasising the recognition to the right to water as a means for improving access.

Cicero Bley from Itaipu Binacional of Brazil, documented the successful multiple-use cooperation that was established and has evolved between Argentina, Brazil and Paraguay over the past decades. He noted that the 1973 Treaty of Itaipu, still in existence today, is a strong and fair treaty and one that enables populations to benefit from the energy generated by the dam, while keeping in mind social and environmental responsibilities. Each of the 20 turbines offers enough energy for a city of 2-million inhabitants. Cumulatively, this represents 20% of all of Brazil's energy needs and 80% of Paraguay's.



Jean-François Donzier of the International Network of Basin Organizations stressed that transboundary issues, which cover much more than simply the sharing of water, should not be left only to diplomats, but must be complemented by the collective knowledge of technicians and all categories of water users. Indeed, if the national representatives do not wish to cooperate, no agreement can force them to. However, the creation of international commissions and basin organisations can provide alternative avenues for cooperation and should be a pre-requisite to the implementation of any large project. He concluded that nothing is possible without political will, long-term commitment and robust public participation.

Sibylle Vermont of the Ministry of Environment of Switzerland and Chair of the Bureau of the UN-ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes described the efforts to strengthen the multi-stakeholder dimension of the Commission's

work. She described the multiple facets of the convention, which examines quantity and quality of surface and ground water, in addition to human health, ecosystem services and socio-economic conditions. She posited that bilateral and multilateral agreements are also needed to reinforce the Convention's aims.

When raising the issues of the right to water and "commodification", which are inherent to transboundary issues, members of the audience encouraged that these discussions be carried out at the highest political levels. Participants also pointed out that the disparity in knowledge and lack

of information-sharing is a hindrance to meaningful and serious discussions on the matter. The World Water Council was encouraged to create conditions for cooperation through the establishment of shared information systems and a database of transboundary-related decisions. Participants also supported training and awareness-raising efforts among populations and local authorities on a regional basis and in an integrated manner. Estimating the costs of inaction can also provide further incentives for progress.



## NEXT STEPS

Transboundary issues were further discussed during a roundtable discussion of the World Water Council's General Assembly on the following Friday, and a working group of members and Governors was constituted. The group considered putting in place a concrete project to encourage dialogue among riparian nations in an effort to increase understanding, using the support of its members.



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# URBAN URGENCY

SUMMARY

WATER CAUCUS, MARSEILLE, FRANCE, 14 OCTOBER 2009



## Keynote and Panel:

- Philippe de Fontaine Vive Curtaz, European Investment Bank
- Antoine Frérot, Veolia Water
- Jean-Claude Gondard, City of Marseille
- Wen Kel Lim, Incheon Metropolitan City
- Bill Cosgrove, Ecoconsult

In introducing the Urban Urgency plenary session, Philippe de Fontaine Vive Curtaz, Vice President of the European Investment Bank, evoked some of the major urban challenges we are facing, such as poverty, aging populations, increasing inequalities in access to work, social integration and governance. Managing urbanisation is a difficult task within a constantly evolving context. Urban challenges are interlinked with challenges in other development sectors. In both water and urbanisation, the challenges and the solutions vary from one region to another, from one country to another and even locally.

According to the United Nations, 50% of the world's population lives in cities, and in 2050, this proportion will rise to 70%. The world will be more and more urbanised, but an urbanisation characterized by poverty.

It is probable that the process of urban concentration will slow in Europe. Conversely, in developing countries, urbanisation has progressed much faster and, hypothetically, this tendency will continue. According to UN projections, between 2007 and 2050, the portion of the urban population in the planet's least developed regions will increase from 28% to 56%.



Philippe de Fontaine Vive Curtaz

However, European cities will not be spared. Old cities in rich countries may have difficulties adapting to change, and many cities will be confronted with the problem of their centres becoming run-down. Managing these levels of urbanisation will be more difficult if capacities in spatial planning and management are limited.

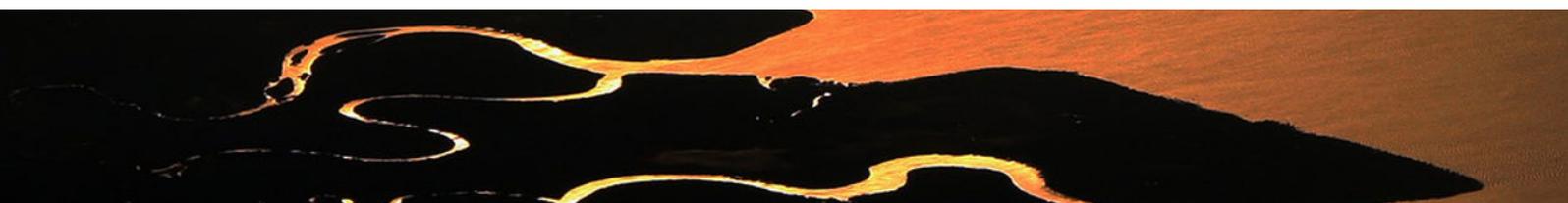
Intersecting urbanisation, water issues exacerbate the challenges. By 2030, 3.9 billion people in the world will live in water-scarce regions, which is 1 billion more than today.

The panellists commented on this introduction with their perception of the challenges as seen through the prism of their own contexts, before raising other points for consideration.

The city is often approached with worry, like an illness to remedy. However, none of the problems can be solved if it is perceived as a danger.

Place for establishment, accomplishment, liberty and well-being, cities let people escape isolation and poverty, and at the same time, offer opportunities and possibilities to meet others.

Since the influx of populations towards cities cannot be stopped, rather than condemning existing realities, methods for controlling urban development must be found, according to Antoine Frérot, Director General of Véolia Water.



To illustrate these points, two examples of cities, Marseille (France) and Incheon (South Korea) were presented respectively by Jean-Claude Gondard, Secretary General of the City of Marseille, and Wen Kel Lim, Director of Water Management Division for Incheon Metropolitan City.

Marseille, a moderate city of 1 million inhabitants, has adopted a strategy that depends on three dimensions of sustainable development: economy, societal balance, and protection of the environment.

The strategy supports the City and the neighbourhoods that comprise it in their efforts to combat social exclusion and environmental and climate problems. These actions also take into account the city's good qualities.

Marseille has a strong tradition of water know-how, in terms of supplying good quality drinking water; in terms of sanitation, since a new treatment plant was inaugurated in 2007; and in terms of risk management, especially with regards to flooding.

The recurring questions of financing and technical solutions are necessary for achieving the designated objectives.



Incheon, a megacity of 7 million inhabitants, has undergone super-urbanisation. Water availability has diminished over the past decades in Korean regions, which has engendered increased awareness of users who today use less water. But, Korea has also experienced extreme events, provoking heavy flooding. To adapt to this hydrological context, Incheon further developed desalination, treatment and reuse of wastewater, as well as rainwater collection. The City hopes to treat 100% of its wastewater by 2015.

Balanced spatial planning requires human-sized cities. To refine thinking and find better adapted solutions, a distinction must be made between big cities and those that are designated as secondary.

Because they offer comfort and equity, collective services, including first and foremost water and sanitation, are a factor of attraction. Regardless of the size of the city, these services should be accessible to all, including to newly arrived inhabitants so that they may become totally integrated. Antoine Frérot recalled that equality of access to these services reinforces social cohesion, security and citizenship.



Comments received from the floor helped to situate the subject within a wider framework. They recalled:

- the role of virtual water;
- the limitations of policies related only to the offer and the need to balance offer and demand;
- the need to reinforce rural zones, whose situations are at the origin of the exodus towards cities, and to consider the territory as a whole;
- the importance of planning, roadmaps, spatial planning and decentralization;
- the need to develop the capacities of personnel in charge of these issues, financial engineering and the quality of governance;
- financial innovation;
- the importance of citizen participation.

The participants also proposed that a theme on global spatial planning be included in the next World Water Forum. It was concluded that solutions to urban challenges must be adapted to each context and to the size of each city.

