Overarching Conclusions

World Water Week in Stockholm

2012: Water and Food Security

Organised by

SIWI

Key collaborating partners

FAO FIAT PANIS

CGIAR

WORLD WATER WEEK in Stockholm, August 26–31, 2012

WORLDWATERWEEK

Content

Cover photo: iStockphoto
Inside spread: Peter Tvärberg, SIWI, Thomas Henriksson and Mikael Ullén.
Design: Elin Ingblom, SIWI

The Overarching Conclusions is published by the Stockholm International Water Institute and printed by Trosa Tryckeri, Sweden.
The printing process has been certified according to the Nordic Swan label for environmental quality.





My First World Water Week in Stockholm

I have attended many World Water Weeks in Stockholm as a delegate, but his was my first as Executive Director of the Stockholm International Water Institute, SIWI, although I had not formally begun working with SIWI at that stage. Now that I have assumed office, and had the chance to look back on a busy but fantastic week, I am very excited by your achievements and efforts. Over 2,500 persons from 120 countries took part in discussions about water and food security, and engaged in events focussing on other water and development related issues. The regional focuses on Latin America, Africa and Asia are showing concrete progress on issues such as climate change, food and cooperation.

The Stockholm International Water Institute together with collaborating organisations also convened eight scientific workshops based on an abstract selection by the Scientific Programme Committee (SPC) and its young counterpart (YSPC), a new initiative for this year. The 2012 World Water Week was also organised in fruitful collaboration with the key collaborating partners: the Food and Agriculture Organiszation of the United Nations (FAO) and the Consortium of International Agricultural Research Centers (CGIAR). Outstanding achievements have been awarded to laureates selected by hardworking nomination committees for the Stockholm Water Prize, the Stockholm Industry Water Award and not least for the Stockholm Junior Water Prize. The Stockholm Water Prize was awarded to the International Water Management Institute (IWMI) and presented by H.M. King Carl XVI Gustaf at a Ceremony in the City Hall. Three bright students from Singapore were handed the Stockholm Junior Water Prize by H.R.H. Crown Princess Victoria. The Stockholm Industry Water Award was presented to PepsiCo by Chair Peter Forssman. I had the privilege to hand out the WASH Media Awards together with Amanda Marlin from Water Supply and Sanitation Collaborative Council and Prof. Ing-Marie Gren of the SPC presented the Best Poster Award to Dr. Chieko Umetsu during the Closing Plenary.

The World Water Week and Stockholm has once again proven itself to be the meeting place of the water and – more and more – the "non-water" world. I believe this is a great example of the rapidly increasing understanding, especially from the private sector, that we are all part of a greater global water community. Ad hoc meetings around the exhibition area, during the social events and over coffee can be as important as the programmed events for initiating, launching and advancing key issues. This is one of the great attractions of the World Water Week for science, business as well as governments and economics communities.

The main findings of the 2012 World Water Week are found in this publication. A team of 20 junior rapporteurs and eight lead rapporteurs covered over 100 sessions that were part of the World Water Week programme in order to synthesise overarching conclusions structured in four themes presented at the closing session (see pages 12-24). Presentation and conclusions from each session at the World Water Week are available on www.worldwaterweek.org.

The next World Water Week will have the overall theme of "Water Cooperation – Building Partnerships". We are looking forward to a year of preparations for making this theme as successful as the previous ones. In this process we are building on our established partnerships as well as anticipating new collaborations.

Welcome back to Stockholm on September 1-6, 2013. I look forward to meeting all of you again.

Torgny Holmgren
Executive Director
Stockholm International Water Institute

PRIZES AND AWARDS

STOCKHOLM WATER PRIZE

The 2012 Stockholm Water Prize Laureate, the International Water Management Institute (IWMI), took an active part in the World Water Week in Stockholm, with members of the organisation speaking at and convening a number of seminars and side events, as well as engaging with the media. The Laureate Lecture, held by Director General Dr. Colin Chartres at the Opening Plenary, outlined the "Water and Food Paradox", where an increasing world population is to be feed using decreasing water resources. Thus, IWMI provided valuable input to the 2012 World Water Week theme, "Water and Food Security". Dr. Colin Chartres received the prize on behalf of IWMI from the hands of H.M. Carl XVI Gustaf of Sweden at an award ceremony in the City Hall on Thursday, August 30. For the first time the award ceremony was broadcasted live on the web, allowing viewers from around the world to join in. Still available on www.worldwaterweek.org.

STOCKHOLM JUNIOR WATER PRIZE

The 2012 Stockholm Junior Water Prize went to Mr. Luigi Marshall Cham, Mr. Jun Yong Nicholas Lim and Ms. Tian Ting Carrie-Anne Ng from Singapore. The three students had developed an innovative method which uses clay to remove and recover common pollutants – known as non-ionic surfactants – from wastewater. National teams from 29 countries competed in this year's international finals of the Stockholm Junior Water Prize. The students' project posters were displayed at the venue throughout the World Water Week. The winning team was presented with the prize from the hands of H. R. H. Crown Princess Victoria of Sweden at an award ceremony on Wednesday, August 29. The Diploma of Excellence went to the team from Chile, Mr. Alonso Alvarez and Mr. Daniel Barrientos.

STOCKHOLM INDUSTRY WATER AWARD

The 2012 winner of the Stockholm Industry Water Award, PepsiCo, was presented with the award at a ceremony on Tuesday, August 28. PepsiCo received the Stockholm Industry Water Award for having successfully reduced water consumption in its production, and for extending its commitment beyond the company's own operations to help solve water challenges on a broad scale. Mr. Sanjeev Chadha of PepsiCo, President Middle East and Africa, was also one of the speakers at the Opening Plenary of the World Water Week.

WASH MEDIA AWARDS

At the Closing Plenary of the World Water Week, six journalists were presented with the WASH Media Awards 2011/2012, for their excellence in reporting on water, sanitation and hygiene-related issues and for playing an important role in bringing the spotlight too the often neglected issues of sanitation for a dignified, safe and healthy life for billions of people. The journalists and their winning entries are:

- Mr. Alain Tossounon (Benin): *Access to safe water in the town of Ava-Sô, A perilous conquest for survival. (Accès à l'eau potable dans la commune de Sô-Ava, Une conquête périlleuse pour la survie.)*
- Mr. Ngala Killian Chimtom (Cameroon): *The Taps Have Run Dry.*
- Ms. Berta Tilmantaite (Lithuania): *The River Runs Back.*
- Mr. Francis Odupute (Nigeria): *"he Strategists.*
- Ms. Francesca de Châtel (Belgium): *Water Around the Mediterranean.*
- Mr. Ketan Trivedi (India): *Alchemy of Earning Money through Wastes and Making a Village Clean, Hygienic and Lovely.*

BEST POSTER AWARD

The winner of the Best Poster Award 2012 was announced during the Closing Plenary. Dr. Chieko Umetsu from the Research Institute for Humanity and Nature in Japan and her poster entitled *Building farmers' resilience to food insecurity in Southern Zambia under rainfall variability*, caught the jury's attention. "The poster presents an important problem in subsistence farming, i.e. variability in rainfall, which is approached by making use of recent advances in interdisciplinary research on resilience. The content of the poster extends the research front on this issue by quantifying resilience and analysing factors determining resilience assets at the household level in practice. The issue studied is relevant in today's uncertainty environments of climate variability, and an important measure towards food security" read their motivation.

Photo: Cecilia Österberg, Exray

► International Water Management Institute (IWMI), respresented by Dr. Colin Chartres, receives the award from H.M. King Carl XVI Gustaf of Sweden

The Stockholm Water Prize is the world's most prestigious prize for outstanding achievements in water-related activities. Founded in 1991, it is presented annually by the Stockholm International Water Institute. H. M. King Carl XVI Gustaf of Sweden is the patron of the Stockholm Water Prize.

www.siwi.org/
stockholmwaterprize

Photo: Cecilia Österberg, Exray

► Mr. Luigi Marshall Cham, Mr. Jun Yong Nicholas Lim and Ms. Tian Ting Carrie-Anne Ng from Singapore, receives the prize from H.R.H. Crown Princess Victoria

The Stockholm Junior Water Prize competition is open to young people between 15-20 years of age, who have conducted water-related projects. National competitions are held in 30 countries around the globe. The Stockholm International Water Institute administers the competition. H.R.H. Crown Princess Victoria of Sweden is the Patron of the Stockholm Junior Water Prize.

www.siwi.org/
stockholmjuniorwaterprize

Photo: Cecilia Österberg, Exray

► PepsiCo Inc., represented by Mr. Sanjeev Chadha, President, Middle East and Africa, receives the award from Mr. Peter Forsman, Chair of Stockholm International Water Institute

The Stockholm Industry Water Award honours the business sector's contribution to sustainable water management. The Award was established in 2000 by the Stockholm International Water Institute in collaboration with the Royal Swedish Academy of Engineering Sciences and the World Business Council for Sustainable Development. The Award is further supported by the International Water Association (IWA).

www.siwi.org/
stockholmindustrywateraward

Photo: Mikael Ullén

► Mr. Alain Tossounon (Benin), Ms. Francesca de Châtel (Belgium), Ms. Berta Tilmantaite (Lithuania), Mr. Francis Odupute (Nigeria), Mr. Ketan Trivedi (India) and Mr. Ngala Killian Chimtom (Cameroon) *not pictured*

The WASH Media Awards recognise and support the crucial role of media in raising awareness of the importance of water, sanitation, and hygiene services. Launched in 2002 by the Water Supply and Sanitation Collaborative Council (WSSCC), the biannual WASH Media Award is presented in collaboration with the Stockholm International Water Institute (SIWI).

www.siwi.org/
washmediaaward

Photo: Mikael Ullén

► Dr. Chieko Umetsu receives the award from Prof. Ing-Marie Gren, Scientific Programme Committee

An important part of the World Water Week workshops is the poster exhibition where abstracts, accepted by the Scientific Programme Committee, are presented in a poster format. To highlight the posters, an award for the most informative, innovative and well-designed poster is awarded with the "Best Poster Award".

www.worldwaterweek.org/
bestposter

OVERARCHING CONCLUSIONS ON WATER AND FOOD SECURITY

At the 2012 World Water Week in Stockholm, over 2,500 experts gathered to discuss solutions to ensure water and food security for our entire globe. As the organiser, the Stockholm International Water Institute offers its conclusions on key threads that emerged from the Week, based on the reports from workshops, seminars, plenary sessions and the rapporteur theme reports (see pages 12-24). This interpretation of the most meaningful and recurring messages that emerged on Water and Food Security – the theme of the 2012 event – is meant to contribute to a dialogue between and beyond the intense and fruitful discussions that took place during the World Water Week.

Water and food security are inseparable

The links between water and food security run deep. Land and water are prerequisites for agriculture and farmers are the main custodians of the world's freshwater. Roughly 70 per cent of global freshwater withdrawals are used in agriculture and the Food and Agriculture Organization of the United Nations (FAO) predicts that food demand will need to increase 60 per cent by mid-century. Population growth, shifts towards more water-intensive diets, and rising requirements for water to produce to energy to power cities, industries and homes, all increase demand for limited water resources while a more variable climate make their availability in the right quantity at the right time less reliable. Participants echoed a similar and strong message throughout the week's 100 sessions: we need a new approach to achieve a water and food secure future. Despite steady increases in food production per capita over the past decades, two billion people suffer from malnourishment which means that more than one in four people are food insecure today. If current development trends continue with business as usual, the United Nations Environment Programme (UNEP) has estimated that demand for water may outstrip supply by 40 per cent within 20 years. These are issues of global priority, which are now rising on the international agenda of major actors outside of the traditional water community. In a survey by the World Economic Forum convened in March 2012, 500 experts and business leaders ranked the three most pressing risks faced by humanity as; chronic fiscal imbalances, lack of water, and food insecurity. The water community will need to mobilise fast and collectively to help steer this newfound interest in water and food towards wise decisions and actions based on knowledge and proven experience. Speakers throughout the Week highlighted several areas where major efficiency gains, in terms of water, energy, human as well as financial resources, can be made, such as producing 'more crop per drop', reducing losses and waste in the food supply chain, diversification of agricultural activities and employing a 'landscape approach' to development in order to expand food production and maintain ecosystem services. There are a number of other areas for which the convening experts called for increased attention: investment and policy intervention, including the promotion of healthy and sustainable diets, improved early warning systems to agricultural emergencies, wiser and fairer trade regulation, and co-ordinated approaches to assess trade-offs and maximise synergies between water, energy and food.

Producing more with less

Sustainable intensification of agriculture is critical to meet present and future food demand and will require effective action across a number of strategic areas. Maximising energy efficiency, improving irrigation productivity and expanding the safe re-use of water and nutrient resources are clearly needed to achieve this goal. Other important steps include attention to minimise unintentional movement of pollutants, maintain downstream flows, water quality, and essential habitats for pollinators and biodiversity, such as forest cover and grasslands; improved utilisation of natural infrastructure for water storage; pre-emptive planning for flood prevention; and carbon sequestration for stabilising the climate and improving soil health. On the farm level, farmers must receive the necessary support to close the gap between the potential yields their lands can bring and the actual harvest that they reap.

Investing big in small-holders

Small holder farmers have largely been neglected by global and local policy makers, research institutions and funding agencies for the past decades, particularly in developing areas. There is a huge untapped potential for increasing both the productivity and water efficiency of smallholder agriculture. To realise this potential, it is critical to understand the realities faced by many farming communities that lead to sub-optimal use of resources, as well as high rates of losses. These include market inefficiencies, such as poorly developed supply chains; high taxes and transaction costs; and insufficient access to information and knowledge regarding irrigation, seeds, markets, and equipment. Several speakers at the week noted that small farmers are water stewards, whose genuine interest in effective use of water, land and food resources is demonstrated by their frequent willingness to initiate and finance irrigation themselves. By providing these farmers with the incentives stemming from larger exposure to market opportunities and more conducive policies it is estimated that their water efficiency could double and poverty levels could be dramatically lowered. Major water savings are also possible by increasing irrigation efficiency, but it is crucial that policy makers provide clear guidance on how to beneficially use the water saved. Others also stressed the need to place considerably more attention on strategies to generate income for farmers and the rural poor that go beyond growing more 'crop per drop'. Diversification of agricultural activities, including livestock, fisheries and non-timber forest product collection, along with off-farm activities, contribute significantly to household income and are crucial components of successful efforts to bolster food and water security.

Fixing the leaks in the food supply chain

Research released by FAO in 2012 estimates that 1.3 billion tonnes of food goes uneaten each year, with significant variation in the levels of losses and waste between seasons, years and between commodities and regions. This is food that we have invested our water, land, human, financial and energy resources in to produce. However, this troubling statistic leaves reason for optimism, as it means that many more people can be fed without additional resource use, simply by reducing losses and waste. Achieving this, however, will require that we change historical development trends, which to date shows that higher levels of waste tend to accompany economic growth. While less is lost in the field in more advanced economies today, more is discarded into the trash bin. Investments in improved harvesting, storage, transport and cooling infrastructure can reduce losses significantly. This, coupled with local producers' increased access to better food processing, packaging and new markets, means that more food will be sold and less lost, providing economic and social benefits to both producer and consumer, and save large volumes of water and other resources that can be allocated to other uses.

Improving early warning and responding to a more turbulent climate

The implications that climate change will have on primary production are difficult to project, but current trends predict that severe consequences are looming on the horizon. Agricultural yields in sub- Saharan Africa and Southern Asia may see reductions by as much as 30 per cent within 20 years. Other speakers at the week noted that increased average temperature could likewise reduce yields of corn, soya beans and cotton by 30-46 per cent in the United States this century. Building resilience to drought, floods and shifts in rainfall through adaptive planning is a critical need for the short, medium and long term. New approaches to develop climate smart agriculture and improve the "hydro-literacy" of rural communities can help poor farmers better withstand the shocks of a more variable climate. Participants noted the importance of improving Early Warning Systems (EWS) to respond to droughts and floods before disaster strikes. EWS can identify coming shortages of both water and food in various regions of the world, but institutional linkages and capacity must be developed in national and international agencies to utilise these warnings to take pre-emptive action. These systems also need to be accompanied by appropriate governance mechanisms and political will by decision-makers to act quickly to take pre-emptive action based upon available data.

Safeguarding ecosystems while expanding agriculture

A bundled view of ecosystem services can help optimise strategies to promote food security and ecosystem health. By applying an approach that enables farmers to understand how their land and water activities interact within the landscape and the multi-functional nature of eco-production systems they can take better

Photo: Istockphotos

Photo: iStoxkphoto

advantage of and protect the ecosystem services. To work at a landscape level, new mechanisms are needed that can engage a broader range of stakeholders in negotiations around the benefits- and cost-sharing of ecosystem services, starting by increasing land-user knowledge of ecosystem processes. One recommendation arising from the World Water Week sessions was to create integrated policies for food security and ecosystem health that are based on a scientific understanding of ecosystem services and are able to utilise incentives to address land-user objectives and trade-offs.

Promoting fair and effective food trade

Food trade is a rational and necessary mechanism for achieving efficient use and better sharing of global water resources as well as socio-economic progress. Increased trade in agricultural commodities can provide opportunities for smallholder farmers but this requires they gain better access to markets and stronger bargaining power within them. This can be facilitated through modern information technology, effective government regulation and access to know-how and appropriate production technologies. The recent increases and volatility of world market prices of grains play out differently for the urban poor and for farmers. Strategic grain reserves are one method to buffer vulnerable populations from their potential impacts. One important proposal which came during the World Water Week was a call for a round table meeting between business, governments, CSOs and academia on managing global strategic natural resources that can take place at the 2013 World Water Week in Stockholm.

Refining the nexus approach

A number of sessions discussed options and pathways to better govern the interlinked issues of water, energy and food by employing "a nexus approach". Implementation calls for pragmatism rather than dogmatism, for sharing of experiences across sectors and between diverse geographic, physical and cultural settings. Speakers highlighted how this could both challenge and stimulate the water, food and energy sectors to collaborate and develop more consistent and coherent policy frameworks.

A call for collaboration

Throughout the week in all events there was a strong recognition of the urgent need to bring different actors, sectors and development approaches together. The challenges that our world is facing cannot be solved by isolated silo thinking and sectoral sub optimisations. From the water community, it seems clearer than ever that water has a unique role in underpinning and linking all challenges as well as their solutions. Water plays key roles in agriculture, health, economic development, urbanisation, energy production, international affairs and the fulfilment of human rights. It is hence of utmost importance that the water community reaches out to other actors who are important to achieve water wise decisions, as well as continue to bring these actors into global water meetings such as the World Water Week. The theme of the 2013 World Water Week is superbly suited to this purpose focussing on Water Cooperation – Building Partnerships. ■

Photo: Mikael Ullén

HIGH LEVEL PANEL

Reviewing the discourse on the global rush for water and land

Investment in agricultural land by international actors has increased dramatically in recent years. The food price crisis in 2008, initiated by droughts in grain-producing parts of the world, triggered an international rush for farmland, primarily in Africa and Latin America. At the High Level Panel, panellists noted that there are several grey areas in the current regulatory environment that oversee land deals, particularly regarding water. Some advocated the adoption of principles at the global, regional and national levels as a mechanism to ensure that land deals provide a development opportunity for all parties.

Several speakers also pushed for water issues to be more prominently featured within international principles and voluntary guidelines on land deals as these transactions will have implications on water quantity and quality. Other implications of land acquisition are that the investors will need reliable access to water for irrigation of its crops on the purchased or leased land. This directs attention beyond the need to better safeguard local priorities and customary rights to land of indigenous populations, more attention is also needed to ensure the effective and equitable management of both internal and transboundary water resources that will be used on leased lands.

CONCLUSIONS

Setting new priorities for a water and food secure world

Over the past half-century, dramatic improvements have been made to increase the quantities of food produced. Today, we feed more people than ever before, but we also leave more people hungry and send more food to waste than any time before in our history. Moving forward, focus must be on resource efficiency, effective distribution to the hungry and sustainable stewardship of water, land, and life-supporting ecosystems. Large scale investments in agricultural research and development, infrastructure, irrigation and supply chain efficiency improvements, coupled with dramatic reductions in losses in the field and consumer waste will yield major returns. Providing farmers with better access to markets, both locally and internationally, is likewise crucial to support smallholders' livelihoods and ensure the food they grow is beneficially used.

This will require a radical shift towards a smarter, healthier, more rational and sustainable global food system. There are many barriers that can delay action, such as a potentially unfavourable political economy, vested interests and bureaucratic inertia, which must be overcome. But the challenges faced to feed an increasingly thirsty world are outmatched by the opportunities they present to stimulate economic growth and provide for a healthier population. With commitment to coordinated action taken on a number of fronts, we can ensure that water will not be a limitation for future well-being on our planet and that everyone has access to clean water and sufficient nutrition to enjoy a sustainable diet.

Hon. Ms. Gunilla Carlsson
Minister for International Development Cooperation, Sweden

Hon. Dr. Mohamed Bahaa El Din Saad
Minister, Water and Irrigation, Egypt, President AMCOW

Dr. José Graziano da Silva
Director-General, Food and Agriculture Organization of the United Nations

Dr. Colin Chartres
Director General
International Water Management Institute

Ms. Lakshmi Puri
Deputy Exectutive Director
UN Women

Mr. Peter Bakker
President of World Business Council for Suistainable Development

VOICES FROM THE 2012 WORLD WATER WEEK

"When resources – water, arable land and other natural resources – become scarcer, we know that those without power will lose out and become even more vulnerable."

"With lifestyle changes and population growth, water use in agricultural production has become more critical. Efficient and integrated water resource management are needed even more than ever before."

"Throughout the world, 2.6 billion small-scale producers till the land, raise animals and fish. They are the main providers of food in the developing world. If we want them to produce more sustainably, preserving natural resources, adapting to and contributing to the mitigation of climate change, we need to help them. We cannot expect them to do it alone."

"Feeding over 9 billion people by 2050 is possible, but we have to reflect on the cost to the environment in terms of water withdrawals and land resources. Saving water by reducing food waste, increasing productivity, plant breeding and wastewater recycling are critical to all of us."

"In 2012, women held less than 6 per cent of all ministerial positions in the field of environment, natural resources and energy. This is why women's equal representation in governance mechanisms must be a target of a new SDG on water."

"The progressive businesses today have really put forward a view of integrated sustainability at the core of their businesses."

ACHIEVING GOOD WATER AND FOOD GOVERNANCE

LEAD RAPPORTEURS
Mr. Bogachan Benli, United Nations Development Programme and Ms. Juliet Christian-Smith, Pacific Institute

JUNIOR RAPPORTEURS
Ms. Annika Hagberg, Mr. Patrick W Keys, Ms. Verena Ommer, Mr. Paul A Quinn and Ms. Paroma Wagle.

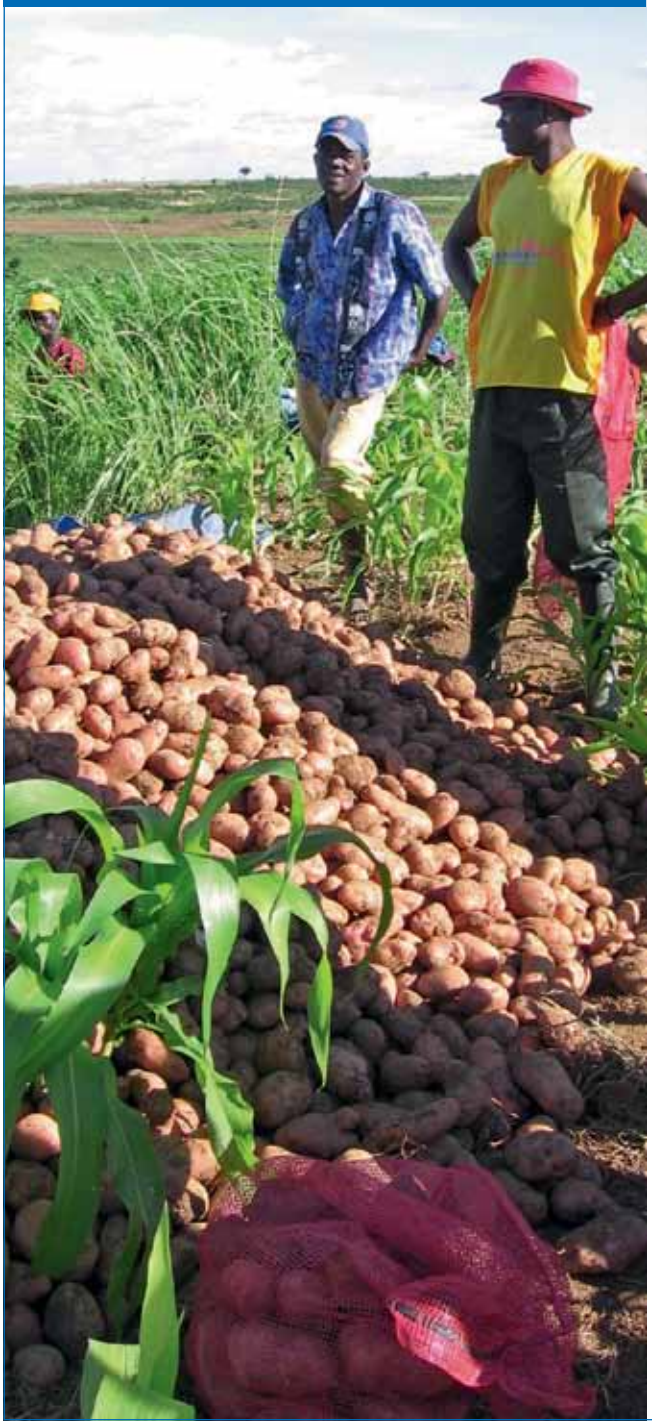


Photo: C. Hamlin, USAID

Water security and food security are interrelated and attempts to increase food security can compromise water security. Technological solutions alone will not solve food and water security problems. Instead, it is necessary to address the root causes of food and water insecurity, many of which relate to mismanagement, inappropriate policies, and weak governance.

In their report, delivered at the closing plenary of the 2012 World Water Week in Stockholm, the rapporteur team shared their insights on the new progress, what is not new, what is needed and what are the next actions to achieve good water and food governance.

What's new?

A paradigm shift

There is an interesting paradigm shift from the Millennium Development Goals to the Sustainable Development Goals, presenting an important opportunity for food and water governance. These goals, although aspirational at this stage, may address management need from a more universal, holistic, equitable and inclusive perspective. The Sustainable Development Goals must address both process and outcomes by emphasising equitable, transparent processes (participatory, integrative management) as well as clear goals and measurable targets in terms human and ecological well-being (sustenance of aquatic ecosystems, energy production, and food security).

Initiatives promoting collaboration

In addition, many sessions examined the role of the private sector in water governance. The complexity of multiple localised water issues makes water risk management a challenging task for individual organisations. Private companies, NGOs, CBOs, development agencies, and governments can collaborate to effectively address water risks. In particular, there were multiple calls for an increased focus on Public Private Partnerships. These partnerships can promote collaboration, create shared value, and contribute to long-term financial sustainability beyond the ability of donor support alone. Monitoring and evaluation processes are essential in this context to guarantee specific performance of contractual obligations and provide actors with a framework to develop plans and investments for the future. Initiatives promoting collaboration between public and private institutions can be seen from the European Water Partnership to the Water Resources Group.

Importance of standard development

Along with the increased focus on Public Private Partnerships, there is also the recognition of the importance of standard development to guide corporate water stewardship and allow comparison and communication across sectors. The Alliance for Water Stewardship is currently developing the International Water Stewardship Standard for large water users and water suppliers

through a stakeholder-driven process. In addition, the Water Footprint Network and International Organization for Standardization are developing protocols for the measurement and communication of the water footprint of products and processes.

What's not new?

What has not changed in relation to challenges with good water and food governance is the need for:

- More and better data to examine trends in water quantity and quality over time and understand the impact of governance interventions;
- Better governance approaches to adapt to climate change;
- Improved multi-stakeholder collaboration;
- Increased funding and financial investments in the water and WASH sectors, and
- Improved transparency and accountability to reduce corruption and land and water grabbing.

What's needed?

Renewed national and international investments

As we move from the Millenium Development Goals to new Sustainable Development Goals there is a need for renewed national and international investment in the water and WASH sectors. The Millenium Development Goals have been enormously successful in uniting donor attention and allowing the development community to join forces in meet major global challenges. This suggests that uniting behind a list of concrete targets can have dramatic impacts. There is a continued need to prioritise water investments. For example, the EU Water Initiative has initiated a series of national policy dialogues to improve coordination and deliver more effective development assistance. FAO and the OECD are engaged in efforts to identify gaps in water-related funding and develop shared priorities for future funding.

Recognising the real purpose of water use

As competition over water resources increases, degradation of water quality continues, and climate change alters the timing and availability of water; there is a need for greater agricultural water productivity. In the twentieth century, the primary objective of water policies was to simply make more "new" water available for human use through the construction of infrastructure to store, move, and distribute water. There is increasing recognition that the real purpose of water use is not evaluated or measured in terms "new" water produced, but by measures of the goods and services provided by that water use or water productivity. In the agricultural context this can be measured a variety of ways from the amount of food produced per unit of water (crop per drop), to the economic value of agricultural production per unit of water, to the nutritional value of agricultural production per unit of water.

Supply chain focus

While there has been much focus on improved field productivity through technological improvements, such as sprinkler and drip irrigation, and management improvements, such as irrigation scheduling, there is also increasing awareness of distribution and supply chain losses. As much as half of the produced in the field is lost or wasted before and after it reaches the consumer. Increasing productivity means developing governance approaches that decrease both pre- and post-harvest losses and increase water productivity.

What now and what next?

Defining good governance

In terms of next actions, an important point that was put forth regards developing a common definition of 'good governance'. Any governance strategy should have in place administrative, social, economic and political structures that enable communities to have a sustainable and equitable growth and a sustainable environment. The governance focus also seems to be shifting from the national level to river basin level. To achieve better governance we need two critical components: 1) Better data and knowledge procurement, sharing, and use; and 2) Involvement of major actors like public sector, private sector, and donor communities.

Innovations strengthen monitoring

Monitoring the results of water governance interventions can be used to improve accountability and will enhance the projects implementation. There are several ways of monitoring progress including quantitative and qualitative measurements as well as the monitoring of activities, outputs, outcomes, and impacts. However, meta-analysis of result and impact reporting is key for effective learning and the creation of new knowledge from ongoing projects. More effective methods of stakeholder engagement can be done using recent technology in collecting and sharing data. For example, text messaging and crowd-sourcing offer new ways to democratise data collection and spatially-explicit databases and internet portals such as the Water Action Hub offer new opportunities to quickly identify and share locally-relevant data.

Rapporteur conclusions

Increased uncertainty (in terms of speed, severity and the complexity of changes) poses challenges to governance structures. Better water and food governance will require addressing increased uncertainty with resilient water governance structures. Characteristics of resilient water governance include: participation, equity, efficiency, accountability, transparency, and sustainability. Resilient water governance is responsive to change and complexity, flexible and able to embrace uncertainty, and involves multi-scalar coordination. There is a need to balance bottom-up approaches, which can influence the basin level, and top-down approaches, which can inform global governance – such as the UN Global Water Use Convention. Yet, we need more examples of resilient water governance and better documentation on how governance systems can adapt to changing bio-physical and social norms.

In addition, resilient water governance recognises that water is intricately linked to many other sectors. Policies should aim for better integration, particularly across the water-energy-food nexus. A key remaining question is: How to integrate the water-energy-food in governance structures so that shared responsibility does not lead to diminished accountability? ■

Photo: Alexandria Riboul, USAID

Reporting Back on

ENSURING HUMAN AND ENVIRONMENTAL HEALTH

LEAD RAPPORTEURS
Dr. Line Gordon, Stockholm Resilience Centrer and Dr. Danka Thalmeinerová-Jaššíková, Global Water Partnership

JUNIOR RAPPORTEURS
Mr. Muhammad Amjad Afridi, Ms. Anna-Katharina Deinhard, Ms. Julia Dankanich, Ms. Duone Mary Ekane and Mr. Oscar Molin

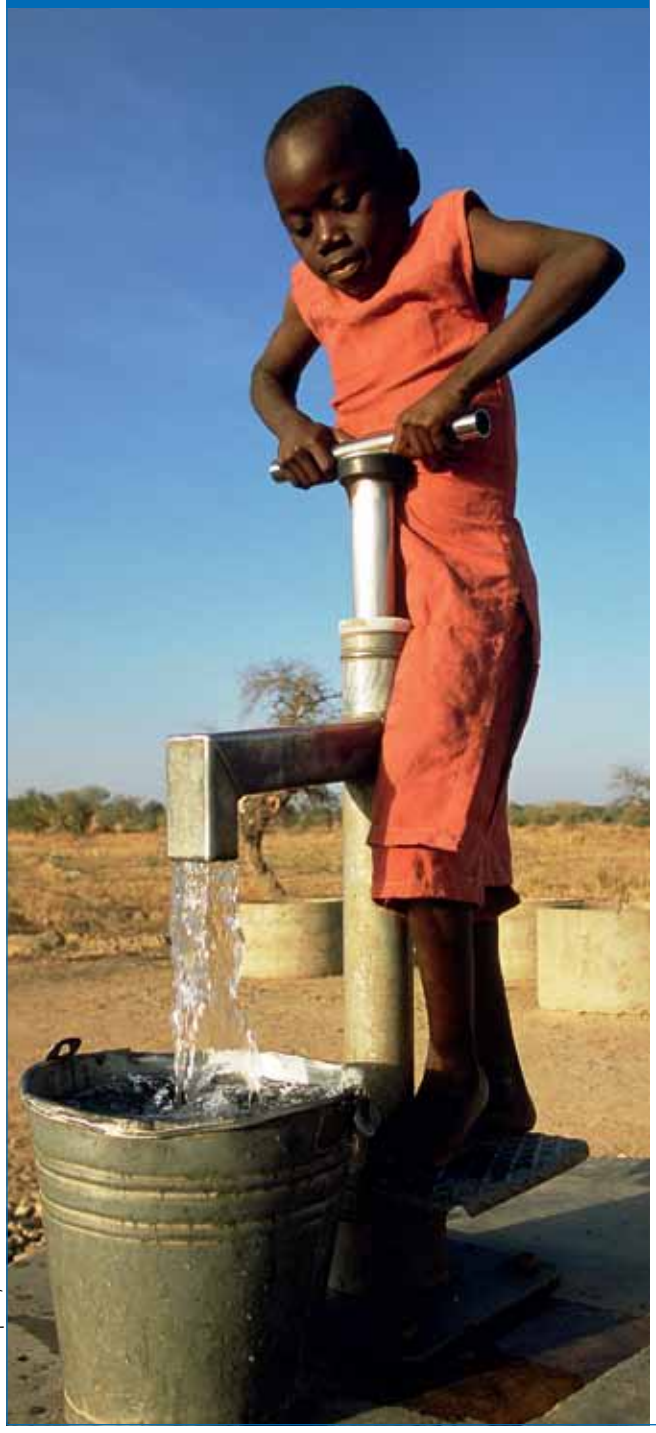


Photo: Jon Spaull, WaterAid

What's new?

Management of water resources cannot be done by sole water professionals and management of land cannot be done by sole land users

There is a new understanding among water actors that management of water resources cannot be done by sole water professionals likewise management of land cannot be done by sole land users. As a result of this understanding cooperation is blooming among organisations that complement each other, e.g. different water and agricultural organisations. At this years World Water Week in Stockholm there were many joint sessions conveyed by organisations that represented both water and non-water sector, and who were able to take specific agenda to a broader understanding and interlink individual interests with the interests of the public (FAO-AMCOW, Ministry – bank, research institute – NGO, as an example).

The past cannot be used to predict the future – difficult decisions about water infrastructure

The difficulty of decision-making under uncertainties is getting a higher profile. The past cannot longer be used to predict the future as it often has in water management up to now. This implies new difficulties in decision making about water infrastructure. Consequently there is a need for more data, improved climate models and exchange of experience. One tool that is currently developed by WMO is the Global Framework for Climate Services, which will offer an opportunity for improved decision-making.

Do not separate development and climate change

Mainstreaming of development and climate change agendas becomes more common. There is a new general understanding that one cannot separate them from each other anymore. Development needs to be taken into parallel with consequences of climate change. Food security and water security eventually leads to environmental and human health security.

Discussions about the Nexus and integrated food – water – environment are taking place

Several sessions emphasised that water, food and energy security need to be addressed in an integrated way, in the context of a pro-poor green economy valuing ecosystem services, as a "nexus" with water at the heart. Although water – energy – food systems changes are driven by demand, prices, technology, and resource constraints, it was stated that further development must relate water resource use to the overall net-returns in terms of economic change (income etc.) and human and environmental health.

What's not new?

Water saving techniques: Technical innovations exist and are applied in developed world, piloted in developing world

Rainwater is a big source of water for food and energy production for many countries across the globe. Management of rainwater can bring positive change in the livelihood and economic growth of a society. Thus, during the 2012 World Water Week in Stockholm the need of improvement in water saving techniques has been emphasised, particularly in water scarce countries. Several case studies were presented which are initiated mainly in African countries, learning from what has been going on in many other developing and developed countries. However, for ensuring human and environmental health it is important to address the rebound effects of the innovation in water saving. It was proven that "saved" water did not necessarily returned to the environment but was immediately turned to enlargement of agriculture production and the overall water consumption increased.

Insights on the environmental consequences of intensive agriculture

The benefits of intensive agriculture have been immense and helped to provide crops for an increased population. However, the increased agricultural production has also had serious consequences to environmental and human health. In addition to driving the loss of natural ecosystems, intensive agriculture adds globally significant and often environmentally detrimental amounts of nitrogen and phosphorus to terrestrial and aquatic ecosystems.

Insufficient collaboration between actors

There is still insufficient collaboration between actors across different sectors. Addressing the issue of water and food security as succinctly reiterated during the conference, requires the active participation and involvement of different actors and not merely those working in the agricultural and water sectors. Food security cut across different sectors and not only the water and agriculture sector but also the health sector. Hence the issue of water and food security cannot be addressed independently of each other. As remarked in most sessions that were centered on sanitation and food security, the sanitation and water sectors are often not integrated with actors from both sectors operating at two extremes, two ministries and rarely collaborating. There is thus the need for interconnection and collaboration between actors in the water sector, the agricultural sector as well as the sanitation sectors.

There is a need to involve government authorities (at all levels) and private business sector actors in the discourse. Platfoms, such as the World Water Week, are needed where these different actors can meet, interact and share ideas on the different ways of cooperating.

What's needed?

We need to create incentives to produce more food on existing agricultural lands, and within existing water use

As the world's population continues to increase, current limited agriculture lands and freshwater resources are put under additional strain. First, by using resources more efficiently (as described for water use efficiency above) pressures on ecosystems can be relieved. But improving water use efficiency is only one way to do this. Secondly, we need to look at other parts of the food production chain than just the supply side. Right now the amount of water for food wasted post harvest are equivalent to 25 per cent of water used for irrigation. By reducing waste losses on agricultural fields and post harvest, we could substantially improve food production efficiency and reduce water needs.

Third, we should focus more on producing a more nutrition sensitive agriculture. We are facing dietary challenges in opposing trends in different parts of the world; obesity in some regions and malnutrition in others. Nutrition sensitive diets can also be more water use efficient. Currently 45 per cent of global crop water use goes to animal feed. The water week gave several indications of the potential in improving health, reduce water use and alleviate pressures on the environment by focusing more on nutrition sensitive diets.

Livestock and fish integrated in all our action plans on food security, and water when concerned with environmental health.

Not only does animal feed use 45 per cent of crop water use, livestock is also the fastest growing agricultural sector, generating 40 per cent of global agricultural GDP, and using ⅓ of our land surface for feed crops and pastures. Inland fisheries, and aquaculture are two other animal sectors also linked to human health and nutrition, and being both impacted on and impacting on water resources. These animal proteins are often vital protein sources for many of the worlds poor particularly when crop fails. Despite the importance of livestock, fisheries and aquaculture for food security, human health and the environment, there was surprisingly little attention to these aspects during the week. We need to consider livestock and fish integrated in all our action plans on food security and water when concerned with environmental health, not only for environmental reasons but also since fish and meat can help build resilience of communities.

Invest in small-holder agricultural water management to reduce malnutrition/hunger

In Sub-Saharan Africa and Asia farmers are increasingly initiating and financing small-scale water management technology projects. This sector has often been overlooked by investors, although investment costs normally are low while profit margins tend to be relatively high. Apart from the economic benefits, investments in small-holder agricultural water management also hold substantial benefits for food security. Several presentations showed that irrigation systems applied in a small agriculture are able to reduce water consumption, increase crop yield and contribute both to better economic performance and smaller

environmental impacts. Being able to grow cash crops in the dry season, not only drastically improves the farmers´ economic possibility to buy better food, but it also contributes to a diversified diet. There is therefore a definite need to unlock the potential for investments by identifying levers with high pay-offs and low transaction costs of implementation. These investments should address targets that:

- Increase access to water
- Catalyse smallholder value chains
- Innovative financing mechanisms
- Helping farmers buy equipment and become profitable
- Create policy synergies between sectors
- Take a watershed perspective

New research presented at the week brought the attention to pitfalls of smallholder agricultural practices. In some places small private irrigation systems are growing without sound regulation (India) and pose a high risk of over abstraction and unregulated runoff of polluted water. Small-scale agricultural water management thus must be controlled at some level to avoid environmental as well as human health damages. There is enough evidence of unregulated water extraction leading to depleting aquifers as well as over-use of fertilisers leading to water quality implications. In many cases the existing governing bodies and the local informal actors are in need of strengthening in order to enhance coordination and efficiency at the watershed level. Corruption surrounding for example water licensing has detrimental consequences in the form of unchecked environmental pollution and wasteful water management. To tackle such corruption it is crucial that more time is devoted to planning and inception phases of, for example, small reservoir projects.

In a similar vein it is important to develop capacity at smallholder farmer level about safe treatment of human waste and urea. Eco-sanitation has grown in recent years and it is likely to continue to do so. Returns on investment are high due to high yields, lower pumping costs and less use of pesticides. The decrease of pesticide use also has very positive impacts on environmental health. For a future nutrition-sensitive agriculture production to take form it is also essential that wastewater is treated safely and then re-used in the farms.

Development and presentation of old and new tools for systemic approaches

We need to improve our capacity to weigh difficult trade-offs among food security, water use, environment and health. During the week we have seen the development and presentation of old and new tools for systemic approaches to considering trade-offs among diverse objectives, such as water footprint analysis, quantification of ecosystem service bundles, developing green accounting, using Life Cycle Analysis, etc. However, these are still quite sectorial and there is a clear need for improved and broadened such tools, that also can deal with costly data needs, and the difficulty of limited data availability.

Dynamic bridging institutions that enable management of multiple ecosystem services (including food and water) across landscapes

Integrated approaches of landscape management can be applied to better cope with water, food and ecosystem service trade-offs trade-offs. Landscapes are larger than the field where agriculture production takes place, and different than the basin and catchment where water professionals often focus. We thus need dynamic bridging institutions that enable management of multiple ecosystem services across landscapes and that link actors across sectors. These institutions need to be able to assess, monitor, enforce and also learn and adapt to deal with the complexity and messiness of crossing the field-landscape-basin processes.

Integrate…. again

Environmental sustainability must be integrated as a core objective into all agricultural activity, addressing climate, water, land and waste issues and community benefits.

What now and what next?

There is a need for a balance of technical, institutional and governance improvements; one without the other will delay progress in meeting development goals and perpetuate business as usual practices. There was a good start to understand the Water – Food – Energy Nexus at a global level. A recommendation is to reach lower levels: to conduct regional dialogues that can lead to improved understanding about the Nexus and to build solutions around the end-user. This will deliver more sustainable outcomes.

Provision of water, food and energy are all services provided by ecosystems at the heart of the Nexus. Emerging models exist for protecting ecosystems and the services they provide – a recommendation is to show stories on the ground.

Most of sessions presented good results of pilot studies and demonstration projects in dealing with water and food securities. One specific example was to reuse waste water in agriculture that might act both as a driver to take sanitation to scale and to increase agriculture production (so called "productive sanitation"). In order to avoid that these examples will be forgotten, a recommendation is to:

- Share experiences and case studies to a broader audience
- Upscale pilot case studies and replicate experiences
- Continue (do not stop) to train farmers in good agriculture practices (focus also on environmental and human health). ■

ESTABLISHING WATER AND FOOD EQUITY

LEAD RAPPORTEURS
Ms. Melinda Fones-Sundell, Stockholm Environment Institute and Mr. Darren Saywell, Plan International USA

JUNIOR RAPPORTEURS
Ms. Lisa Bunclark, Mr. Garry Glass, Mr. Rajabu Hamisi, Mr. Jakub Kocanda and Ms. Emma Li Johansson

Photo: Neil Chatterjee

Interestingly, for a concept that is both emergent and contested at the same time, which is highly relative, and for which no universally operational definition is in place, assumptions and understanding of what constitutes equity was widely accepted during the 2012 World Water Week in Stockholm. Few, if any, technical sessions sought to establish parameters that defined the term.

However, piecing together reports from the sessions, the rapporteur team can point to four overlapping ways in which equity was discussed: social equity (access to, control over and use of resources across different social groups); spatial equity (the same questions, defined by physical space); gender equity (do men and women have different power over resources, why?) and intergenerational equity (how does use and abuse of resources by current generations impact future use).

During the World Water Week, the rapporteuring team for Water and Food Equity covered a total of 75 technical sessions, covering an extremely divergent set of topics, ranging from Micro Irrigation and Food Security Strategies at one end of the technical spectrum to Going to Scale with Pro-Poor Inclusive Integrated Sanitation in Urban Areas at the other.

What's new?

Perspectives on what constitutes 'new' or 'innovative' actions, practices or policies are, of course, highly subjective. However, the rapporteur team did identify and observe three trends that illustrate components of the above.

Intersection between sub-topics and the benefits or synergies that cross-fertilization can bring to the water sector

The link between WASH and nutrition emerged on several occasions, primarily through a more refined understanding of the connections between WASH, malnutrition and diarrhea; the developing understanding of environmental enteropathy and its growing prevalence amongst the most vulnerable members of a community.

A different level of analysis and rigor appear to be filtering into the sector and influencing evidence-based decision making

Throughout the week, a new and welcome degree of academic scrutiny was evident in supporting the assertions made by speakers and their organisations – methodological approaches, such as randomised control trials, or statistical analyses based on econometric methods were cited more frequently and reflect the willingness of the sector to marshal more credible evidence towards its broader advocacy goals. The United Nations system (UN-Water) conducts a periodic, and sophisticated, analysis of the inputs to the sector in terms of finance, capacity, and policy reform through tools such as the Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) report.

A trend towards more rigorous design of incentives in programming for equity outcomes was observable

For example, more multiple-use systems included in program planning as ways to ensure the poorest actually benefit. The impact of rapid urbanisation on town and city planning approaches was cited frequently, raising the urgent need for change in existing and future plans, planning codes and regulation. Planning approaches that identify and tailor adaptive solutions for distinct parts of the city – the developed core, slums, informal settlements, industry, etc – will be one of the major new developments in the growing towns and cities of Africa and Asia in the next 20-30 year timeframe.

What's not new?

Considerations of equity were not perceived as a new issue

While technical sessions typically sought to focus on the 'next big thing', some of the dialogue and debate during World Water Week tended towards themes and positions that were familiar. On the positive side, the fact that considerations of equity were not perceived as a new issue can be interpreted as a tangible outcome. Its prominence, the maturity of the debate and the focus on actions to support equity outcomes was noted and is laudable.

The 'known knowns'

However, several issues and challenges, common to any World Water Week, were rehearsed again in 2012: typical of these were the problem of how to effectively manage water; conflict between modern and traditional approaches; lack of community consultation; large scale, capital intensive versus small scale, labour intensive methods; gains from water efficiency in one area leading to losses in another; small land size of farmers; more participatory approaches; need for knowledge exchange; more holistic approaches. Ways in which future seminar convenors can organise sessions, encourage presenters or set background documents that remind participants of generally accepted 'known knowns' while motivating a focus on collective gaps in policy and practice, will only enhance the events.

Emphasis on policy

It was noticeable that World Water Week discussions continues to emphasise policy focus over concrete actions which directly improve equity in projects or in practice. The disconnect between the policy imperative and the how of better programming was a stark reminder of our tendency to focus on one or the other; stronger examples of how policy reform leads to a process of change that impacts on the lives of communities will strengthen the learning achieved from a session.

What's needed?

Many presentations focused on highly specific needs and wants in relation to this theme, too numerous to do justice to in this summary. There were myriad calls for better and more targeted investment in agriculture and WASH; greater transparency so that costs can be tracked, accountability promoted and malfeasance uncovered; improved legislation to value waste products from sanitation; new statistical analyses and an array of different indicators and monitoring mechanisms to drive outcomes.

Collaboration is needed

Stepping up a level from these specific instances, it was noticeable how frequently reference to collaboration was cited. This was mentioned almost universally at all levels, whether in relation to writing policies and conventions, project design and implementation or monitoring and evaluation. As a community of practice, we seem keenly aware of our organisational limitations and our related need to address common challenges through common, concerted action. Collaboration was trumpeted as ways by which we can build capacity, find a range of appropriate methodologies for deployment, increase knowledge sharing and allow from more holistic forms of development interventions. At the same time, however, there seemed a worrying lack of understanding about the inherent difficulties involved in collaboration on-the-ground. Policy makers, engineers and civil society frequently don't talk the same 'language', or fully understand the complexity of different, often distant, perspectives. Differences in the power relations between different stakeholders (whether perceived or real) will have a great impact on any outcome from a collaborative endeavor. The evident gap in our understanding of the transaction costs and implications of this buzzword will, no doubt, be the focus of much of the 2013 World Water Week theme: Water Cooperation – Building Partnerships.

Working towards the Sustainable Development Goals (SDGs)

With an eye on the process beyond the 2015 deadline for the Millennium Development Goals (MDGs), there were frequent references to the proposed Sustainable Development Goals (SDGs) and the technical work that is currently underway in relation to these. The aggregation of the dialogue at the week on this issue centered on the need for higher resolution in the revised goals, targets and indicators with respect to equity and non-discrimination. How can the political objectives of these goals be aligned with our need to promote stronger pro-poor investments by government? The water world is addressing this directly through an increasing focus on wealth quintile analysis of WASH coverage and an explicit emphasis on measuring the impact on the poorest in the proposed SDGs targets.

What now and what next?

Rethinking capacity strengthening

During the week, there seemed common appreciation and understanding that we are at best paying lip service to capacity

building needs, and at worse, willfully neglecting the single biggest opportunity to transform the next generation of professionals who will address tomorrow's challenges. Whilst there was unanimity in the need for more investment in capacity strengthening measures, the water and food sectors lack clear analysis as to where (what types of skills, personnel) the investment is needed, how long capacity takes to come on stream (how quickly can we fast track training of professionals), and what happens to capacity once it has been strengthened (is it sustained, neglected, lost?). Without more refined analysis on the subject, coupled to greater creativity in how we bring capacity into the sector, we will continue to struggle in the delivery of existing targets, let alone scaling up to more ambitious goals.

Sustaining political engagement

A not unrelated second theme was the drive towards sustained political engagement at national level as a means to see through policy change into implementation and practice. Discussion here focused on the persistent need to nurture political will for our sectorial cause at the national level – with examples of what works, and why – alongside the need to cultivate political leadership and champions for causes that will help overcome institutional and bureaucratic inertia. ■

Photo: Jules Bosco, Salohi, USAID

Reporting Back on

BUILDING A WATER WISE ECONOMY

LEAD RAPPORTEURS
Ms. Kathleen Dominique, Organization for European Cooperation and Development and Ms. Marielle Wiekel, Conservation International

JUNIOR RAPPORTEURS
Mr. Abenezer Zeleke Aklilu, Mr. Hamed Mohammadi Fardi, Mr. William Sidemo Holm, Ms. Susanne Skyllerstedt and Ms. Svenja Tidau

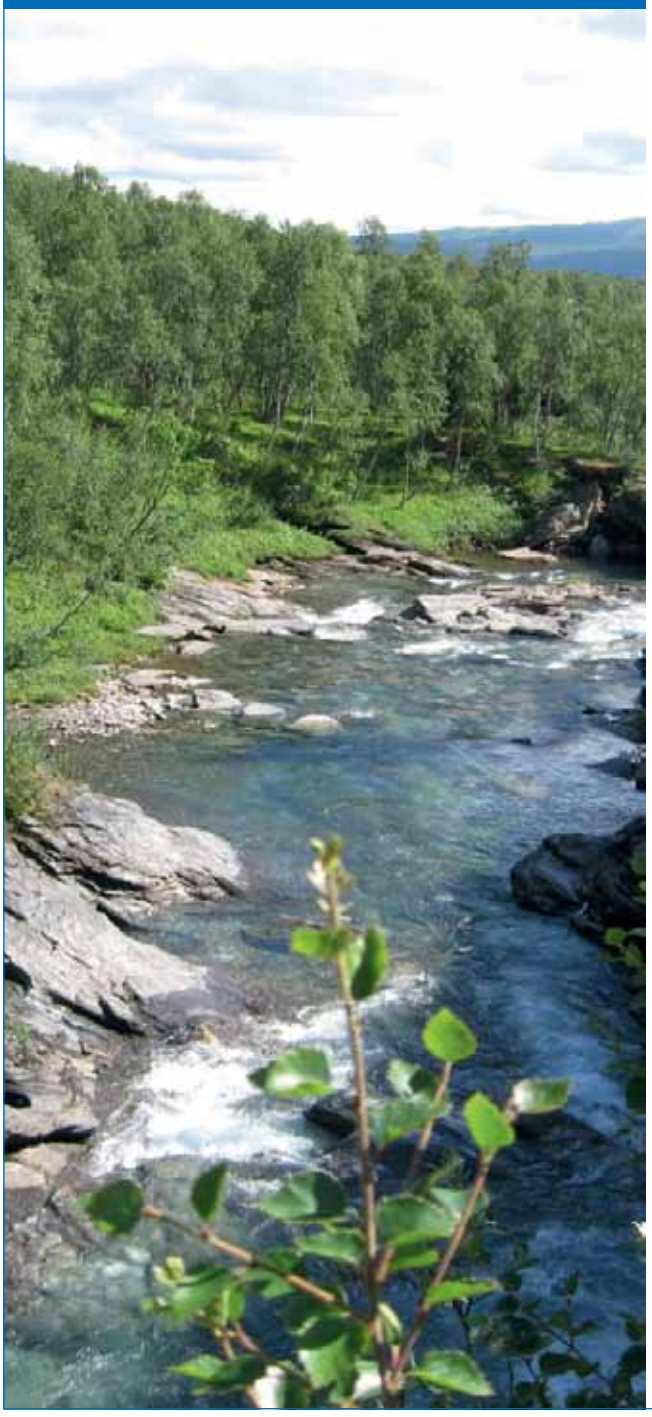


Photo: Ingrid Stangberg, SIWI

With 70 per cent of the world's water used in agriculture, water and food security go hand-in-hand. When sustainably managed, water can be significant driver of green growth. The discussions at the 2012 World Water Week in Stockholm threw the spotlight on emerging economic trends, persistent barriers to reaching aspirations for a water and food secure world for all, as well as new ideas, tools, and approaches to meeting current and future challenges.

What's new?

A demand shift with increased physical and market volatility driving water scarcity

Water scarcity is being driven by increasing demand for food and water, along with increased volatility – both physical volatility (e.g. floods and droughts) and market volatility (e.g. fluctuating fuel and fertiliser prices, exchange rate volatility, and the recent global financial crisis). These trends converged when food price spikes in 2007-2008 (driven by severe droughts in grain-producing regions) raised concerns about growing resource constraints. This coincided with the financial crisis, which resulted in substantial amounts of capital seeking new investment opportunities. These drivers contributed to the recent acceleration of foreign (public and private) investment in agricultural land (and water) primarily in Africa and Latin America. Termed "land and water grabbing" by some and just another form of foreign direct investment by others, there was significant debate about the implications of this acceleration. There were clear calls for increased transparency and improved governance around these deals.

A better understanding of the economic value of water

Debate this year went beyond the simple dichotomy of whether water should be seen as an economic commodity or not. There is broad recognition that water has social and cultural value, as well as economic value. There is also increasing recognition of the complexities of water as an economic good. It can be both a public and a private good and it has significant non-market values, such as the value of ecosystem services. Water also has multiple uses and varies in time and space. The value of water is often driven by price expectations in other sectors – the price of food, land, energy and other commodities have a significant impact. While understanding the value of water is complex endeavour, it is important for ensuring that its value is adequately accounted for in economic, social and environmental decisions.

Optimising across the entire agro-food value chain

Speakers repeatedly stressed the importance of moving beyond the focus on the production-side and looking across the entire agro-food value chain in order to reduce food waste and in doing so, save water. Feeding an additional 2 billion people by 2050 and meeting the demand for more protein-rich and calorie-intensive diets will require much more than increasing

food production. Reducing food waste is an area where significant gains can be made. FAO estimated that roughly one third of the food produced worldwide is lost or wasted. In developing countries, the bulk of food losses occur on-farm or in the process of transport, distribution and manufacturing, due to inadequate storage and infrastructure. In developed countries, the majority of food waste occurs in on the consumption side – in households and food service. Indeed, the food waste in North America and Europe could feed all of the world's hungry three times over according to FAO.

Increasing uptake of tools to manage water-related risks

Companies are facing increasing pressure from investors for disclosure about their exposure to water-related risks. There is a growing suite of tools to assess water-related risks and many examples of their increasing uptake. At the same time, some studies presented during the week indicated that while a significant number of companies are exposed to water-related risks, only a small number have actually adopted and are disclosing water risk management measures. For instance, a study by EIRIS of 3,000 companies around the world showed that 54 per cent are exposed to water-related risks, but less than 1 per cent had assessed that risk and implemented measures to address them (EIRIS).

Increasing investment in smallholder agricultural water management (AWM) by farmers

Although often overlooked by governments, small scale AWM investment by farmers is on the rise. New business models (e.g. irrigation service providers), investment tools (e.g. the investment visualiser) and specialised insurance products were cited as useful contributions to this trend. Increasing productivity of small-scale farms can reduce water consumption substantially and there is significant scope to multiply the impacts of these efforts.

Considering "bundles", rather than discrete ecosystem services

Considering "bundles" of ecosystem services, rather than discrete services may help to identify ways to capture multiple benefits from the same ecosystem. For example, speakers highlighted that agro-ecosystems are more than just provisioning services, and by using agro-forestry methods multiple benefits from ecosystem services can be reaped.

What's not new?

Persistent data gaps and the need for better information

Gathering accurate, timely, useful and comparable water data is a persistent struggle. Accurate and exact measures for many parameters are elusive. Comparability and aggregation are impeded by the lack of consensus on common definitions for water quantity and quality. The collection of timely and recurrent data can be very costly. In addition, political sensitivities about water data are a common barrier to the disclosure and sharing of water data. Finally, even when adequate water data is available, it is not always put to use to inform decision makers, investors and the public in general.

Distributional issues and disparities

Significant distributional issues exist for both water and food security. Farmers may face decreasing revenues due to increasing costs of production technology as long as food prices remain stable. One possible solution is to shift production toward high quality crops, thus to generating higher incomes for farmers. Yet, even in cases where food prices are rising while production costs remain stable, farmers without access to markets may fail to capture gains that are instead reaped by middlemen. Distributional issues are also at the forefront of the debate around the trend of foreign investment in agricultural land and water. The implications of these deals for small holders remains unclear. Finally, despite advances in access to "improved" water supply, huge disparities remain especially since access to an "improved" water supply does not necessarily mean access to "safe" drinking water. For example, only one in ten of the poorest in rural Sierra Leone have access to drinking water. Overall, UNICEF/WHO estimates that the growing population has outpaced the expansion of access to water and sanitation, such that despite great progress, the number of people without access to drinking water and sanitation has, in fact, increased.

Gaining efficiency in some areas, with much potential for more

There were numerous examples of technologies to improve the efficiency of food production (e.g. new crop varieties, fertilisers) water use (e.g. improved irrigation techniques and leak detection, soil moisture sensors, measurement of crop evapotranspiration) and sanitation service (e.g. water filtering systems). Increased uptake of new technologies in agriculture can improve yields per drop, leading to significant water savings. Innovation in business models and contracting arrangements can also yield gains. Examples were cited of improving agricultural yield by establishing long-term purchasing contracts with farmers in India and Mexico, for instance by PepsiCo. Yet, significant room for improvement remains. There is a huge, unsolved gap between production and the daily intake of calories due to production losses and waste. The world is hungry because we are wasting food.

What's needed?

Rethinking key water concepts

We need to think about water much more broadly than the typically narrow focus on "blue" water (surface and groundwater resources) and on water quantity. Making better decisions about water requires taking into account "green" (rain fed systems and moisture in plants and soil) and "grey" water (recycled waste water and desalinated water); quality as well as quantity; and extreme events (floods and droughts) in addi-

tion to water supply. Furthermore, many of the current analytical approaches to understanding impacts on water (e.g. water footprint, water scarcity index, and virtual water) may serve as useful awareness-raising tools, but only provide a partial picture of water issues when detached from important contextual information. More sophisticated analytical approaches that account for the spatial and temporal dimensions of water supplies are needed. For example, food produced using "green" water has the same value as food produced with "blue" water, even though irrigation often adds significant production costs and possible inefficiencies.

Going beyond biophysical/engineering solutions to include insights from the social sciences

Traditionally, water problems have attracted engineering solutions. Incorporating insights from the social sciences (including economics) can compliment natural science and engineering approaches and contribute to better water management. Yet, poor communication between disciplines can lead to limited understanding of water-related problems and result in partial solutions. It was also recognised that there is often a need to re-package economic analysis in a way that is useful for decision making. In general, the need for more constructive communication between disciplines was reiterated.

Reducing risk and improving resilience in water planning and investments

Water is the primary medium through which the impacts of climate change will be felt. There is abundant evidence that climate change is already impacting water systems. Given that investments in water infrastructure are often capital-intensive and long-lived, failure to adequately account for climate change in their design and operation may result in costly mal-adaptation (e.g. increased risks or stranded assets). There is a clear need to identify no/low regrets investments and measures to manage climate risks at all time scales – both natural climate variability and long term climate change. At a more basic level, the distinction between what is considered as "climate change adaptation" and what is considered as "development" is often blurred, as these objectives are often intertwined and reinforcing. A shift from reactive, crisis-driven approaches towards integrated, proactive risk management is required. Uncertainty is not a reason for inaction.

Collaborating across sectors and at all levels

Increased collaboration was called for in sessions throughout the week. Collaboration is needed across sectors, among levels of government, and between government, enterprise and civil society. Cooperation and knowledge sharing between countries can help to implement solutions for better agricultural water management. Cooperation to manage transboundary water resources can be important not only to share benefits, but also to build predictability in terms of water sharing arrangements. Greater coordination among public authorities dealing with agriculture and water is also crucial. The question is – how to collaborate effectively and efficiently? Next year's World Water Week focus on water cooperation is sure to provide insights.

What now and what next?

Agreeing a set of principles and guidelines for governance of foreign investment in agricultural land and water

Active debates about the acceleration of foreign investment in agriculture land and water resulted in calls for developing a set of principles to guide more transparent and equitable investments that more fully account for a variety of social and environmental considerations.

Demystifying the nexus and putting it into practice

The water-energy-food nexus is considered to be among the top three major risks to the global economy by the World Economic Forum. A nexus perspective can shed light on the inherent conflicts that may arise when pursuing any one nexus dimension in isolation of the others. For example, promoting biofuels without regard for increased pressure on water resources or for the effects on food prices. Or, the expansion of hydraulic fracturing ("fracking") in the production of natural gas, without due considering for the potential negative impacts on water quality or scarcity. Speakers emphasised that considering investments from a nexus perspective can yield higher overall returns than taking a siloed approach. Several initiatives to further develop nexus concepts, practical case studies and partnerships to advance the approach were announced.

Harmonising and improving tools to manage water risks and uncertainties

There is an increasing push to harmonise existing tools to assess and manage water-related risks, in particular tools used by the private sector. At the same time, there is a recognition that these tools can be constantly improved – with better data and analysis focused at increasingly local scales. Dealing with constantly evolving scenarios and risks associated with climate change is also the focus of ongoing attention.

Launching platforms for meaningful collective action

Several platforms and initiatives are just getting underway to enable greater collaboration and collective action to move towards solving common water challenges. Particularly innovative approaches tap opportunities created by social media and the rapid diffusion of information and communication technologies. Examples include crowd funding and the CEO Water Mandate's Water Action Hub, which enable investors, entrepreneurs and practitioners to link up using online technology in new and exciting ways to connect and work together. ■

THE YOUNG PROFESSIONALS' VISION

A youthful vision for a water and food secure world by 2050

Introduction

The years from now to 2050 will be marked by many challenges, particularly those related to water and food. Current population trends show that over 9 billion people will live on the planet by 2050 – 70 per cent of them will live in urban areas (UN, 2011). This will increase pressure on resources, which are already under serious stress by the current management paradigm, and therefore, posing important questions on the ability to provide universal access to water and food (FAO, 2011).

Stakeholders at different levels need to act upon this issue. It is necessary that the current and future generations of water professionals work together to give continuity to the seniors' knowledge and experience while integrating young peoples' fresh perspectives and techniques. This is the only way in which efforts can be maximised to abate the water and food security challenges. However, often young professionals do not have the chance to contribute to high-level debates and put their vision or ideas forward.

Proactively, SIWI recognised the importance to ask the young generation of water professionals what they thought about the most pressing challenges and most promising solutions related to water and food security by 2050. Hence, five young professionals representing different backgrounds and sectors were selected to gather inputs and ideas from their contemporaries during the World Water Week in Stockholm. These ideas where later compiled into a vision for a water and food secure world by 2050, which was presented at the closing plenary.

This paper presents the process, the vision, and the solutions that were put forward by this group of young professionals.

Engagement process at the World Water Week

During the 2012 World Water Week, the Young Vision Core Team engaged with other young professionals who attended the conference. Through video-interviews and social media inputs from those following the conference remotely, the team responsible for the Young Professionals' Vision collected views, suggestions and opinions on how to address current food, water and energy challenges. Together with the ideas that arose from more than 100 sessions, these interviews, and written inputs from junior rapporteurs and the young scientific programme committee, the Young Professionals' Vision emerged as a consolidated output.

During the course of the conference, interviews were recorded with young water professionals from different regions and backgrounds. The final interviews were uploaded in the Young Professionals' Vision official Youtube channel: **www.youtube.com/user/WWWeekYVL.**

Other tools used were the Water Media Blog, emails, Twitter, and off-the-record interviews. The Water Media Blog provided a forum for these professionals to share their ideas and projects with those that could not be present at the conference. Additionally, social media tools, including Twitter, were used to reach out to groups outside of the conference venue. The Young Vision Core Team used the hashtag #YVL to ask for solutions to our water and food security challenges. According to many of the young people who contributed to the vision, this exercise provided them the opportunity to voice their opinions and present their views on how to solve the water and food security challenges.

The world in 2050

Despite the many challenges that the world is expected to face by 2050, the young professionals had a clear vision of how they would like the world to look like. This vision, although ambitious, is one they think should lead development efforts by stakeholders pertaining to water and food.

The world in 2050 is one where all citizens have access to improved sanitation, safe water, food, and health. It is a world where citizen's well-being and security are leading principles in all development efforts. The world in 2050 recognises that healthy ecosystems are the basis of human well-being and sustainability.

The world in 2050 is one where there is inclusivity in decision-making processes. Traditional stakeholders, such as business and government representatives, are able to work side by side with often neglected groups, such as women, youth, and indigenous communities. Furthermore, it is a world where there is transparency and accountability. It is a world where all governments, organisations, businesses, communities, and citizens are held accountable to their roles in the society and within the management of our resources.

The world in 2050 is one that looks beyond 2050. It is a world that incorporates a long term view in the management of its natural resources and that it seeks to protect natural capital for future generations. To be able to look beyond 2050, citizens should be informed, aware, and proactive. Citizens should know and understand the value of food and water, and thus, they can promote wise management of natural resources.

Finally, the world in 2050 is based on cooperation and trust between all stakeholders. It is a world that values and acknowledges the interdependencies among different sectors of the society.

What are the major challenges we face today?

The young professionals recognise that this vision is far from the current status of the world. There are currently 2.5 billion people,

who lack access to improved sanitation; and 780 million, who do not have access to safe water (WHO & UNICEF, 2012). Furthermore, one of the biggest dilemmas that we face is that while one billion people are undernourished, one billion people are obese (WFP, 2012; WHO, 2012). Changing consumption patterns and life styles are leading to more demand of animal products, which in turn puts pressure on resources, such as land, food and water. As a result, close to 60 per cent of our ecosystems services will be degraded, decreasing our resilience to climate variability (MA, 2005). Additionally, the amount of food waste is unprecedented; being 30-50 per cent of the production is wasted (Gustafsson & Lundqvist, 2012). Water demands and uses are also still managed in silos with fragmented approaches resulting in inefficient management of the resources and perverse incentives in regulations and policies related to water and food security.

How should we tackle these challenges to achieve water and food security by 2050?

There are many political, economic, and social challenges that must be addressed in order to achieve the vision of the world that young professionals envision by 2050.

The Young Vision Core Team

Mr. Luca di Mario
University of Cambridge
UK

Ms. Olimar Maisonet-Guzmán
World Youth Parliamentarians for Water

Dr. Phillia Restiani
Stockholm International Water Institute
Sweden

Ms. Inga Jacobs
Water Research Commission
South Africa

Mr. Fadi Zaghmout
United States Agency for International Development
Jordan

In this section, some initial solutions are reported. Among the initiative that should be promoted to achieve the vision are:

- Increasing sustainable investments in agriculture that address the need for infrastructure and capacity building, with respect for indigenous and local communities perspectives;
- Embracing a more resource efficient and healthy diet through better consumers' education and appropriate incentives that encourage behavioural change;
- Implementing sustainable intensification of food production, through increased supports in research funds and investments into efficient solutions;
- Wasting less food through implementation of smart technological solutions, economic instruments and regulatory policies for food conservation along the value-chains (mainly in developing countries), together with customers' education (mainly developed world);
- Promoting enabling conditions that include smart incentive mechanisms, policy cohesion and institutional design and strengthening; Understanding the link between water, energy and food, and make sound decision based on this nexus;
- Adopting sustainable business model perspectives in development projects to achieve a long-term sustainability and revenue leverage, which go beyond donors' funds;
- Developing resource recovery and re-use, which means extracting water, nutrients, organic matter and energy from sanitation/bio-waste and reusing it safely for agriculture, industries, municipalities, and energy generation;
- Empowering local communities;
- Boosting fairer trade markets, where farmers are paid a fair price and speculation on food market is not allowed;
- Learning from our mistakes as well as our successes, which means increasing knowledge management;
- Adaptive and flexible approaches that can be modified in due course (see the generation of the adaptive idealists).

It should be noticed that young professionals recognise that the journey is long and it is necessary to start working today with senior experts, because only through cooperation (particularly intra-generational) the next generation of professionals will be able to achieve their vision.

The generation of the adaptive idealists

Finally, young professional leaders called themselves the generation of the adaptive idealists. This is because they aim at an ideal world, where universal and equal access to improved sanitation, safe water, food and health is ensured for the well being of the citizens (see the vision above). At the same time, they recognise that the only way to achieve an 'ideal world' is by being adaptive, which means developing solutions, strategies and approaches, which are continuously checked and modified to respond to changing conditions. This is because they see that the only certain thing about the future is uncertainty.

"We will call ourselves adaptive idealists"

This initiative was successful in raising the voice of the young professionals and allowing it to reach decision makers that attended 2012 World Water Week in Stckholm. It also highlighted the World Water Week as a platform which invests in helping and developing the future leaders of our planet. ■

REFERENCES

FAO. (2011). The state of the world's land and water resources for food and agriculture (SOLAW) – Managing systems at risk. Food and Agriculture Organization of the United Nations, Rome and Earthscan, London.

Gustafsson, J., & Lundqvist, J. (2012). Food Supply Chain Efficiency "From Field to Fork": Finding a New Formula for a Water and Food Secure World. In A. Jagerskog & T. Jønch Clausen (Eds.), Feeding a Thirsty World – Challenges and Opportunities for a Food Secure Future (pp. 31-38). Stockholm: Stockholm International Water Institute.

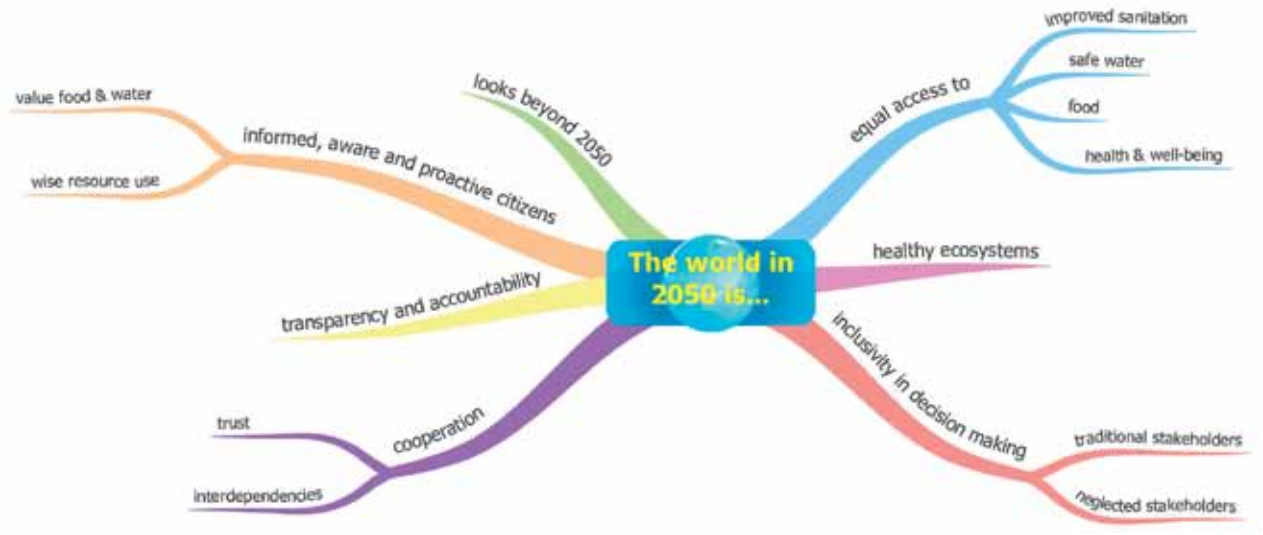
MA. (2005). Ecosystems and Humann Well-being: Synthesis. World Health (pp. 1–155). Washington, D.C.

UN. (2011). World Population Prospects: the 2010 Revision. Population (English Edition) (p. 142). New York. Retrieved from http://esa.un.org/unpd/wpp/Documentation/pdf/WPP2010_Highlights.pdf

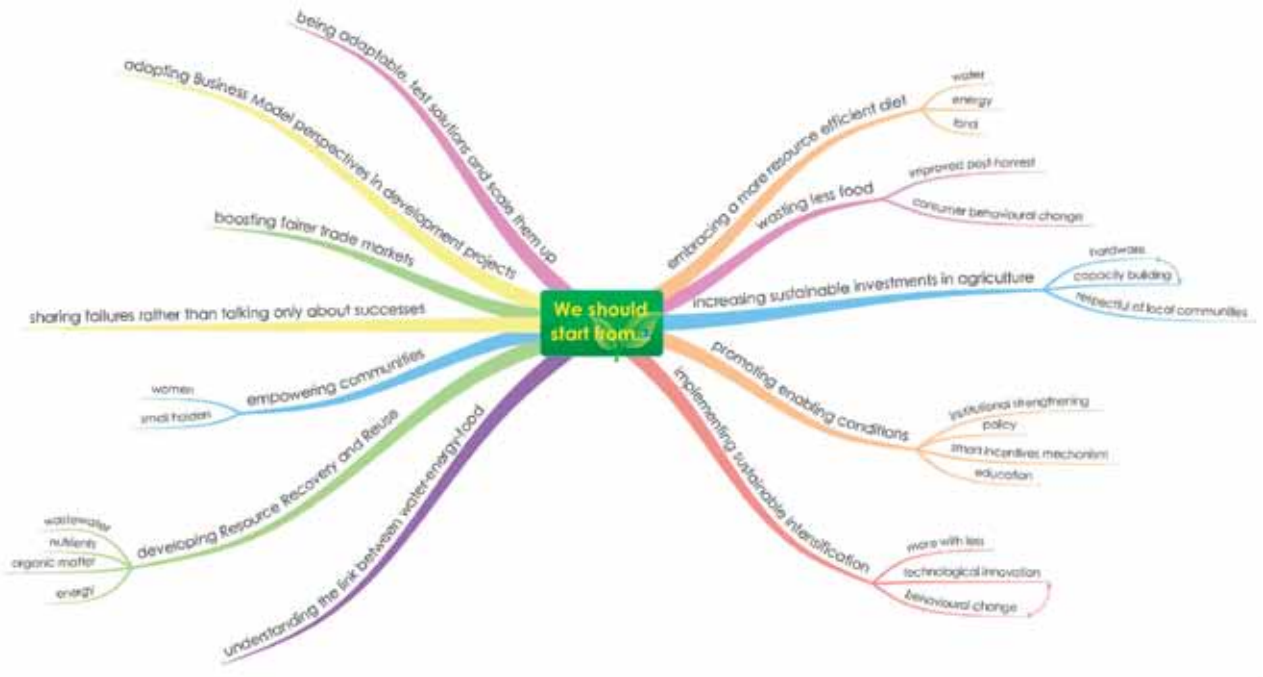
WFP. (2012). Hunger. WFP. United Nations World Food Programme – Fighting Hunger Worldwide. Retrieved September 22, 2012, from www.wfp.org/hunger

WHO. (2012). WHO. Obesity and overweight. World Health Organization. Retrieved September 22, 2012, from www.who.int/mediacentre/factsheets/fs311/en

WHO & UNICEF. (2012). Progress on Drinking Water and Sanitation: 2012 Update – Joint Monitoring Programme. Update (pp. 1–66). New York and Geneva.



Mindmap showing how the world should look like according to the Young Professionals' who participated in the vision



Mindmap showing how we could achieve the vision developed by the Young Professionals'

CONVENING ORGANISATIONS

- 3R Group
- 6th World Water Forum International Forum Committee
- 2030 Water Resources Group
- Acacia Water
- African Development Bank (AfDB)
- African Ministers' Council on Water (AMCOW)
- Agence Française de Développement (AFD)
- Agronomes et Vétérinaires sans Frontières (AVSF)
- AGT International
- Akvo Foundation
- Alliance for Global Water Adaptation (AgWA)
- Alternativas - Cultivando Comunidades
- Aqua for All
- Asia Pacific Water Forum (APWF)
- Asian Development Bank (ADB)
- Australian Council for International Agricultural Research (ACIAR)
- Baltic Compass
- Beijer Institute of Ecological Economics
- Beijing Forestry University
- Bill & Melinda Gates Foundation
- BothEnds
- Botín Foundation Water Observatory
- Canadian International Development Agency (CIDA)
- Capfida
- Cap-Net
- Center for Development Research (ZEF)
- Centre for Coastal Health, Canada (CCH)
- Centre for Land, Economy and Rights of Women (CLEAR)
- Ceres
- CGIAR Challenge Program on Water and Food (CPWF)
- CH2M HILL
- Chalmers University, Sweden
- Chinese Academy of Sciences
- Circle of Blue
- Comprehensive Africa Agriculture Development Programme (CAADP)
- Conrad N. Hilton Foundation
- Conservation International (CI)
- Convention of the Protection and Use of Transboundary Watercourses and International Lakes (UNECE)
- Coopernic
- Council of Great Lakes Industries (CGLI)
- CRBi, LLC
- Delta Alliance
- Deltares
- Department of Water Affairs, Ministry of Agriculture, Botswana
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
- Deutsche Investitions- und Entwicklungsgesellschaft mbH (DEG)
- DHI
- Dutch Nutrient Platform
- Earth Institute, Columbia University, USA
- Earthscan
- EcoAgriculture Partners in concert with the Landscapes for People
- Elsevier
- Environmental Defense Fund (EDF)
- Environmental Law Institute (ELI)
- EU Water Initiative
- European Commission
- European Federation of National Associations of Water Services (EUREAU)
- European Investment Bank (EIB)
- Every Drop Matters (EDM)
- Federal Institute for Geosciences and Natural Resources, Germany (BGR)
- Federal Ministry for Economic Cooperation and Development, Germany (BMZ)
- Federal Ministry for the Environment Nature Protection and Nuclear Safety, Germany (BMU)
- Federal Ministry of Education and Research, Germany (BMBF)
- Federal Institute of Hydrology, Germany
- Federation of Swedish Farmers (LRF)
- FEMSA Foundation
- Food and Agriculture Organization of the United Nations (FAO)
- French National Agency for Water and Aquatic Environments (Onema)
- Freshwater Action Network (FANMex)
- Fundación ADEL Morazan
- Fundación Chile
- Fundación de la Caficultura para el Desarrollo Rural (FUNCAFE)
- General Institute of Water Resources and Hydropower Planning and Design – Ministry of Water Resources, China (GIWP)
- German WASH Network
- Global Change Institute (GCI)
- Global Water Partnership (GWP)
- Global Water System Project (GWSP)
- Grass Roots Organizations Operating Together in Sisterhood (GROOTS)
- Green Cross International
- Grundfos
- Harvard University, USA
- Helmholtz Centre for Environmental Research (UFZ)
- Howard G. Buffett Foundation
- Humboldt University, Germany
- IDEI
- IHP-HELP Centre for Water Law, Policy & Science (CWLPS)
- India Water Portal
- Institute for Agriculture and Trade Policy (IATP)
- Institute for Social and Environmental Transition (ISET)
- Institute of Water Policy at Lee Kuan Yew School of Public Policy
- Instituto CINARA
- Inter-American Development Bank (IDB)
- International Association for Water Law (AIDA)
- International Centre for Integrated Mountain Development (ICIMOD)
- International Centre for Trade and Sustainable Development (ICTSD)
- International Centre for Water Hazard and Risk Management
- International Centre for Water Management Services (CEWAS)
- International Commission on Irrigation and Drainage (ICID)
- International Crop Research Institute of the Semi-Arid Tropics (ICRISAT)
- International Development Research Centre, Canada (IDRC)
- International Energy Agency (IEA) Bioenergy Task 43
- International Federation of Red Cross and Red Crescent Societies (IFRC)
- International Food Policy Research Institute (IFPRI)
- International Fund for Agricultural Development (IFAD)
- International Institute for Sustainable Development (IISD)
- International Life Sciences Institute, European Branch (ILSI Europe)
- International Livestock Research Institute (ILRI)
- International Soil Reference and Information Centre (ISRIC)
- International Union for Conservation of Nature (IUCN)
- International Water Association (IWA)
- International Water Management Institute (IWMI)
- International Water Resource Economics Consortium (IWREC)
- IPIECA
- IRC International Water and Sanitation Centre (IRC)
- Kalahari Conservation Society
- KfW Development Bank
- King's College London (KCL)
- K-water
- Liberian National Water Sanitation and Hygiene Promotion Committee
- Maskinringen
- Mekong River Commission
- MetaMeta
- Millennium Development Goals Achievement Fund (MDG-F)
- Ministry of Ecology, Sustainable Development, Transportation and Housing, France (MEDDTL)

- Ministry of Foreign Affairs, The Netherlands
- Ministry of Foreign and European Affairs, France (MAEE)
- Ministry of Infrastructure and Environment, The Netherlands
- Ministry of Land, Transport and Maritime Affairs, Korea
- Ministry of Water Resources, India
- Multiple-Use Services Group (MUS Group)
- National Center for Atmospheric Research (NCAR)
- National Water Commission, Mexico (CONAGUA)
- Nile Basin Initiative (NBI)
- NUS Global Asia Institute (GAI)
- Office of the High Commissioner for Human Rights (OHCHR)
- ONE DROP
- Organization for European Cooperation and Development (OECD)
- Orissa Tribal Empowerment and Livelihood Programme
- Overseas Development Institute (ODI)
- Oxfam-Québec
- Patel School of Global Sustainability (PSGS)
- People's Coalition on Food Sovereignty (PCFS)
- PepsiCo
- Potsdam Institute for Climate Impact Research (PIK)
- RAIN Foundation
- Resource Centres on Urban Agriculture and Food Security (RUAF)
- RiPPLE
- Rockefeller Foundation
- Rhode Island University, USA
- Royal Swedish Academy of Sciences (KVA)
- SABMiller
- Sadayanodai Ilaignar Narpani Mandram (SINAM)
- Sanitation and Water for All (SWA)
- Simavi
- Spate Irrigation Network
- State Water Corporation, Australia
- Stockholm Environment Institute (SEI)
- Stockholm International Water Institute (SIWI)
- Stockholm Resilience Centre (SRC)
- Stockholm Water Foundation (SWF)
- Sustainable Livestock Futures, Nairobi
- Sustainable Sanitation Alliance (SuSanA)
- SWA Partners
- Swedish-French Association for Research (AFSR)
- Swedish International Agricultural Network Initiative (SIANI)
- Swedish International Development Cooperation Agency (Sida)
- Swedish Red Cross
- Swedish University of Agricultural Sciences (SLU)
- Swedish Water House (SWH)
- Swiss Agency for Development and Cooperation (SDC)
- Södertälje Municipality, Sweden
- Tearfund
- Technical University, Dresden (TUD)
- Telge Nät
- The Coca-Cola Company
- The Comprenhensive Africa Agriculture Development Programme (CAADP)
- The Foundation Center
- The Nature Conservancy (TNC)
- The Palestine National Authority (PNA)
- The Secretariat of the Union for the Mediterranean (UfM)
- THURNFILM
- Transparency International (TI)
- Tropical Agriculture Research and Higher Education Center (CATIE)
- UN Global Compact
- UN World Water Assessment Programme (WWAP) UNESCO
- UNDP MDG GoAL WaSH Programme (GoAL WaSH)
- UNDP Water Governance Facility at SIWI (WGF)
- UNEP-DHI Centre for Water and Environment (UNEP-DHI)
- UNEP International Resource Panel
- UNESCO – Institute for Water Education (UNESCO-IHE)
- Unilever
- United Nations CEO Water Mandate
- United Nations Children's Fund (UNICEF)
- United Nations Convention to Combat Desertification Secretariat (UNCCD Secretariat)
- United Nations Department of Economic and Social Affairs (UN DESA)
- United Nations Development Programme (UNDP)
- United Nations Economic and Social Commission for Western Asia (UN-ESCWA)
- United Nations Economic Commission for Europe (UNECE)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- United Nations Environment Programme (UNEP)
- United Nations Environment Programme – Finance Initiative (UNEP FI)
- United Nations Human Settlements Programme (UN-HABITAT)
- United Nations Institute for Water
- United Nations Secretary-General's Advisory Board on Water and Sanitation (UNSGAB)
- UNU Institute for Water, Environment and Health (UNU-INWEH)
- United Nations World Food Programme (WFP)
- United Nations World Water Assessment Programme (WWAP)
- United States Agency for International Development (USAID)
- United States Department of State
- University of Calgary, Canada
- University of Nebraska, USA
- University of Osnabruck, Germany
- UN-Water
- UN-Water Decade Programme on Advocacy and Communication (UNW-DPAC)
- UN-Water Decade Programme on Capacity Development (UNW-DPC)
- UN-Water Thematic Priority Area on Drinking Water and Sanitation
- US Army Corps of Engineers
- Wageningen University, The Netherlands
- WASH Advocates
- WASTE
- Water and Climate Coalition
- Water and Sanitation Program (WSP)
- Water Center for Latin America and the Caribbean
- Water Environment Federation (WEF)
- Water Footprint Network (WFN)
- Water for People
- Water for Rivers
- Water Integrity Network (WIN)
- Water Research Commission, South Africa (WRC)
- Water Supply and Sanitation Collaborative Council (WSSCC)
- WaterAid
- Wayamba University of Sri Lanka
- Wetlands International (WI)
- Winrock International
- Virginia Tech
- World Bank (WB)
- World Business Council for Sustainable Development (WBCSD)
- World Health Organization (WHO)
- World Meteorological Organization (WMO)
- World Resources Institute (WRI)
- World Trade Institute (WTI)
- World Water Assessment Programme (WWAP)
- World Water Council (WWC)
- World Wide Fund for Nature (WWF)
- World Vision

2013 WORLD WATER WEEK IN STOCKHOLM:
WATER COOPERATION – BUILDING PARTNERSHIPS

2013 has by the UN General Assembly been declared the "International Year of Water Cooperation". The questions to be addressed in 2013 include: why do we need to cooperate, on what, for what aim, at what level, with whom and, not least, how?

With an expected world population of more than 9 billion people by 2050, basically depending on the same finite and vulnerable water resource as today for sustaining life and well-being, our inter-dependence is growing every day. In 2015 we shall take stock of the achievement of the Millennium Development Goals (MDGs), and a process of developing a new set of Sustainable Development Goals (SDGs), has been initiated as an outcome of the UN Conference on Sustainable Development, "Rio +20", in June 2012. The Rio +20 outcome document clearly states water as one key area for achieving sustainable development and thus water is a strong candidate for one of the SDGs.

We need to understand how 'my water use' effect everybody else's, and enter into meaningful and informed dialogues with other people and communities of practice, inside and outside the "water box", engaged in using, or wasting or polluting, our common and shared water resource. In this endeavour we need to engage with groups of people who can help us understand the very essence of cooperation: what is cooperation? What drives people, states and organisations to "cooperate" rather than "defect"? What determines the direct and indirect reciprocities that make us cooperate, and the mechanisms of selection of those with whom we want to do so? And how do we identify and measure the quality, aim, benefits and barriers to cooperation, and create an enabling environment for cooperation? How can more effective cooperation enable us to reach future-oriented decisions and force implementation, and how can we best build partnerships among actors to achieve common goals?

The thematic scope of the 2013 World Water Week in Stockholm will be formulated from the perspective of the "what's" and who's"; but in developing the workshops, seminars and other events the "how" questions must be central.

2012: 5 NOVEMBER

NOVEMBER

Call for abstracts and event proposals opens.
It outlines the scope of the 2013 World Water Week in Stockholm, and calls for abstracts and event proposals.

2013: 7 JANUARY

JANUARY

Deadline for submission of abstracts and event proposals.
Please note that this deadline has been moved back one month from previous years!
Submit abstracts and proposals online at www.worldwaterweek.org.

2013: MARCH

MARCH

Notification of acceptance of abstracts and event proposals.

2013: APRIL

APRIL

Registration opens and the Preliminary Programme is released.
It will provide an overview of the programme of the 2013 World Water Week as well as practical information on how to register.

2013: 1-6 SEPTEMBER

SEPTEMBER

2013 World Water Week in Stockholm is on, under the theme
"Water Cooperation – Building Pertnerships".

2012 WORLD WATER WEEK SUPPORTERS

Stockholms Stad · Sida · IFAD Enabling poor rural people to overcome poverty · Regeringskansliet Ministry for Foreign Affairs Sweden

2012 WORLD WATER WEEK SPONSORS

For more information about how you and your organisation can get involved, please contact Ms. Helene Brinkenfeldt at **helene.brinkenfeldt@siwi.org.**

Gold

AGT International · Elsevier · PepsiCo

Silver

Creating Shared Value Nutrition | Water | Rural Development · Nestlé · Ramboll

Bronze

Fundación FEMSA · Sweco

WORLD WATER WEEK in Stockholm, September 1–6, 2013

Overarching Conclusions

World Water Week in Stockholm

Building Capacity – Promoting Partnership – Reviewing Implementation

The World Water Week in Stockholm is the annual meeting place for the planet's most urgent water-related issues. Organised by the Stockholm International Water Institute (SIWI), it brings together 2,500 experts, practitioners, decision-makers and business innovators from around the globe to exchange ideas, foster new thinking and develop solutions.

SIWI

Stockholm International Water Institute, SIWI
Drottninggatan 33, SE-111 51 Stockholm, Sweden
Phone +46 8 121 360 00 + Fax +46 8 121 360 01 + siwi@siwi.org + www.siwi.org