

## Paradigm shift in food security thinking at World Water Week



At the World Water Week conference in Stockholm, some organisations put forward a new vision for achieving food and water security. This represents a shift in the paradigm that food production must be increased at all costs, and instead focuses on food waste and sustainable diets.

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*World Water Week* has drawn to a close in Stockholm. The conference was organised with the aim of addressing the problems inherent in current world water consumption patterns and availability. In the run-up to this week's summit some experts suggested that achieving correct water management will be the biggest barrier to food security.

Globally, climate change is expected to drastically reduce rainfall and the availability of water in some regions, whilst improved groundwater measurements have revealed worrying trends; a study in this month's *Nature* journal revealed 20 per cent of the Earth's aquifers are being overused. It also showed that many of the aquifers which are being drained faster than they can be replenished are in major agricultural regions. One such vital aquifer is the Ogollala aquifer in North America, where an unsustainable approach to water management is exacerbating the strain on the continent's main groundwater resource.

Last week, ahead of the international conference, which has seen delegates from non-governmental organisations, the private sector and global governments descend on the city, the Stockholm International Water Institute issued a report which showed current consumption patterns and agricultural methods are putting untenable strain on world water resources.

The study, *Feeding a thirsty world: Challenges and opportunities for a water and food secure world*, was authored by a dozen experts from SIWI, the Food and Agriculture Organisation of the United Nations (FAO) and the **International Water Management Institute (IWMI)**. Its authors recommend an immediate shift towards more water-efficient agricultural production and reduced consumption of water intensive foods. For those in the West, this could mean reducing annual meat consumption by 75 per cent.

Dr. Anders Jägerskog, the report's editor commented upon its release, "Feeding everyone well is a primary challenge for this century. Overeating, undernourishment and waste are all on the rise and increased food production may face future constraints from water scarcity. We will need a new recipe to feed the world in the future."

### Feeding a Thirsty World

The SIWI report's authors highlight a number of challenges to achieving food and water security, which they claim have been overlooked. These include improvements in on-farm water efficiency, reductions in losses and waste in the food supply chain, enhanced response networks to early warning systems for agricultural emergencies, and increased investment to close the gender gap in agricultural production. The report also investigates the impact of the recent surge in foreign direct investment to lease land in developing countries on local and regional water resources, a phenomenon that the authors said requires more stringent regulation to ensure that the water and land rights of local farming communities are upheld.

However, as long ago as 1974, the UN announced its Millennium Development Goal that it would "reduce by half the number of people suffering from hunger by 2015". Then, 840 million people suffered from chronic hunger. Nearly forty years later, little has changed. Although the world population has grown, the number of hungry people remains close to one billion. Perhaps more depressing is SIWI's acknowledgement that around one in seven people suffer hunger and malnutrition "In spite of the fact that food production has been steadily increasing on a per capita basis for decades, even at the peak of the food price crisis in 2008."

Until recently, only those with a fairly radical stance have pointed out this figure, and exposed the shortcomings in the dominant neoliberal vision. However, the authors of *Feeding a Thirsty World* state that time is running out to develop effective agricultural methods to conserve water and distribute food equitably. They [write](#), "If today we still face the

challenges of feeding one billion undernourished people out of a total population of 7 billion people, how do we achieve food security for a world population that is expected to reach 9 billion in 2050?"

### **SIWI, FAO suggestions for sustainable water management**

The organisations behind this week's water summit recommend a variety of measures to achieve water and energy efficiency in food production. Energy use factors into the water debate as the energy required to pump fresh water will increase dramatically as resources become scarcer.

The efficiency measures proposed by SIWI include speeding up development and implementation of agricultural methods and technologies to get "more crop per drop" and reducing waste, which, it is estimated, accounts for 30-50 per cent of total food produced between harvest and consumption.

Although efforts to end hunger have previously focused on increasing yields, improving efficiency, and boosting production, energy and water are clearly being wasted if nearly half of all food produced is sacrificed in avoidable losses.

This week's conference has brought two new ideas in achieving food and water security to the fore. These represent a shift in the paradigm that production must be increased at all costs and, with this realisation, a step towards the 'nexus approach' to such issues.

Firstly, with the acceptance of the fact that so much food is wasted comes the realisation that food production does not have to increase as dramatically as was previously thought. The UN FAO had previously said that, in order to feed the projected world population of 9 billion in 2050, humanity would have to increase food production by 70 per cent. This figure, often cited by agribusinesses looking to increase their profits, and which does not take waste or sustainable diets into account, is now being challenged.

However, as early as 2000, Canadian geography and environmental sciences professor Vaclav Smil demonstrated in his book *Feeding the World* the impedimentary role that high losses played in efforts to achieve food security. In a pre-echo of this week's discussions, Smil said that "If we increase farming efficiency, reduce waste and transform our diets, future needs may not be as great as we anticipate... although inaction, late action, or misplaced emphasis may bring serious future troubles."

The nexus approach, which is gaining ground as a result of the shift in thinking, places emphasis on finding holistic solutions, rather than driving increases in production. The approach, which takes as its core the water-food-energy nexus, seeks solutions to complex, interconnected problems of availability by searching for efficiencies which benefit people and the environment.

By considering ecosystems and the 'ecosystem services' they provide people with equally and holistically, the approach is broadly similar to agroecology, a means of farming which includes cutting edge environmental techniques and a focus on social justice. The approach has been championed by agencies including the UN FAO, which called for immediate action to maximise water efficiency and the adoption of sustainable techniques in agriculture ahead of the conference.

The FAO released its own report before this week's conference, in which it outlined areas for policy and action to drive change in a sustainable direction. The report [Coping with water scarcity: An action framework for agriculture and food security](#) suggests increasing recycling, modernising wasteful and inefficient irrigation systems, improving collection and storage of rainwater and tackling water pollution.

In addition to the nexus approach put forward by development organisations this week, there have been calls for local communities to take action and sustainably manage their water resources. These were made in exasperation following inaction from governments in the face of increasing scarcity and encroachments from corporate interests in the shape of 'developments' which either overuse or disrupt local water systems, including destroying forests as in East Asia or overusing ground water for cash crops as in East Africa and parts of India.

Lamenting global governments' mismanagement of the Earth's most precious resource, *The Guardian's* Brian Richter

said this week, "I have been paying close attention to global water issues for nearly 30 years now, and I still cannot point to a single country that has effectively stabilised its water accounts... I have come to the sobering but empowering conclusion that we must save ourselves and not wait for our governments to help us."

Although the intentions behind World Water Week are undoubtedly good, sustainable agriculture experts have joined in criticising the approach taken at such summits to tackling such far reaching and structural problems. This week's event was born out of discussions at the Rio+20 Summit in June; although in its advent Rio+20 was hailed as the most vital opportunity to combat poverty and environmental destruction around the world, the Summit's legacy is that of a damp squib thanks to the adoption of diluted and toothless resolutions.

Then, the wildly differing standpoints and unequal power relations between business stakeholders, government ministers, and representatives of research and development organisations condemned the talks to failure and locked the planet into an unsustainable state of 'business as usual'. Dr Julia Wright, a sustainable agriculture expert instrumental in running the UK's Centre for Agroecology and Food Security echoed Richter's comments saying, "I think that people have become rather blasé over what Rio+20 and other events can actually achieve. On the positive side this means that more groups are taking things into their own hands."

[Link to original source](#)

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**Further resources:**

[Food shortages could force world into vegetarianism, warn scientists](#) - John Vidal, The Guardian, 26th August 2012

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