

The UN's Food and Agriculture Organization warns that every drop of water counts and every sector has a role to play to make the 2030 SDG Agenda succeed



Kundhavi Kadiresan

Assistant Director-General and Regional Representative (Asia-Pacific),
Food and Agriculture Organization of the United Nations.

© FAO – Aqcheshma Canal, Afghanistan



The 2030 Agenda – the world's commitment to achieving the 17 Sustainable Development Goals (the SDGs) – is a critical blueprint for a sustainable world in the not-too-distant future. Many of the SDG's have, in some way, a direct link to the world's need for water.

While the SDG's are relatively new, connecting people, farms, industries and other users to reliable and accessible sources of fresh water, are almost timeless. From the aqueducts of Rome to the ancient irrigation practices of Egypt and China, the evolution of our societies, and the food production that sustains them, would not have been possible without the ingenuity and adaptation of irrigation to bring water to where it's needed most. Our ancestors realized the critical nature of irrigation. Here today we still recognize its importance – perhaps even more so in this present age.

The Green Revolution, which also relied heavily on irrigation, lifted millions of poor farmers out of starvation and poverty and contributed to the rapid socio-economic



© FAO

development of the Asian continent. In more recent years, affordable drilling and pumping technologies have revolutionized agriculture again, providing farmers with cheap and reliable access to water for their crops.

The central role of irrigation in meeting global food demand is clearly illustrated by the fact that currently, about 40 percent of food production in the world comes from only 20 percent of irrigated land.

But we are in a changing world – and new challenges are emerging for irrigation. We are experiencing unprecedented and dynamic economic growth, particularly in Asia and in parts of Africa. The pressure on finite land and water resources is rising under the combined effect of population growth, rapid rural to urban migration, profound structural transformation of national economies, and climate change. Where there are challenges there are also opportunities for the public sector to step in, but also for the private sector, which is often the sector that is quickest to respond with innovative ideas given the motivation for profit.

But first let's have a closer look at the challenges we face and how we arrived at them.

In the 20th century, water withdrawals grew at almost twice the rate of population increases. Going forward in this century, the Food and Agriculture Organization of the United Nations (FAO) estimates the world will need to produce 60 percent more food on

average to feed a world of more than nine billion people by 2050. Add to that rising incomes, which lead to dietary diversification, and there will be an even greater increase in demand for our scarce water resources, for example in livestock production.

In China, between 1980 and 2010, consumption of fruits, vegetables, poultry and other meat witnessed an almost five-fold increase while water withdrawal increased by 33 percent during the same period. Growing economies in South East Asia like Thailand, Malaysia and Indonesia all followed similar trends.

Climate change will add yet another new dimension to the pre-existing challenges in water management and food production systems because it is expected to intensify water scarcity and change the patterns of water demand for agriculture worldwide creating further water-related disasters. We can see that rainfall patterns are already changing, and droughts are becoming more frequent and severe. The extent and productivity of both rain-fed and irrigated agriculture can be expected to change as well resulting in increased risk for global food security, with the rural poor disproportionately affected.

In Asia, by 2050, the availability of freshwater in Central South, East and South East Asia, particularly in large river basins, is expected to decrease. By contrast, the heavily populated mega deltas in South, East and Southeast Asia will be at risk due to increased

flooding from rivers and saltwater flooding from the seas.

In the lower Mekong Subregion, by some estimates, annual precipitation is projected to increase by as much as 14 percent, resulting in widespread flooding especially in Cambodia and Southern Viet Nam.

Our responses to increased demands for water must be collaborative, but also more innovative.

“Future irrigation practices should also move beyond conventional approaches of productivity gains, and also focus on rural prosperity, facilitating inclusive, equitable and greener growth.”

Kundhavi Kadiresan

FAO Assistant Director-General
and Regional Representative

More than half of the population in the developing world still live in rural areas, and agriculture continues to be the mainstay of their livelihoods. Poverty and food insecurity are largely a rural phenomenon. For instance, India has a rural population of more than 800 million, almost two thirds of its total population. A quarter of these rural inhabitants are considered poor and roughly seven percent are very poor indeed. With the exceptions of Malaysia and Indonesia, the countries of South East Asia still indicate rural populations of more than 50 percent.

Future food security, in large part, hinges on the prosperity of these rural populations. Water and food security is increasingly a social agenda: it is not only about producing more and diversified food, but also about making food available to everyone's plate.

This changing focus will also require a multilayered approach to water management that boosts ecosystem services and water productivity, promotes water conservation, maintains water quality across agriculture, fishery and livestock; facilitates multiple water uses along their supply chains; and adopts bottom-up participatory approaches right from local sources to the watershed level.

The issues are, admittedly, more complex than in the past, and new interventions in irrigation will require a more strategic approach that necessitates a better understanding of the factors affecting our evolving food production systems.

The case for FAO and private sector involvement, working with governments and other stakeholders

Much investment in capital and capacity development will be needed: we will need to reflect on strategies to unleash investment and innovation from farmers and the private sector in irrigation. We will also need to put back on the table a comprehensive agenda for reform of irrigation bureaucracies making them better accountable and responsive,

and through ways that provide incentives to attract a new generation of competent and forward-looking water management professionals.

We cannot solve problems faced by agriculture without dealing directly with water issues and today's water problems will not be solved unless we deal directly with those issues affecting food production. That's why FAO's role can be so critical in finding the right solutions. It also why we've had a long and continuing collaboration with ICID.



© FAO – Ateshan Canal, Afghanistan

The focus of FAO's work with our member countries has evolved progressively from infrastructure development to irrigation and drainage management and, more recently, to water governance and the management of multiple uses of water. This approach acknowledges the increasing complexity of the water-food-energy nexus and the development of methodologies and enhanced governance to address it.

Within the context of climate change

adaptation, and to support the development and implementation of policies and programmes for the sustainable use of water in agriculture, we have prepared a global framework for coping with water scarcity in agriculture. This strategy identifies priority actions for the adaptation of agriculture to climate change and for the scaling up of successful responses to the threats to agricultural production posed by increasing water conflicts. The global framework will help countries, communities and businesses satisfy their needs for increased food production in the face of climate change, while conserving ecosystems and the environmental services they provide.

Working with partners – public, private, inter–agency, civil society

For decades, the community of multilateral organizations has been actively involved in helping developing countries address the many challenges they face in feeding their growing populations, reducing poverty, improving rural livelihoods and managing their natural resources. Historically, we've done that through working, usually independently, with resource partners, trust funds and bilateral donors.

But it's only been in more recent times that multilateral organizations have started to work more closely with one–another – becoming more mindful that no single agency can solve these complex challenges by

themselves – and understanding the clear message from resource partners that we must ensure that our projects and programmes in the field are providing value for money. Our donors and the beneficiaries want to see good impact and tangible results. So they should and so do we.

With regard to partnerships I have four points.

My first point relates to Agenda 2030. Looking back, the Millennium Development Goals (the MDGs) helped us categorize what we needed to do, the need to re–focus and re–tool our approaches to interventions. Now with the 17 Sustainable Development Goals, FAO, other UN agencies and development partners are bringing our work into an even sharper focus – guided by the specifics in the 17 SDGs. This gives us a more precise direction and an opportunity to work with our member countries on the areas that they deem important.

Second, we need to find common ground, among all of us, for development to be sustainable. It is common sense that we should all align our joint efforts within the framework of achieving the SDGs. But to make our cooperation sustainable we must focus on specific outcomes that are measurable and achievable. Achieving real impact, and not simply refining processes, must be the goal. That means a bespoke approach, carefully tailoring the needs of each country, matching that to the

aspirations of the resource partner, and the ability and capacity of the implementing agency. There is no one-size-fits-all.

My third point is about the need to do more of what we do best, and less of some of the other things that haven't worked so well. We need to move away from scattered projects across a wide array of interventions, and focus more clearly on a programmatic approach. Many pilot projects have produced excellent results yet the good practices that have emerged have often not been taken forward. Again, one size doesn't fit all and so the needs of each country must be assessed and then that tailored approach I mentioned (with donors and implementing agencies) can take shape.

My fourth point is about the expanding role of the private sector and other non-state actors in international development work. While the traditional role of the UN Agency and its government constituents must form the foundation of sustainable international cooperation, the role of the private sector and public-private partnerships is expanding. Increasingly, the private sector is showing it is very keen to become more involved in outreach and agricultural extension. And there are clear examples of the private sector's interest – the fact KCIB asked me to write this article is one. The private sector's response to climate change initiatives and the Paris Agreement is another prime example. The private sector sees these initiatives as an

opportunity – presenting it with a business case. The innovative approaches recently in ICTs and E-Agriculture have piqued the private sector's interest. We should recall that governments were not the only driving force behind the successful passage of the Paris Agreement. The World Economic Forum's CEO Climate Leadership effort, including CEOs from 79 companies and 20 economic sectors, with operations in more than 150 countries and territories, pushed hard for an agreement in Paris. Momentum also came from private lenders such as Crédit Agricole CIB, BNP Paribas and HSBC, which pledged to scale-up their investments in renewable and clean energy, green bonds, low-emission transport and agriculture.

“Let's face it. Every drop of water counts. There will be no solution to the problems faced by agriculture without addressing water issues and there will be no solution to today's water problems without addressing those of food production,”

Kundhavi Kadiresan

FAO Assistant Director-General
and Regional Representative

So we simply cannot afford not to engage the private sector because, frankly, the private sector invests much more money than the public sector does in agriculture. FAO estimates that private investment is about four times that of public investment. So if we

want to see a transformative change then we will need to work even closer with the private sector in the future.

Sensing the mood of consumers as mainly wanting to ensure the products and services they buy are not making climate change any worse, a new array of greener investment products is being introduced. In finance, there are a few pioneers leading the charge. Recently the World Bank, with the support of BNP Paribas, launched two potentially revolutionary products that could change traditional ways of thinking about financing development. The first was a new ten-year Sustainable Development Bond that provides an opportunity for retail investors to combine their financial objectives with social and environmental sustainability goals.

The second, announced recently, is a bond tied directly to the SDGs, linking returns to the stock market performance of companies in the Solactive Sustainable Development Goals (SDGs) World Index, backed by BNP Paribas. The Index includes 50 companies that are recognized industry leaders on environmentally and socially sustainable issues, or that dedicate at least 20 percent of their activities to sustainable products.

New concepts like crowd funding, blended finance (to bring public, philanthropic and private capital) and traditional sources of finance must come together to achieve the trillions of dollars in annual funding that will be needed to implement the 2030 agenda.

The Sustainable Development Goal for hunger has set the ambitious target of achieving Zero Hunger by 2030. As this is already 2017, we can see the clock is ticking. Achieving Zero Hunger means that a child born today shall not be malnourished by the time she becomes a teenager. That's the goal – and it must be a sustainable goal.

I've mentioned those four areas. Achieving SDG's as our mandate. Finding common ground among ourselves to add value to donors and beneficiaries. Taking a more programmatic approach and working in new funding arrangements, with the private sector and non-state actors, exploring and using new forms of finance, technology and innovations. Irrigation can be a leader in this regard.

These new approaches were discussed at the beginning of the 2nd World Irrigation Forum last November in Chiang Mai, Thailand. Delegates from around the world agreed that achieving food security, especially in developing countries, goes hand-in-hand with ensuring regular access to water for irrigation. From ending poverty, hunger and malnutrition, to sustaining our natural resources and responding to climate change, sustainable irrigation plays a crucial role, and is therefore a key factor to help transform rural societies and economies.

Let's face it. Every drop of water counts. There will be no solution to the problems faced by agriculture without addressing water

issues and there will be no solution to today's water problems without addressing those of food production. Together, whether it is water management specialists like those of you reading this article, public sector colleagues, academics, scientists and innovators, we can further develop our good practices and learn from our failures. Working together,

thinking and acting in new ways, we can bring water to the world more efficiently than ever before. Together, we can meet those 17 SDG challenges. Together we can eliminate hunger and poverty through sustainable and inclusive growth in the agriculture sector.