FAO supports countries to reshape policies and scale up action through innovation

Interview with Kaveh Zahedi, Director of the FAO Office of Climate Change, Biodiversity and Environment

Mr Kaveh Zahedi is the Director of the Office of Climate Change, Biodiversity and Environment at the Food and Agriculture Organization (FAO). Prior to joining FAO, from 2016 to 2023, Mr Zahedi served as the Deputy Executive Secretary of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) in Bangkok, Thailand, overseeing ESCAP's programmes on environment, climate change, natural disasters, finance, energy, trade, transport, social development, and statistics, all in support of the implementation of the 2030 Agenda for Sustainable Development. From 1995 to 2016, Mr Zahedi served at the United Nations Environment Programme (UNEP) in positions of increasing responsibility, including as Regional Director and Representative for Asia and the Pacific (Bangkok); Deputy Director of the Economy Division and Climate Change Coordinator (Paris); Acting Director/Deputy Director of the World Conservation Monitoring Centre (Cambridge); Regional Coordinator (Mexico City); and Environmental Affairs Officer (Nairobi). Mr Zahedi started his career in 1993 as Economic Consultant at the non-governmental organization Cooperation for Development (London), where he was responsible for managing agricultural credit and microfinance projects in Latin America and the Middle East. Mr Zahedi is a national of the Islamic Republic of Iran and the United Kingdom, holds a Master of Arts in International Relations from The Fletcher School at Tufts University in the United States, and a Bachelor of Science in Economics (1st class honours) from University College London in the United Kingdom. Kaveh Zahedi is one of the leading authorities at FAO and this is the interview he kindly granted to our magazine.

Mr Zahedi, can you outline the role of FAO, especially referring to the agrifood sector within the context of on-going climate change?

Many of the challenges of climate change, biodiversity loss and land degradation can be addressed through agrifood systems solutions. Our projects and initiatives at global, national and local level are designed to help countries achieve their national aspirations, including for the implementation of the Paris Agreement. FAO supports countries to reshape policies and scale up action through innovation, technologies and finance. This is the thrust of the FAO Strategy on Climate Change.

At Dubai COP28, the FAO roadmap to address climate change was presented. What are its objectives and the practicable steps to achieve them?

The FAO roadmap was part of a growing body of work illustrating that agrifood solutions will be critical to achieving climate and food security goals. We have been working for a number of years to demonstrate the potential solutions identified by science, especially by the Intergovernmental Panel on Climate Change. These solutions include restoring and sustainably managing agricultural land, ensuring efficient and resilient livestock systems, promoting sustainable aquaculture and fisheries, halting deforestation and promoting agroforestry, restoring ecosystems and ensuring sustainable use of biodiversity, safeguarding seeds and plant genetic resources for the future, and developing energy-smart agrifood systems. All of these are driving our climate action support.

In a recent interview you stated that agriculture is the first victim of global warming. Agriculture, though, is also contributing to climate change in terms of pollution. What solutions can be adopted?

The solutions from agrifood systems transformation already exist to help countries achieve food security, while simultaneously building resilience, and contributing to climate change adaptation and mitigation, and the sustainable use of biodiversity. I mentioned some of these solutions in my last answer. But these solutions have not so far been implemented at a scale that matches their potential, due to an investment gap that urgently needs to be addressed. While global climate finance flows have increased, support for agrifood systems lags behind other sectors, constituting less than 20 percent of climate-related development finance in 2021.

> "FAO is working to help ensure climate finance increases and reaches those who need it most"

FAO is working to help ensure climate finance increases and reaches those who need it most, especially smallholder farmers. Since 2006, FAO's partnership with the Global Environment Facility (GEF) has helped more than 120 countries access over $1.7 billion in project financing and leverage more than $11 billion in co-financing to transform agrifood systems while tackling environmental and climate challenges. Similarly, FAO's partnership with the Green Climate Fund (GCF) has raised over USD 1.2 billion for transformative projects in 21 countries across 5 regions. FAO is also supporting the development of the Food and Agriculture for Sustainable Transformation Partnership (FAST), which seeks to boost the quality and quantity of climate finance to agrifood systems.

We will soon be 10 billion people on earth, but according to FAO data about 700 million people are still struggling with scarcity of resources and hunger. How is FAO addressing the challenge of food insecurity, exacerbated by the effects of climate change?

FAO believes transforming agrifood systems so they are more efficient, inclusive, resilient, and sustainable, will contribute to ensuring greater food availability, accessibility, and affordability, while also helping address the impacts of climate change, and still achieve the Sustainable Development Goals (SDG) targets under the Four Betters [1], leaving no one behind. FAO programmes, projects and a wide range of knowledge products help countries to develop capacity and tools to transform agrifood systems. FAO has projects implementing these solutions worldwide, including community-driven crop diversity projects in Ecuador, agroforestry programmes in Cuba, and mangrove restoration in Senegal, among many others. FAO is also intensifying efforts to integrate agrifood system solutions into multilateral environmental agreements and ensure they are fully integrated into national planning processes and strategies. FAO has found that scaling up the implementation and uptake of agrifood systems solutions through enabling policies, innovation and technologies to reach smallholder farmers and producers is fundamental in addressing the challenge of food insecurity, exacerbated by the effects of climate change. FAO is also supporting 139 countries, including Least Developed Countries (LDCs) and Small Island Developing States (SIDS), to access Global Environment Facility (GEF) financing to transform their agrifood systems, and 87 countries to access financing from the Green Climate Fund (GCF), which I referred to before.

Extreme weather events due to climate change, such as heat waves, heavy rain, and droughts are being increasingly observed around the world. A new FAO study examined their impact on income and adaptation, especially of rural area communities. What does the study show, also referring to the role of women?

FAO analyzed socioeconomic data from over 100,000 rural households, including more than 950 million people across 24 low and middle-income countries (LMICs), and integrated this information with 70 years of daily rainfall and temperature data. The FAO report, "The unjust climate. Measuring the impacts of climate change on rural poor, women, and youth," shows that while climate change is a global crisis, its effects on countries, people and communities are unequal.

[1] *The Four Betters are work on SDG 1(No Poverty); SDG2 (Zero Hunger); SDG 10 (Reduced Inequalities) as well as furthering the broader 2030 Agenda*

> “While climate change is a global crisis, its effects on countries, people and communities are unequal”

The report found that rural women, people living in poverty and older populations experience the most severe impacts of climate change and lack access to the resources, services and opportunities needed to adapt and survive. For example, female-led households lose 8 percent more of their income due to heat stress and 3 percent more due to floods compared to male-led households. This amounts to $37 billion and $16 billion respectively across all LMICs. Poor rural households suffer a 5 percent greater loss due to heat stress than better-off neighbours. The extreme temperatures also push children and women to increase their weekly working time.

Despite this, the report reveals that these issues remain barely visible in national climate policies and current funding to support climate actions falls short of the needs of vulnerable people. In 24 countries, only 6 percent of climate actions in nationally determined contributions (NDCs) and national adaptation plans (NAPs) mention women and only 1 percent mention poor people. Of total tracked climate finance in 2017/18, less than 3 percent went to agriculture, forestry and other land uses and investments; and only 1.7 percent, amounting to roughly $10 billion, reached small-scale producers. The report calls for investment in policies and programmes that address these climate vulnerabilities of rural people and their limitations. For example it recommends linking social protection programmes to advisory services that encourage adaptation and compensate farmers for loss, such as cash-based social assistance programs. It recognizes that the successful transformation of agrifood systems must be just, equitable, inclusive and gender responsive to achieve maximum impact.

Could you provide us with some examples of successful adaptation to climate change that the FAO has observed or supported?

Two examples are the FAO-UNDP SCALA programme and the RECLIMA project.

The FAO–UNDP SCALA programme (Scaling up Climate Ambition in Land Use and Agriculture through nationally determined contributions (NDCs) and National Adaptation Plans (NAPs), is working with 12 countries in Africa, Asia and Latin America, helping rural communities to build resilience to climate change and national governments to strengthen their coverage of agrifoods in national climate plans. In Colombia, for example, SCALA is working with the Wayúu Indigenous Peoples in the arid El Guajira region on the northernmost tip of mainland South America. Climate change with rising temperatures, changes in annual rainfall, droughts and floods is accelerating land degradation and loss of biodiversity in the region. Up to 67 percent of Indigenous Peoples in La Guajira, particularly the Wayúu, struggle to obtain enough nutritious food.

FAO through the SCALA programme is working to enhance the resilience of the Wayúu Indigenous Peoples, mixing their traditional knowledge with climate-smart agriculture science, to ensure sustainable crop production. For example, in Ipasharraim village, after consultation with the 53 Wayúu families, they have identified several local resilient seeds, including the Guajiro bean (Vigna unguiculata L.), which is drought and flood-resistant, yields a first harvest after three months and is highly nutritious. The Wayúu are now using drip irrigation, drawing water from a well, and goat manure mixed with minerals and ashes to enrich the soil. Thanks to the more fertile soil and available water, this bean now produces for up to eight months every year, offering a steady supply of food even when the rains are scarce. Thanks to the new adaptative practices, the community has a surplus of Guajiro beans to sell or trade. These tools and methodologies are also being piloted and scaled-up in other mountain regions across the country. The SCALA programme is funded by Germany’s Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, through the International Climate Initiative (IKI).

The five-year USD 127.7 million RECLIMA project, “Upscaling climate resilience measures in the dry corridor agroecosystems of El Salvador,” aims to improve the

resilience of around 50, 000 vulnerable family farmer households in 114 municipalities. El Salvador lies in the Central American Dry Corridor, where increasing temperatures and droughts prompt deforestation and land degradation, reducing water supplies and farm yields.

> “We do not treat mitigation in isolation but consider all the synergies offered by the diverse solutions available from the agriculture sectors”

FAO works with family farmers in mountainous areas who rely mainly on traditional rain-fed agriculture. It promotes a combined approach of reforestation with native trees, integrating trees with crops and livestock grazing (“agroforestry”), rainwater harvesting and sustainable land management.
The techniques have enabled farmers to put an end to “slash-and-burn” practices. They are restoring moisture in soils, replenishing ground water supplies and reducing erosion. This is helping create the conditions for a more resilient and productive agriculture, where farmers produce food all year round and benefit from the fruits, firewood and timber of the trees. So far, 33 tree nurseries have been set up under the initiative, and in 2022, over 13 000 hectares of critical ecosystems were restored using native tree species. Hundreds of families had enough water for their needs throughout the dry season.
The RECLIMA project is implemented by FAO with the support of the Government of El Salvador and the financial backing of the Green Climate Fund (GCF).

The fight against the climate emergency requires that the main objective of “mitigation”, namely the prevention and reduction of greenhouse gas emissions into the atmosphere to diminish climate change impacts, is also addressed. What are FAO priorities to this end?

We do not treat mitigation in isolation but consider all the synergies offered by the diverse solutions available from the agriculture sectors. We are committed to creating an enabling environment for climate change action in agriculture, with solutions that bring multiple benefits from mitigation and adaptation, to resilience and food security.
Under its Strategy on Climate Change 2022–2031, FAO supports Member countries to adopt good practices and innovative solutions to further climate change mitigation and adaptation and build resilience for sustainable agrifood systems. The overarching aim is the transformation to more efficient, inclusive, resilient and sustainable agrifood systems through the Four Betters: better production, better nutrition, a better environment, and a better life, leaving no one behind. This will contribute directly to SDG 1 (No poverty), SDG 2 (Zero hunger), and SDG 10 (Reduced inequalities), as well as support achievement of the broader 2030 agenda. FAO supports countries to build capacity and adopt tools to implement farming practices which capture carbon and store it in agricultural soils, like restoring degraded land and grasslands, replenishing soil fertility, introducing agroforestry and conservation tillage (whatever works best in the context). FAO also promotes more efficient fertilizer use and management of livestock systems to enhance emission reductions per product unit. These all can have multiple benefits – not just climate change mitigation, but also adaptation, as well as food security.
FAO is following this approach in Haiti and Senegal, two countries particularly vulnerable to climate change, under the Strengthening Agricultural Adaptation (SAGA) programme. In Senegal, for example, 34 percent of arable land is degraded, in large part due to salinization. Climate change, causing rising temperatures and rainfall changes, is likely to exacerbate this degradation in the future.
But research has shown the potential of agroforestry systems to protect soil fertility and “halophytic” woody plants adapted to high levels of salinity to regenerate the soils. In the regions of Diourbel, Kaolack and Thiès, groups of smallholder producers, including 32 women, are learning soil improvement techniques including compost production and fertilization. Yields in their villages are now increasing as a result of the improved soil fertility. FAO is also helping to strengthen decision-makers in charge of the political dialogue in the country and supporting the integration of sustainable agricultural practices into the Nationally Determined Contributions 3.0.