

Session 9

The Critical Nexus of Food, Water and Energy Security



Moderator

Jaffar Hasnain, Presenter, TRT World

Speakers

Stephen Cahill, United Nations World Food Program Türkiye Director and Country Representative

Dr. Naji Abi Aad, Chief Operating Officer | Senior Advisor, Petroleb

Prof Ayşegül Kibaroğlu, Professor and Chair of the Department of Political Science and International Relations, MEF University

Asit K. Biswas, Director, Water Management International Pte Ltd, Singapore, Distinguished Visiting Professor, University of Glasgow

Key Takeaways

- There are intricate interconnections between food, water, and energy security. Participants highlighted how issues in one area, such as water scarcity or energy instability, can significantly impact the availability and access to other essential resources.
- Addressing these challenges requires a comprehensive approach that considers the nexus between food, water, and energy. The concept of a nexus framework emerged as a valuable tool for policymakers and stakeholders to understand and address the complex relationships among these resources.
- Global politics play a significant role in shaping the dynamics of food, water, and energy security. Conflicts, geopolitical tensions, and economic disparities can exacerbate existing challenges and hinder collaborative efforts to address them.
- Technological advancements offer promising solutions for managing and mitigating the impact of resource-related challenges. Examples of proactive measures, such as predictive flood management and innovative water management technologies, showcase the potential for technology to enhance resilience and preparedness.
- While water scarcity is a global concern, its solutions are inherently local. Thus, the importance of community-based approaches and leveraging local knowledge and resources to address water scarcity effectively is required.
- There lies a critical issue of distribution and access, particularly in ensuring equitable access to food and water resources. Challenges such as food waste, inefficient distribution systems, and economic disparities contribute to global hunger and water scarcity despite ample production.

Summary of the Session

The session on “The Critical Nexus of Food, Water, and Energy Security” delved deeply into the complex and interrelated challenges facing humanity in the realms of food, water, and energy sustainability. The moderator set the stage by highlighting a stark reality: around 800 million people worldwide are currently grappling with hunger, and projections suggest that by 2050, global food production must increase by a daunting 50% to adequately feed a population expected to surpass 9 billion. This raises fundamental questions about the feasibility of achieving food security within existing frameworks and practices.

Participants were prompted to consider whether current measures are sufficient to meet the long-term goal of ensuring food security. Concerns were raised about the impact of global politics on the state of food, water, and energy security, particularly amidst climate-induced geopolitical shifts and population movements. The moderator’s

firsthand experiences covering natural disasters and conflicts underscored the link between such events and subsequent migrations, which can strain resources and exacerbate energy security challenges.

A significant focus of the discussion revolved around the pivotal role of water in energy production, with emphasis placed on the urgent need for water conservation efforts. Despite increasing recognition of water’s importance, questions lingered about the sustainability of current practices and whether they are truly adequate to meet growing demands.

Furthermore, the conversation touched upon the perplexing paradox of hunger amidst plenty: if there is sufficient food, why do millions still go hungry? This led to reflections on the distribution mechanisms and socioeconomic factors contributing to food insecurity.

Amidst discussions about potential solutions, concerns were raised about the implications of proposed alternatives on existing industries. The tension between sustainability imperatives and economic interests was palpable, highlighting the complexities inherent in transitioning to more environmentally friendly practices.

In summary, the session underscored the urgent need for coordinated global action to address the intricate challenges at the intersection of food, water, and energy security. It illuminated the pressing need for innovative solutions, robust international collaboration, and a reevaluation of existing practices to ensure a sustainable and equitable future for all.

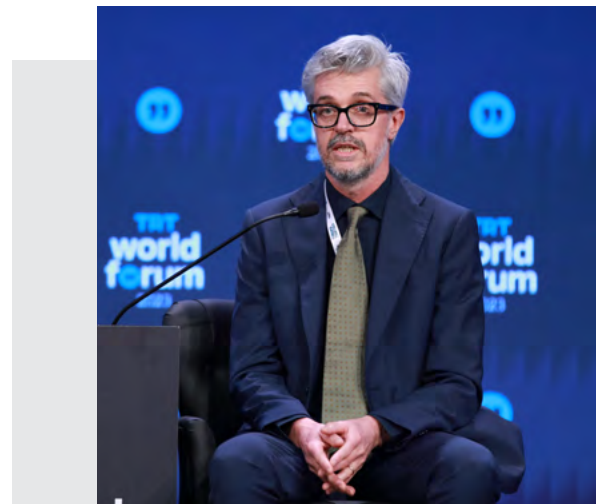
Highlights

Stephen Cahill

United Nations World Food Program Türkiye Director and Country Representative

Stephen Cahill is currently the Representative and Country director of the World Food Program in Türkiye. He has 30 years of experience spanning the humanitarian and private sectors in more than 10 countries. After holding key positions in the private sector across various regions, including the United Kingdom, Brazil, and the Middle East, Stephen joined WFP in 2004 and has since worked in several large-scale, complex emergencies including the Ukraine conflict in 2022 and the West Africa Ebola Outbreak (2014-15). He also played a crucial role in responding to the global COVID-19 pandemic by working closely with WHO, UNICEF, and other partners in establishing a worldwide platform for logistics services. This approach culminated with Stephen becoming Director of Humanitarian Logistics Services in 2021, offering critical emergency supply chain support to 900 humanitarian and development partners globally.

- Despite the apparent abundance of food in the world, pervasive uncertainty exacerbates numerous challenges. Climate change, for instance, introduces significant instability. Conflict represents another formidable hurdle, particularly for organisations like ours. Approximately 80% of our budget is directed towards conflict-affected regions, posing considerable operational challenges. The ongoing crisis in Ukraine, for example, directly impacts oil prices in regions like the Black Sea, a crucial source of global food. Fluctuations in food prices subsequently drive up global poverty rates, necessitating increased funding for organisations like WFP to sustain their efforts in feeding vulnerable populations.
- Preparedness emerges as a crucial avenue for mitigating the impact of emergencies, a sentiment with which



I wholeheartedly concur, echoing the professor's perspective. Extensive studies corroborate the significant returns on investment associated with preparedness efforts. For every dollar allocated to preparedness, the potential return on investment during an emergency is a staggering \$7. This underscores the cost-saving potential inherent in proactive measures. However, the unpredictable nature of climate change presents formidable challenges. Take, for instance, the devastating events in Mozambique in 2007, marked by one of the largest typhoon cyclones, or the unprecedented cyclone that struck the Philippines in 2015. These events, exacerbated by climate change, pose considerable difficulties in terms of preparation, given the unpredictability of their intensity and trajectory. Compounding this challenge is the reality that many affected countries lack the financial resources to invest adequately in preparedness measures. This underscores a troubling inequity: the countries most profoundly impacted by climate change are often

those least equipped to cope with its consequences.

- The importance of preparedness cannot be overstated. Preparedness represents a significant investment, and our studies validate its immense value. We've found that for every dollar allocated to preparedness, there's a potential return on investment of \$7 during an emergency. This not only underscores the efficacy of proactive measures but also serves as a compelling argument for

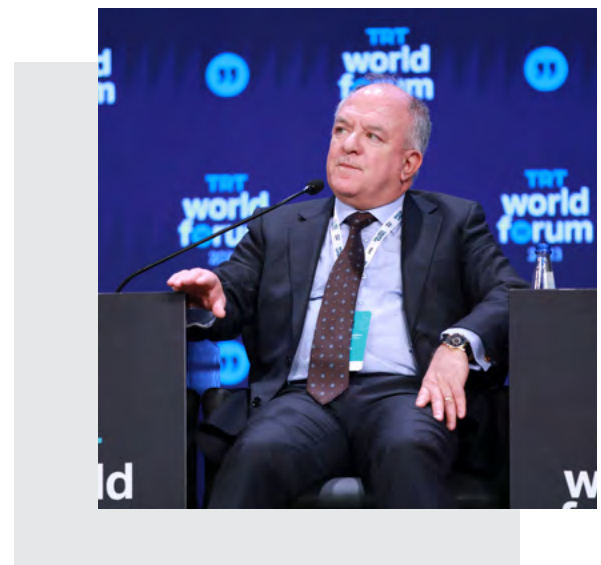
Naji Abi Aad

PhD; Chief Operating Officer | Senior Advisor, Petroleb

In September 2012, Dr. Naji Abi Aad assumed the role of Chief Operating Officer (COO) at Petroleb, an oil company based in Beirut, engaged in petroleum exploration in the East Mediterranean and the Gulf. Concurrently, from December 2016 to March 2020, he served as Senior Advisor for the Middle East at the US company Tellurian. Before relocating to Lebanon, Dr. Abi-Aad spent eight years in Qatar, initially as a Research Advisor for Qatar Petroleum (QP) and subsequently as a Media and Research Strategist in the Office of HE Qatar's Deputy Premier, Minister of Energy & Industry. He later held prominent positions at Qatar Petroleum International (QPI). Dr. Abi-Aad holds a PhD in Energy Economics from Grenoble University in France and has over 35 years of experience, contributing to numerous consultations, conferences, and studies on oil and gas in the Middle East. His expertise encompasses the security of oil and gas supplies, natural gas markets, and the development of gas sales and supply contracts at both local and global levels. Dr. Abi-Aad has authored over 100 reports and studies on Middle East energy issues, including a book on the security of petroleum supply in the region titled "Instability & Conflict in the Middle East: People Petroleum & Security Threats" (Macmillan, London 1997).

- In a world where energy resources are unequally distributed, there was a belief that interconnecting countries through energy networks could alleviate tensions and foster stability. This concept, often referred to as a mutually dependent stabilising factor, envisioned countries relying on each other for energy supply as a means to promote peace and cooperation. However, the reality has been quite different.
- The experience of Europe and the Middle East has demonstrated that even substantial energy connections, such as linking Western Europe to the Russian gas pipeline, have not necessarily resulted in peaceful

donors, highlighting the cost-saving potential inherent in preparedness efforts...Adding to the complexity is the unfortunate reality that these climate-related disasters often strike countries with limited financial resources to invest in preparedness measures. This raises profound questions of equity. The countries bearing the brunt of climate change are frequently those least equipped to mitigate its consequences, exacerbating existing disparities.



relations. On the contrary, these connections have sometimes exacerbated tensions. For example, the linkage between Western Europe and energy sources in the Soviet Union, later Russia, became a source of antagonism, particularly following the Ukrainian crisis.

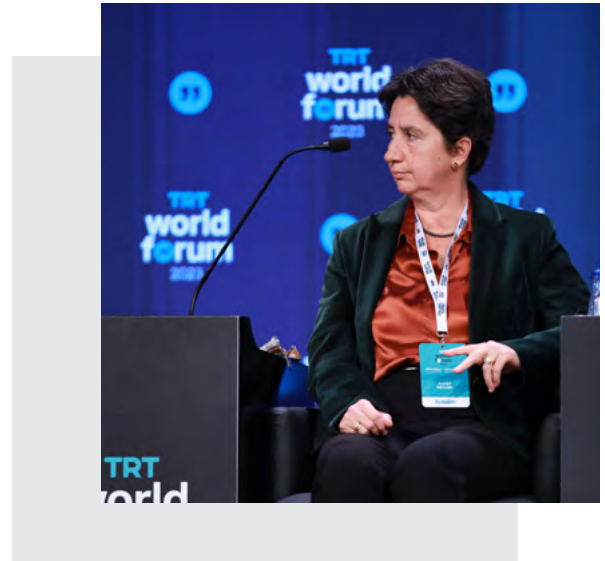
- Ensuring the security of energy supply necessitates not only securing the sources of energy but also guaranteeing stable and growing demand. Without demand, there's no purpose in supplying energy. It's essential to recognise that energy isn't just about powering homes and industries; it's intricately linked with other vital resources like food and water. This interconnectedness forms a nexus that cannot be overlooked.
- From my experience and observations in this region, particularly the Middle East, it's evident that political stability is paramount for ensuring the security of energy supply. The turbulent geopolitical landscape in areas such as the Suez Canal, Lebanon, Yemen, Eritrea, and the Strait of Hormuz underscores this reality. Without political stability, these crucial waterways become vulnerable, jeopardising the passage of oil and gas tankers essential for global energy trade.

Ayşegül Kibaroğlu

Professor, Chair of the Department of Political Science and International Relations at MEF University

Ayşegül Kibaroglu is a Professor of International Relations at MEF University, Istanbul. She was a visiting professor at the University of Texas at Austin. She is the author of *Building a Regime for the Waters of the Euphrates-Tigris River Basin* (2002, Brill) and co-editor of *Türkiye's Water Policy* (Springer, 2011). She has published in *International Negotiation*, *Water International*, *Water Policy*, *International Journal of Water Resources Development*, *Global Governance* and *International Affairs*. Her recent book, *Türkiye's Water Diplomacy: Analysis of its Foundations, Challenges and Prospects* is published by the Anthem Press. She is a founding member of the Euphrates Tigris Initiative for Cooperation (ETIC).

- The concept of the water-energy-food nexus has emerged as a notable buzzword, encapsulating the intricate and interconnected relationships among these vital resources. It serves as a framework to comprehend the complex dynamics and interdependencies inherent in the management of water, energy, and food resources. Global politics play a significant role in shaping these relationships, underscoring the importance of understanding and navigating them effectively.
- Moreover, the water-energy-food nexus offers a valuable policy framework for nation-states and other stakeholders to address resource challenges and constraints. By adopting a nexus approach, policymakers can better coordinate their efforts in planning, managing, and executing policies related to water, energy, and food. This holistic perspective encourages integrated decision-making and fosters collaboration among diverse stakeholders, ultimately contributing to more sustainable and resilient resource management practices.
- Political stability stands as a cornerstone for achieving socioeconomic development and addressing the economic challenges facing the Middle East and other pertinent regions. However, it's important to acknowledge that many people in the Middle East, like in other parts of the world, have become accustomed to living in what we might term "imperfect



peace." Despite the presence of ongoing instability, stakeholders, including politicians, professionals, and experts, endeavour to capitalise on moments of relative calm to advance projects aimed at economic development. In these instances, initiatives centred around water, energy, and food development take precedence. However, the reality is that waiting for sustained political stability can prove to be an exercise in futility. Political stability is often fleeting, and there are numerous factors that contribute to ongoing instability.

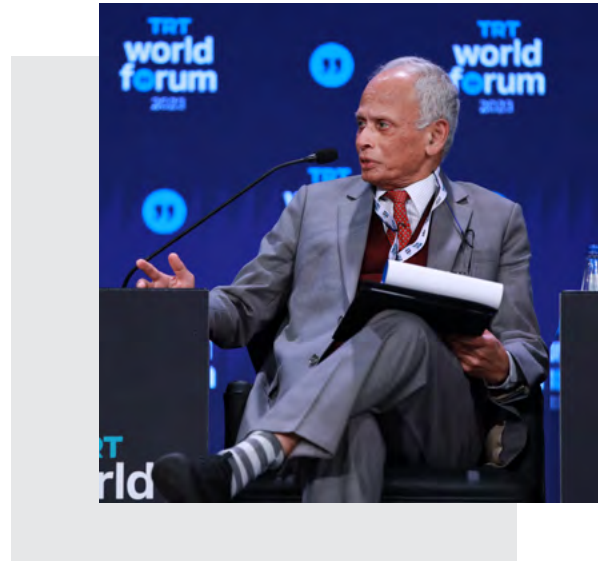


Asit K. Biswas

Professor; Director, Water Management International Pte Ltd, Singapore, Distinguished Visiting Professor, University of Glasgow

Prof. Asit K. Biswas is a globally recognised authority on water, food, environment, and development issues. With a distinguished career as an academic and senior public official in Canada, he has advised leaders in 23 countries, six Heads of UN Agencies, and multiple CEOs in Fortune 500 companies. Co-founder of the International Water Resources Association and World Water Council, he served on the World Commission on Water. A member of the Global Agenda Council of the World Economic Forum, he holds advisory roles with organisations like Pictet Asset Management and the Indian Institute of Technology. A recipient of prestigious awards, including the Stockholm Water Prize, Biswas has authored 89 books, translated into 43 languages. As the founder of the International Journal of Water Resources Development, he contributed to media outlets globally, reaching millions annually with his insights on natural resources, climate change, geopolitics, and business strategies. His extensive research reflects in over 935 publications and a Research Gate score in the top 2.5% worldwide.

- It's undeniable that the world possesses an abundance of food and energy resources. However, effective management of these resources is essential, and unfortunately, we're falling short in this regard. Energy production is intricately linked with water availability; without water, energy generation is simply not feasible. Conversely, providing water to communities also requires energy. This symbiotic relationship underscores the vital importance of both resources... Similar dynamics are at play in food production. Water is a fundamental requirement for agriculture; without it, food production would be severely compromised. Despite this, at a global level, we're already producing more than enough food to meet demand. Therefore, the issue lies not in food scarcity but in ensuring equitable distribution and efficient management of resources.
- While it's true that food production is ample, the glaring issue lies in people's purchasing power. This underscores the importance of discussing the water-food-energy nexus comprehensively. Economic growth has indeed been observed in recent years, but unfortunately, it has not been accompanied by proportional job creation. This phenomenon of "jobless



growth" is prevalent across many regions worldwide, exacerbating the challenge of providing for growing populations.

- Water scarcity is inherently a local issue, primarily due to the prevailing low prices of water, with the exception of bottled water, which can be transported across regions. However, water scarcity is not a physical constraint; rather, it is a multifaceted challenge that necessitates local solutions. Fortunately, we possess both the knowledge and the technology to address this pressing issue at the local level. By leveraging innovative approaches and community-based solutions, it is indeed possible to tackle water scarcity effectively.

