LOGIC

INSIGHTS

BEHIND THE INITIATIVES

LOGIC's Perspective on UAE's Global Food Security Summit

Issue Date: Jan. 2025

The UAE's **Global Food Security Summit 2024** served as a beacon of **innovation, sustainability,** and **collaboration** in the face of one of humanity's most pressing challenges, securing food for a rapidly growing global population. Held under the patronage of H.H. Sheikh Mansour Bin Zayed Al Nahyan, Vice President, Deputy Prime Minister, Chairman of the Presidential Court, and Chairman of the Board of Directors of the Abu Dhabi Agriculture and Food Safety Authority (ADAFSA), this first-of-its-kind event convened 21 of UAE's ministers along with 80 global government leaders, innovators, and experts to explore transformative strategies for addressing food security. Against the backdrop of climate change, geopolitical instability, and population growth, the UAE showcased its commitment to not only addressing domestic food challenges but also contributing to global solutions.

The summit's agenda showcased the UAE's progressive vision for food security, unveiling over 30 initiatives designed to be innovative, future-focused, and highly sustainable—strategically aligned with the National Food Security Strategy 2051. Among the most notable initiatives were the **Foodverse, the Ne'ma Initiative, the Cluster Strategy, and Blended Finance for African Agriculture.** Collectively, these efforts illustrated how the integration of technology, strategic policies, and collaborative partnerships can build a robust food system while promoting global cooperation.

Foodverse	**Ne'ma Initiative**
The Cluster Strategy	**Blended Finance for African Agriculture**

By harnessing metaverse technologies to transforming food systems and adopting zero-waste solutions, the summit showcased groundbreaking ideas with global relevance. **This article examines key highlights from the summit, delving into transformative innovations and their potential impact on the future of food security.**

THE FOODVERSE

A Virtual Ecosystem for Food Security

At the heart of the summit's discussions was the **Foodverse,** a bold initiative that uses metaverse technologies to reshape the agricultural value chain. The Foodverse envisions a virtual ecosystem where stakeholders — from farmers and researchers to policymakers and consumers — can communicate, contract, innovate, and optimize processes in real-time.
Beyond the current use case, which is primarily focused on the virtual marketplace, we believe in the potential of this initiative beyond its current domestic application to serve as a global solution to food security.

Imagine a farmer in Africa logging into the Food verse to access to new markets and customer networks, both locally and internationally or to participate in virtual reality workshops for training and product demonstrations, facilitating skill development and showcasing new products in an immersive setting.

This approach empowers the average farmer, a representative of the MSME sector—now comprising approximately

85%

of the global agricultural industry—to leverage advanced tools and access markets.

Further integrating AR/VR technologies into the Foodverse will improve collaboration across the food supply chain, addressing inefficiencies while driving innovation. It will create a shared digital space for branding, skill development, and problem-solving. By involving end-consumers through a gamified experience, they will have the opportunity to engage with farmers' virtual brands, enhancing their connection to the agricultural ecosystem.

The Foodverse could also have direct implications on sustainability, a cornerstone of the UAE's National Food Security Strategy, by simulating environmental conditions and modeling sustainable practices, the platform empowers farmers to mitigate climate-related risks such as drought and resource scarcity. For instance, precision agriculture powered by AI can analyze soil and climate data to recommend optimal crop planting and irrigation schedules, ensuring water is used efficiently among various other potential use cases—a critical necessity in arid regions like the UAE.

Research institutions, policymakers, and technology companies can use the platform to share knowledge, develop new solutions, and improve supply chain resilience. It also provides a venue for food innovation—from lab-grown proteins to sustainable food packaging—to be tested, refined, and scaled.

The Foodverse marks a paradigm shift in addressing food security, combining digital transformation with real-world outcomes. By leveraging cutting-edge technologies, it redefines how we grow, distribute, and consume food in an increasingly interconnected world.

NE'MA

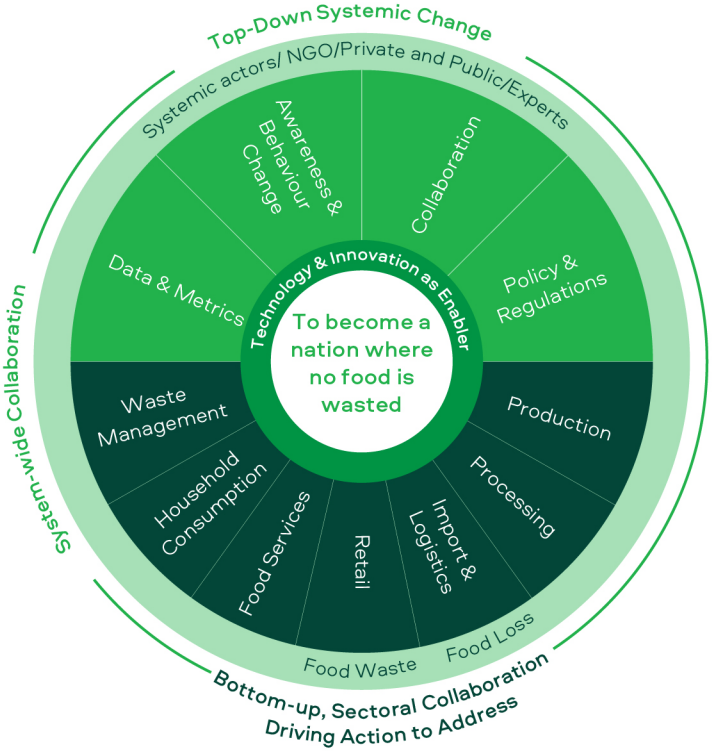
Addressing Food Loss and Food Waste

ne'ma نعمة
المبادرة الوطنية للحد من فقد وهدر الغذاء
National Food Loss and Waste Initiative

Ne'ma initiative emerged as another pivotal topic at the summit, embodying the UAE's commitment to reducing food waste by half by 2030 in line with **UN Sustainable Development Goal 12.3.** Food waste is a significant global issue, where an equivalent of 1.3 billion tons of food is wasted.

Ne'ma is a collaborative effort with the UAE Ministry of Climate Change and Environment, Emirates Foundation and other stakeholders across the nation to build a network of trusted food loss and waste champions in the UAE.

Its ambition is to **introduce a new norm rooted in the essence of "Target-Measure-Act",** guiding us to pinpoint areas of loss and waste, measure progress, and take decisive action. It is a collective responsibility to identify where food loss and waste occur and design interventions and actions to achieve net zero by 2030.



According to the United Nations, approximately 13% of food is lost between harvest and retail, while an additional 19% is wasted at the consumption level (retail, food services and household). Together, food loss and waste account for 8 to 10% of the world's greenhouse gas emissions. As part of its vision, **Ne'ma aims to reduce food loss across the entire value chain, from production to consumption, while promoting responsible consumption habits.** Also, it works on advocating for and supporting the development of federal and emirate-level FLW mandates, policies and regulations.

Also, during the summit, Ne'ma launched **"The Zero-Food Waste"** event guide, which advises event planners to pre-plan their menus and control portions, train the catering team on food waste management, and empowering chefs to adjust menus when certain items are repeatedly not consumed.

CLUSTER STRATEGY

Innovation Hubs for Food Security

The summit highlighted the **UAE's focus on cluster strategy as a catalyst for agri-tech innovation, economic diversification, and food security.** Cluster development brings together businesses, government agencies, and research institutions within specific geographic areas to foster collaboration, innovation, and investment. Two notable examples in the UAE are **Food Tech Valley** in Dubai and **AGWA (Agricultural Growth and Water Advancement)** in Abu Dhabi—highlight the country's leadership in this strategic approach.

Food Tech Valley serves as a hub for cutting-edge agricultural practices and technologies. It focuses on **AI-powered vertical farming systems, controlled-environment agriculture, and circular waste-to-value technologies.** It is projected to produce **3 million kilograms of fresh produce annually,** significantly reducing reliance on food imports. By integrating advanced solutions like precision irrigation and renewable energy systems, Food Tech Valley creates **a model of sustainable urban farming** tailored for arid climates.

Meanwhile, **AGWA** addresses food shortages and water scarcity while also contributing to building climate resilience and sustainable growth in the food and water ecosystems. AGWA promotes water-efficient farming through technologies like **desalination, wastewater recycling, and smart irrigation systems** powered by IoT and AI. By 2045, AGWA aims to contribute **AED 90 billion** to Abu Dhabi's GDP and create over **60,000 jobs**, driving economic growth while enhancing food security. **Beyond water conservation, AGWA aims to capitalize on technological advancements to address shifting dietary patterns and support global food security for a reliable and resilient supply chain**. The cluster will drive advancements in areas such as alternative proteins, functional ingredients, algae farming, and reverse osmosis membranes, while also enhancing traditional food production and supply.

Both clusters thrive on **public-private partnerships** that encourage innovation and investment. The UAE collaborates with global agri-tech firms, research institutions, and startups to drive technological advancements and knowledge sharing. This ecosystem approach ensures that challenges like resource scarcity, climate resilience, and supply chain inefficiencies are addressed through collective expertise.

Food Cluster Strategy

A Case Study on Australia

Australia has long been recognized as a leader in agricultural innovation, driven by its vast, diverse landscapes and the need for efficient, sustainable farming solutions. By strategically developing agricultural hubs that unite businesses, research institutions, and government agencies, Australia has established a model for leveraging collaboration to address challenges in the agriculture sector.

1.

Agri-Tech Innovation through Clusters

For example, **the Agri-Tech East cluster** in New South Wales, has contributed to innovations in precision agriculture which helped farmers increase crop yields by using data analytics, satellite imagery, and sensor technologies to optimize irrigation, monitor soil health, and control pests.

2.

Economic Diversification

The Food Innovation Precinct in Victoria has supported the growth of agri-tech companies that focus on value-added food products such as plant-based proteins, functional food, and bio-based packaging. This has led to increased exports of high-value food products, helping reduce Australia's dependence on traditional agricultural exports like wheat and meat.

3.

Enhancing Resilience through Collaborative Clusters

Clusters like the **National Food Innovation Centre in Tasmania** are working on sustainable farming solutions that can withstand environmental challenges, helping ensure food security both for Australia and for export markets.

BLENDED FINANCE FOR AFRICA

Unlocking Agricultural Potential

The summit also addressed the need to identify sources of finance to unlock agricultural potential, especially in areas whereby most cultivable lands in the world resides.
Africa's vast agricultural potential was a major focal point at the summit. The agricultural sector in Africa plays a crucial role in the continent's economy, accounting for around 20-30% of its GDP, and 30% of export value, while employing 65-70% of the workforce. Despite its substantial contribution to GDP and employment, Africa's agricultural sector suffers from persistent underinvestment, creating an opportunity to discuss how blended finance can address funding gaps and drive sustainable growth. **Blended finance** combines public, private, and philanthropic investments to address challenges like infrastructure deficits, limited access to capital, and climate-related risks that hinder Africa's agricultural sector.
The UAE, through entities like the **Abu Dhabi Fund for Development (ADFD),** is a key player in channeling resources toward African agriculture. ADFD has financed projects in 42 African countries worth AED 35.3 billion over ($9.6 b) in agricultural projects and clean energy projects across Africa, as of June 2024. Public Investments as such, effectively **de-risk projects,** attracting private capital to scale solutions such as solar-powered irrigation, drought-resistant crops, and blockchain-based supply chains.
One success story is the use of **solar-powered irrigation systems** in Sub-Saharan Africa, funded by UAE initiatives. These systems reduce dependency on fossil fuels, lower operational costs, and improve productivity for smallholder farmers. By enabling access to sustainable technologies, blended finance empowers African farmers to adopt modern agricultural practices and increase yields.
The UAE's commitment to Africa reflects a broader vision of global food security. By fostering international partnerships and investing in scalable solutions, the UAE not only strengthens Africa's agricultural resilience but also contributes to global food systems. These efforts highlight the transformative power of blended finance in addressing food insecurity while driving economic development in regions with untapped potential.

As the Global Food Security Summit 2024 concluded, it was evident that the UAE is not merely addressing its domestic challenges but is actively shaping global solutions. From creating virtual ecosystems like the Foodverse to implementing zero-waste systems, building high-tech clusters, and financing sustainable agriculture in Africa, the UAE's initiatives set a precedent for international collaboration.

The summit emphasized an important lesson

Food security is a shared responsibility. Through the use of technology, the cultivation of partnerships, and the promotion of sustainable practices, the UAE demonstrates how countries can lead by example. While the path to a food-secure future is challenging, innovation and collaboration make this goal attainable.

The UAE's leadership, showcased during this summit, instills hope for a future free from hunger. It embodies a vision of resilience, sustainability, and global unity — a future the UAE is actively shaping, driven by innovation at every step.

Meet the Contributors

Seifallah Rabie

Partner at LOGIC Consulting
& UAE Managing Partner

The article was edited by
Mai Alnahas, Senior Editor at
LOGIC Consulting

Cairo Office

+20 127 350 5023
SODIC West, Block 1, Zone 4B

Riyadh Office

+966 53 662 0650
3888 Anas Ibn Malik, Al Malqa

Jeddah Office

+966 53 661 8642
1004 Jameel Square Building. Tahlia St.

Dubai Office

+971 52 499 2567
Business Bay, Parklane Tower, Office 1102

Bahrain Office

Park Place Building. Seef Area
office 9001/ 9th Floor- Bahrain